

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
) AS 23-_____
)
PETITION OF DYNEGY)
FOR AN ADJUSTED STANDARD FROM) (Adjusted Standard – Air)
35 Ill. Admin. Code Parts 201 and 212)

NOTICE OF FILING

To:

Don Brown
Carol Webb
Pollution Control Board
100 West Randolph Street
James R. Thompson Center
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Illinois Environmental Protection Agency
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PLEASE TAKE NOTICE that today I have electronically filed with the Office of the Clerk of the Illinois Pollution Control Board (1) **APPEARANCES OF JOSHUA R. MORE, ANDREW N. SAWULA, AMY ANTONIOLLI and SAMUEL A. RASCHE ON BEHALF OF DYNEGY MIDWEST GENERATION, LLC, ILLINOIS POWER GENERATING COMPANY, AND KINCAID GENERATION, LLC;** (2) **PETITION OF DYNEGY FOR ADJUSTED STANDARD FROM 35 Ill. Adm. Code Parts 201 and 212;** (3) **Dynegy's Motion to Incorporate by Reference;** and (4) a **CERTIFICATE OF SERVICE**, which are attached and copies of which are herewith served upon you.

Dated: August 14, 2023

Respectfully submitted,

Dynegy Midwest Generation, LLC; Illinois
Power Generating Company; and Kincaid
Generation, LLC

/s/ Samuel A. Rasche

One of its Attorneys

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**APPEARANCE OF ANDREW N. SAWULA
AND CONSENT TO E-MAIL SERVICE**

I, Andrew N. Sawula, hereby enter my appearance on behalf of DYNEGY MIDWEST GENERATION, LLC, ILLINOIS POWER GENERATING COMPANY, AND KINCAID GENERATION, LLC (collectively, “Dynegy”). I authorize the service of documents on me by email in lieu of receiving paper documents in the above-captioned proceeding. My email address to receive service is as follows: Andrew.Sawula@afslaw.com.

/s/ Andrew N. Sawula

Andrew N. Sawula

Dated: August 14, 2023

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PETITION FOR ADJUSTED STANDARD

NOW COMES Dynegy Midwest Generation, LLC, Illinois Power Generating Company, and Kincaid Generation, LLC (collectively, “Dynegy”) by and through its attorneys, ArentFox Schiff LLP, pursuant to Section 28.1 of the Illinois Environmental Protection Act (the “Act”), 415 Ill. Comp. Stat. 5/28.1, and 35 Ill. Admin. Code Part 104, Subpart D, and petitions the Illinois Pollution Control Board (the “Board”) to grant it an adjusted standard from the Illinois regulatory opacity standards applicable to Dynegy’s coal-fired boilers during periods of startup, malfunction, and breakdown (“SMB”) (hereinafter, the proposed adjusted standard shall be referred to as the “Proposed AS”). Those standards are codified in 35 Ill. Admin. Code §§ 212.122(a) and 212.123(a), except as allowed by §§ 212.122(b), 212.123(b) or 212.124; and the requirement to comply with those standards during periods of SMB is specifically governed by Section 201.149.

The applicable standards became more stringent (both as a matter of law, and as a matter of practical enforceability) as a result of the repeal of Section 212.124(a), the amendment of Section 201.149, and the repeal of related provisions in Part 201, effective July 25, 2023, through *In the Matter of: Amendments to 35 Ill. Adm. Code Parts 201, 202, and 212*, R2023-018 (hereinafter “SMB Repeal” or “R23-18”). Dynegy asks that the Proposed AS apply to the coal-fired boilers (the “Affected Units”) at the Baldwin Energy Complex (“Baldwin”), Kincaid Power Station (“Kincaid”), and Newton Power Station (“Newton”) (collectively, the “Stations”).

This petition is divided into four parts. Part I introduces this Petition. Part II summarizes the legal standard. Part III demonstrates how the Petition meets all of the Board's adjusted standard petition content requirements. And Part IV concludes this Petition.

In support of this Petition, Dynegy states as follows:

I. INTRODUCTION

On December 7, 2022, the Illinois Environmental Protection Agency ("IEPA") filed R23-18 under Illinois's fast-track rulemaking process for "rules proposed by IEPA and required to be adopted by the State under the Clean Air Act." 415 Ill. Comp. Stat. 5/28.5. The Board adopted IEPA's proposal to remove certain provisions from Parts 201 and 212 that, in some circumstances, allowed sources to exceed opacity standards in Illinois during SMB events. Statement of Reasons ("IEPA SOR") at 30 (Dec. 7, 2022), R23-18; *see, e.g.*, 35 Ill. Admin. Code §§ 201.149, 201.261-265, and 212.124(a). In adopting the SMB Repeal, the Board relied upon IEPA statements that its proposal corrected State Implementation Plan ("SIP") deficiencies and brought the Illinois air pollution rules in line with federal startup, shutdown, and malfunction ("SSM") policies and the Clean Air Act ("CAA"), and therefore must be adopted.¹ Opinion and Order of the Board: Proposed Rule; Second Notice ("Second Notice Opinion") at 4, 15, 16 (Apr. 6, 2023), R23-18; IEPA SOR at 12.

¹ The federal SSM policies are themselves subject to ongoing litigation. In 2015, the United States Environmental Protection Agency ("U.S. EPA") determined that several state SSM provisions were inconsistent with the CAA and must be revised. *See* Section IV.A. *infra*. A broad group of states and industry members (including certain Dynegy affiliates) challenged that determination as beyond U.S. EPA's authority under the CAA. *See Environmental Committee of the Florida Elec. Power Coordinating Group, Inc. v. Environmental Protection Agency*, Case No. 15-1239 (D.C. Cir.). Oral arguments were held in March 2022; however, no decision has been issued, and the case remains pending before the D.C. Circuit Court of Appeals. Should federal courts ultimately find in favor of the industry groups, IEPA's basis for repealing the Illinois SSM provisions could be invalidated.

IEPA argued that it based its proposal on recent U.S. EPA decisions and statements related to SIPs that include exemptions, discretionary exceptions, or affirmative defenses related to exceedances that occur during SMB. *See generally* IEPA SOR. Dynegy submitted a joint comment with another company, supported by written and oral testimony, requesting relief from the opacity standards applicable to its coal-fired boilers during periods of SMB. Joint Post Hearing Comment of Dynegy and Midwest Generation (“Joint Comment”) (Mar. 7, 2023), R23-18 (incorporated by reference herein). The Board declined to consider Dynegy’s proposal, or any of the proposals submitted by other participants, for alternative emission limits (“AELs”) that would apply during SMB periods, stating it had no authority to do so as part of the fast-track SMB Repeal. Second Notice Opinion at 22. However, the Board recognized that it has authority to review and approve specific proposals for AELs that would apply during SMB events, and it opened a sub-docket (R2023-18A) to consider those proposals. *Id.* The Board ultimately adopted the SMB Repeal with an effective date of July 25, 2023. Notice of Adopted Rules (Aug. 9, 2023), R23-18.

In its July 6, 2023, Order in R23-18(A), the Board established a specific framework, under expedited review by the Board, by which parties could request AELs that would apply during SMB. In particular, the Board directed “[a]nyone who wishes to file a rulemaking proposal for alternative standards during SSM” to do so by August 7, 2023. The expedited filing schedule allows the Board to proceed expeditiously with its review of such proposals. The July 6th Order indicated that the Board intends to issue an order at its August 17th meeting that directs the Clerk to publish the rulemaking proposals for first notice.

Dynegy supports the Board’s commitment to proceed swiftly with the sub-docket. In accordance with the Board’s July 6th Order, Dynegy timely filed proposed rule amendments that, *if approved*, will provide for AELs that would apply to its coal-fired boilers during SMB.

The Board has yet to hold hearings or rule upon the proposed amendments that Dynegey and other parties filed on August 7th. While Dynegey believes that its proposed amendments are an appropriate mechanism to obtain relief and will ultimately be approved by this Board, the severity of the impact of the SMB Repeal on Dynegey's operations mandates that Dynegey avail itself of all available remedies from the Board. Section 28.1(f) of the Act, 415 Ill. Comp. Stat. 5/28.1, and 35 Ill. Adm. Code § 104.412(b) provide that any person who files a timely² petition for an adjusted standard following any rulemaking implementing CAA requirements will be exempt from the new provisions while the petition is pending before the Board. Section 28.1(f) further instructs that in situations where the new regulation replaces a previously adopted regulation (such as occurred through the SMB Repeal), the previously adopted regulation will apply during the stay of the new rule.

The revisions to Section 201.149 and the repeal of Sections 201.261-265 and 212.124(a) took effect on July 25, 2023; thus, the 20-day period under Section 28.1(f) of the Act concludes on August 14, 2023. Because it is not possible for the Board to act upon the rulemaking proposals in advance of the statutory deadline under Section 28.1(f), and the outcome of R23-18A is not yet known, Dynegey has no choice but to file this Petition as a protective measure now.

To be clear, Dynegey is not requesting that this Petition disrupt the Board's expedited consideration of the proposed rulemakings filed in R23-18(A). Dynegey will not require the Proposed AS if the Board ultimately grants its rulemaking proposal *in full*. Accordingly, Dynegey is filing this Petition now to ensure that it does not waive any right to seek, and fully benefit from,

² To be timely under Section 28.1(f) of the Act, a petition for an adjusted standard must be filed "[w]ithin 20 days after the effective date of any regulation that implements in whole or in part the requirements of the Clean Air Act." *See* 415 Ill. Comp. Stat. 5/28.1(f).

the adjudicatory remedy of an adjusted standard in the event that the Board does not expeditiously codify Dynegey's proposed rulemaking in R23-18A.

II. LEGAL STANDARD

When petitioned, the Board may grant an adjusted standard from a rule of general applicability for persons who can justify such an adjustment is consistent with applicable regulations. 415 Ill. Comp. Stat. 5/28.1(a). The rules of general applicability from which Dynegey is requesting an adjusted standard are the Illinois opacity standards applicable to Dynegey's Affected Units during periods of SMB, as codified at 35 Ill. Admin. Code Part 212, Subpart B, and Part 201, Subparts C and I. The Board may grant Dynegey's request for an adjusted standard if Dynegey sufficiently demonstrates that all Section 27(a) and 28.1(c) requirements and considerations are satisfied. 415 Ill. Comp. Stat. 5/28.1(a), (c).

A. Requirements of a Section 28.1(c) Adjusted Standard

As described in more detail in Section III.C. of this Petition, Parts 201 and 212 do not specify a level of justification required of a petition for adjusted standard during periods of SMB. Consequently, the Board may grant a petition for adjusted standard when the petitioner provides adequate proof of all of the following criteria, as set forth in Section 28.1(c)(1)–(4) of the Act: “(1) factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting [the SMB Repeal]; (2) the existence of those factors justifies an adjusted standard; (3) the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting [the SMB Repeal]; and (4) the adjusted standard is consistent with any applicable federal law.” 415 Ill. Comp. Stat. 5/28.1(c).

B. Section 27(a) Requirements for an Adjusted Standard

Under Section 27(a) of the Act, as incorporated in the criteria for granting adjusted standards by Section 28.1(a), when granting an adjusted standard “the Board shall take into account the [1] existing physical conditions [of the site], [2] the character of the area involved, [including the] surrounding land uses, [3] zoning classifications, [4] the nature of the . . . receiving body of water, . . . and [5] the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution.” 415 Ill. Comp. Stat. 5/27(a); *see also* 415 Ill. Comp. Stat. 5/28.1(a); 35 Ill. Admin. Code § 104.428(a) (“The Board may grant an adjusted standard for persons who can justify such an adjustment consistent with Section 27(a) of the Act. [415 ILCS 5/28.1(a)]”).

III. ADJUSTED STANDARD PETITION CONTENT REQUIREMENTS

A. Description of Standard from Which Dynegy Seeks an Adjusted Standard (§ 104.406(a))

The Proposed AS seeks relief from the Illinois opacity standard applicable to Dynegy’s Affected Units during periods of SMB, as codified at 35 Ill. Admin. Code Part 212, Subpart B, and Part 201, Subparts C and I. For ease of discussion, this Petition uses the short-hand “Illinois SIP” to refer to the version of the regulations that were codified in the Illinois Administrative Code prior to the SMB Repeal and that remain codified in the Illinois SIP.

1. Illinois SIP Requirements

The Clean Air Act Permitting Program (“CAAPP”) permits for the Stations specifies the opacity standards that apply pursuant to the Illinois SIP. The CAAPP permits for the Stations were previously filed with the Board as exhibits to the prefiled testimony of Cynthia Vodopivec in R23-18, incorporated by reference herein. Prefiled Testimony of Cynthia Vodopivec (“Vodopivec Prefiled Testimony”) (Feb. 6, 2023), R23-18, Ex. A at 81–88 (Baldwin), Ex. B at 92–97 (Kincaid), Ex. C at 79–83 (Newton). As specified in Condition 5.2.2(b) of the Baldwin and Kincaid CAAPP

permits, the Baldwin and Kincaid Affected Units are subject to the 30% opacity limitation set forth at “35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) or 212.124.” Vodopivec Prefiled Testimony at 10–11; Ex. A at 16; Ex. B at 13 (emphasis added).

Section 212.124 is titled “Exceptions” and lays out a number of exceptions to Illinois’s opacity limitations set forth in Section 212.123. Specifically, Section 212.124 of the Illinois SIP has four subsections, plus subparagraphs, setting forth the exceptions to the opacity limitations. The first of these is most pertinent to the Kincaid and Baldwin permits. Section 212.124(a) of the Illinois SIP provides: “Sections 212.122 and 212.123 of this Subpart shall apply during times of startup, malfunction and breakdown except as provided in the operating permit granted in accordance with 35 Ill. Adm. Code 201.” Meaning that, under the Illinois SIP, Section 212.123 (the section setting forth the applicable opacity limitations) does not apply to the Kincaid and Baldwin Affected Units during times of startup, malfunction and breakdown, to the extent provided by their CAAPP permits.

The Illinois SIP SMB authorizations/exceptions applicable to the Baldwin and Kincaid Affected Units are set forth in Conditions 7.1.3(b) and (c) of their CAAPP permits (the “SMB Authorizations”). Vodopivec Prefiled Testimony at 11–13; Ex. A at 49–50; Ex. B at 54. Condition 7.1.3(b) contains the exception from opacity standards during startups. *Id.* (“[T]he Permittee is authorized to operate an affected boiler in violation of the applicable standards identified or cross-referenced in Condition 5.2.2(b) (35 IAC 212.123) . . . during startup. This authorization is provided pursuant to 35 IAC 201.149, 201.261 and 201.262 . . .”). Further, Condition 7.1.3(c) of the Baldwin and Kincaid permits contains the exception from opacity standards during malfunctions and breakdowns. *Id.* (“[T]he Permittee is authorized to continue operation of an affected boiler in violation of the applicable standards identified or cross-referenced in Condition

5.2.2(b) (35 IAC 212.123) . . . in the event of a malfunction or breakdown of an affected boiler, including the coal crusher, the ash removal system, or the electrostatic precipitator. This authorization is provided pursuant to 35 IAC 201.149, 201.261, and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent injury to personnel or severe damage to equipment . . .”).

Conditions 7.1.3(b) and (c) set forth specific terms and conditions that must be satisfied in order to rely upon the SMB authorizations, as explained in more detail in Vodopivec Prefiled Testimony at 8-10. Finally, Conditions 7.1.3(b)(iv) and (c)(v) reference 35 Ill. Admin. Code § 201.265, stating that authorization for “excess emissions” provides a prima facie defense to enforcement actions, “provided that the Permittee has fully complied with all terms and conditions connected with such authorization.” *Id.*

As specified in Condition 5.2.2(c) of the Newton CAAPP permit, the Newton Affected Unit is subject to the 20% opacity limitation set forth at “35 IAC 212.122(a), except as allowed by 35 IAC 212.122(b) or 212.124” *See* Vodopivec Prefiled Testimony at 10-11; Ex. C at 16 (emphasis added). And, as described above, Section 212.124 sets forth exceptions to both Section 212.122 and Section 212.123. *See* 35 Ill. Admin. Code § 212.124. The SMB exceptions to the Section 212.122 opacity limitations for the Newton Affected Unit are set forth in Conditions 7.1.3(b) and (c) of the Newton CAAPP permit. These conditions largely mirror the corresponding conditions in the Baldwin and Kincaid CAAPP permits for exceptions to the opacity limitations, with the differences being outlined in Cynthia Vodopivec’s testimony. *See id.* at 11.

Condition 8.1 of the Stations’ CAAPP permits states that Dynegy has been granted a permit shield. It then explains what that means, as follows:

This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date of the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA ... has determined that other requirements specifically identified are not applicable to this source...

(emphasis added). As explained above, the applicable opacity standards from the Illinois SIP are set forth in detail in the Stations' CAAPP permits. This means that, so long as Dynegy complies with the CAAPP permit requirements relating to these opacity standards (including the related SMB authorizations), compliance with the permit "shall be deemed compliance with" the law.

The CAAPP permits authorize Dynegy to operate the Affected Units with opacity in excess of the opacity limitations in Section 212.123 during times of startup, malfunction and breakdown, provided that Dynegy complies with the enumerated requirements in Conditions 7.1.3(b) and (c) for startups and for malfunctions and breakdowns, respectively. The permits further provide that compliance with the relevant permit conditions (including the authorizations in Conditions 7.1.3(b) and (c)) "shall be deemed compliance with" Section 212.123. As such, these authorizations effectively provide an exception during SMB events, as contemplated by Sections 212.124(a) and (as described further below) 201.149.

Dynegy understands that the exception does not eliminate the possibility of an enforcement action, but that compliance with the terms and conditions of Conditions 7.1.3(b) and (c), as applicable, would constitute a prima facie defense to any such enforcement action. Dynegy never understood the permits to prohibit operating with excess opacity to the extent such operation was "authorized" by Condition 7.1.3(b) or (c). And, because Condition 8.1 states that compliance with the permit conditions (authorizing operation with excess opacity, as described above) "shall be deemed compliance with applicable requirements," Dynegy has never believed such operation could constitute non-compliance.

Before turning to discussion of what changed in the Illinois regulations as part of the SMB Repeal (and from which Dynege seeks relief), it is important to first also look more closely at the Part 201 conditions relied upon in CAAPP Conditions 7.1.3(b) and (c) to authorize operation with excess opacity during periods of SMB.

Section 201.149 of the Illinois SIP is titled “Operation During Malfunction, Breakdown or Startups” and states:

No person shall cause or allow the continued operation of an emission source during malfunction or breakdown of the emission source or related air pollution control equipment if such operation would cause a violation of the standards or limitations set forth in Subchapter c of this Chapter unless the current operating permit granted by the Agency provides for operation during a malfunction or breakdown. No person shall cause or allow violation of the standards or limitations set forth in that Subchapter during startup unless the current operating permit granted by the Agency provides for violation of such standards or limitations during startup.

Critically, this provision specifically requires source operators, like Dynege, to comply with standards and limitations during SMB; it states that the standards that apply during normal operations also apply during SMB. But it also provides an exception to the SMB standard, allowing operation in excess of standards during SMB to the extent provided by an operating permit (such as a CAAPP permit).

Illinois SIP Section 201.261 sets forth requirements for requests for permission to continue to operate during SMB in excess of standards, and Section 201.262 sets for the “Standards for Granting Permission to Operate During a Malfunction, Breakdown or Startup.” Illinois SIP Sections 201.263-265 specify recordkeeping and reporting obligations tied to SMB authorizations; the requirement to apply for SMB authorization, if such authorization is desired; and the prima facie defense to enforcement, which was explained above.

2. SMB Repeal

The SMB Repeal included the repeal of Sections 212.124(a) and 201.261-265, as well as fundamental revisions to Section 201.149. Each of these changes has substantially increased the stringency of the opacity standard as applied during periods of SMB.

As explained above, the CAAPP permits set forth the Illinois SIP opacity standards as follows: “No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than” 20 or 30 percent pursuant to Section 212.122(a) or 212.123(a), as applicable, “except as allowed by ... 212.124.” *See* Vodopivec Prefiled Testimony, Ex. A at 16, Ex. B at 13, Ex. C at 16. This shows that the standards are not simply contained in Sections 212.122 and 212.123, but rather that those Sections must be read in consort with Section 212.124. The repeal of Section 212.124(a) (which provided, “Sections 212.122 and 212.123 of this Subpart shall apply during times of startup, malfunction and breakdown except as provided in the operating permit granted in accordance with 35 Ill. Adm. Code 201.”) has fundamentally changed the stringency of the standard because the standard during SMB no longer depends upon what is “provided in the operating permit granted in accordance with 35 Ill. Adm. Code 201.” Indeed, with the repeal of Section 201.261-262, the Board has removed the regulatory basis (under state law, though not yet under the Illinois SIP) for a source to request, and IEPA to grant, authorization to operate with opacity above generally applicable standards (including the 20% and 30% opacity standards of Sections 212.122 and 212.123) during periods of SMB.

The revisions to Section 201.149 have also directly increased the stringency of the applicable standard during SMB. Section 201.149 has been revised as follows:

A ~~No~~ person ~~must not shall~~ cause or allow the continued operation of an emission source during malfunction or breakdown of the emission source or related air pollution control equipment if such operation would cause a violation of the applicable standards or limitations stated set forth in Subchapter c except as

~~specifically provided for by such standard or limitation of this Chapter unless the current operating permit granted by the Agency provides for operation during a malfunction or breakdown. A No person must not shall cause or allow violation of the applicable standards or limitations stated set forth in that Subchapter c during startup except as specifically provided for by such standard or limitation. Unless the current operating permit granted by the Agency provides for violation of such standards or limitations during startup.~~

Under the original version (the Illinois SIP version) of Section 201.149, the Section 201.149 prohibition on operation during malfunction and breakdown if such operation would cause opacity above the level specified in Section 212.122 or 212.123, as applicable, and the prohibition on exceeding that level during startup *did not apply* to the Dynegy Affected Units to the extent Dynegy complied with the SMB authorization provisions in its CAAPP permits. Under the revised version of Section 201.149, the prohibition *would* apply as a matter of state law, unless and until the Board codifies Dynegy's proposed rulemaking in R23-18A.

Dynegy consequently seeks an adjusted standard from the Illinois opacity standards applicable to Dynegy's Affected Units during periods of SMB, as codified at 35 Ill. Admin. Code Part 212, Subpart B, and Part 201, Subparts C and I.

B. The Regulation of General Applicability was Promulgated to Implement the Clean Air Act (§ 104.406(b))

The rule of general applicability, as described in above, as described in Section III.A., above, was promulgated to implement the CAA, 42 U.S.C. §§ 7401 *et seq.*

C. Level of Justification Necessary for Adjusted Standard (§ 104.406(c))

Parts 201 and 212 do not specify a level of justification required of a petitioner for adjusted standard from the SMB rule. Thus, the Board may grant a petition for adjusted standard when the petitioner provides adequate proof of all the following criteria, as set forth in Section 28.1(c)(1)-(4) of the Act.

Dynegy notes that Section 212.126 specifies procedures for justifying adjusted standards that would apply at all times in lieu of the generally applicable opacity standard. Dynegy is not seeking relief from the generally applicable standard at all times. Rather, it is seeking limited relief from the revised regulations that require compliance with the limitations in Sections 212.122 and 212.123 irrespective of any authorization granted in a permit to exceed those standards during periods of SMB.

D. Description of Dynegy's Activities that are the Subject of this Proposed Adjusted Standard (§ 104.406(d))

1. The Affected Units – Location, Description, Vintage, and Pollution Controls

Dynegy operates the following Affected Units at its Stations: Boilers 1 and 2 at Baldwin, I.D. No. 157851AAA, located at 10901 Baldwin Road, Baldwin, Illinois (Randolph County); Boilers 1 and 2 at Kincaid, I.D. No. 021814AAB, located on Route 104, four miles west of Kincaid, Illinois (Christian County); and Boiler 1 at Newton, I.D. No. 079808AAA, located at 6725 North 500th Street, Newton, Illinois (Jasper County).

Baldwin Boilers 1 and 2 were built in 1967, have a nominal capacity of 5,788 mmBtu/hr, each, and are served by separate stacks. Kincaid Boilers 1 and 2 were built in 1967 and 1968, have nominal capacities of 6634 and 6406 mmBtu/hour, and are served by a single stack. Newton Boiler 1 was built in 1972, has a nominal capacity of 6,000 mmBtu/hour, and is served by a single stack. Opacity from the stacks at each Station is monitored by continuous opacity monitoring systems ("COMS"). Dynegy currently plans to cease operating and retire the Baldwin Affected Units on or before December 31, 2025, and the Kincaid and Newton Affected Units on or before July 17, 2027.

Emissions from the Baldwin and Kincaid coal-fired boilers are controlled by numerous air pollution control equipment and measures, including the following: particulate matter ("PM")

emissions are controlled by electrostatic precipitators (“ESPs”); nitrogen oxide (“NO_x”) emissions are controlled by over-fire air (“OFA”) and selective catalytic reduction (“SCR”) systems; and mercury emissions are controlled by activated carbon injection (“ACI”) systems, which injects a sorbent such as activated carbon into the flue gas of each boiler prior to its ESP, or by burning refined coal. Further, PM emissions from the Baldwin coal-fired boilers are also controlled by baghouses, and sulfur dioxide (“SO₂”) emissions are controlled by flue gas desulfurization (“FGD”) systems. SO₂ emissions from the Kincaid coal-fired boilers are controlled by the use of Powder River Basin low sulfur sub-bituminous coal and a dry sorbent injection (“DSI”) FGD system, which injects a dry sorbent material such as sodium bicarbonate into the flue gas of each boiler prior to its ESP.

Emissions from Newton Boiler 1 are controlled by numerous air pollution control equipment and measures, including the following: PM emissions are controlled by an ESP equipped with Flue Gas Conditioning (“FGC”) system, the FGC system injects SO₂ upstream of the ESP and is operated on an as-needed basis; SO₂ emissions are controlled by a DSI FGD system, which injects a dry sorbent material such as sodium bicarbonate into the flue gas prior to the ESP; NO_x emissions are controlled by low-NO_x burners and OFA systems; an ACI system controls mercury emissions by injecting a sorbent such as activated carbon into the flue gas prior to the ESP, and calcium bromide may be applied to the coal fired in the boiler from time to time to further reduce mercury emissions.

2. Number of Employees

Dynegy employs approximately 123 employees at Baldwin, 105 at Kincaid, and 85 at Newton.

3. Description of Emissions

A description of emissions from the Affected Units is set forth in detail in Dynegy's Statement of Reasons in Support of its proposal in R23-18A (the "Sub-Docket SOR") and the Technical Support Document ("TSD") attached thereto, which were filed with the Board on August 7, 2023, and which are incorporated herein by reference.

4. Environmental Justice

IEPA's Environmental Justice ("EJ") policy sets a goal for the Agency to ensure that communities are not disproportionately impacted by degradation of the environment or receive a less than equitable share of environmental protection and benefits. The requested relief is consistent with that goal.

None of the Affected Units is located in an area currently designated as an EJ area. Based on IEPA's EJ Start Tool, the distance of nearest boundary of an EJ area to each Station's stacks is as follows: over eight miles from Baldwin, over 12 miles from Kincaid, and over 15 miles from Newton.

Most importantly, though, as discussed in Section III.G., below, the Proposed AS will not result in any impacts to human health or the environment anywhere, and so will not have any disproportionate impacts or create any EJ concerns for Illinois EJ communities.

E. Efforts Necessary to Comply with the Regulation of General Applicability (§ 104.406(e))

Dynegy cannot ensure compliance with opacity 100% of the time during SMB, due to technical infeasibility. Dynegy incorporates by reference the explanation it provided concerning this infeasibility in R23-18A, including the discussion in Sections IV.B.2 and VI of the Sub-Docket SOR, and in the Declaration of Cynthia Vodopivec ("Vodopivec Declaration"), attached as Exhibit 8 thereto.

In short, Dynegy can and does take steps in response to discrete issues that arise and result in opacity exceedances. Vodopivec Declaration at ¶¶3-4. Dynegy cannot, however, take additional steps to avoid or minimize opacity, in general, short of installing baghouses on the Affected Units not already utilizing that technology. *Id.* at ¶¶3-5. But the addition of baghouses would not eliminate the need for the requested relief. *Id.* at ¶7. Dynegy estimates that it would require approximately three years to add baghouses to the Affected Units not currently equipped with them, and that each baghouse would cost in the tens of millions of dollars. *Id.* at ¶6. The baghouses would offer no benefit prior installation (late 2026, at the earliest). And, as explained in the Sub-Docket SOR, even coal-fired boilers equipped with both an ESP and a baghouse cannot guarantee compliance with opacity standards 100% of the time. That investment of time and resources would need also to be weighed against the fact that Dynegy currently plans to retire the Affected Units not currently equipped with baghouses on or before July 17, 2027. Vodopivec Prefiled Testimony at 6-7.

F. Proposed AS: Description, Proposed Language, and Related Efforts and Costs (§ 104.406(f))

1. Narrative Description of Proposed AS

Under the Proposed AS, if the Affected Units could not demonstrate compliance with the 20% or 30% opacity limitation in Section 212.122(a) or 212.123(a), as applicable, on a six-minute average basis during times of SMB, Dynegy would have the option to demonstrate compliance with the 20% or 30% opacity limitation using a three-hour averaging period (the “Alternative Averaging Period”). This would be accomplished for a given six-minute block period when the Alternative Averaging Period is needed by taking the average opacity measurements from the COMS for those six minutes and the immediately preceding 174 minutes. This would work the

same way as the AELs that Dynegy proposed in R23-18A, and examples of how this works in practice are set forth in the TSD.

This Alternative Averaging Period is modeled on each Affected Unit's compliance assurance monitoring ("CAM") plan, set forth in its CAAPP permit, for the applicable Illinois SIP particulate matter ("PM") limitation. Those CAM plans utilize three-hour opacity data to provide a reasonable assurance of compliance with the PM limitations promulgated to assure compliance with the various PM National Ambient Air Quality Standards ("NAAQS").

The Proposed AS includes recordkeeping and reporting obligations and work practice requirements that are more stringent than those required by existing Illinois regulations (as amended by the SMB Repeal) or by the SMB provisions in the current Illinois SIP. It would not affect any permit-specific terms that IEPA established as a condition for utilizing the SMB authorizations in the CAAPP permit for the Affected Units. The Proposed AS would provide limited relief only until the Affected Units are retired. Notably, Dynegy currently plans to retire the Baldwin Affected Units on or before December 31, 2025, and the Kincaid and Newton Affected Units on or before July 17, 2027.

2. Proposed AS Language

Dynegy proposes the following adjusted standard for the Affected Units:

1. Pursuant to Section 28.1 of the Environmental Protection Act, the Board grants Dynegy an adjusted standard from the opacity requirements applicable to coal-fired boilers 1 and 2 at the Baldwin Energy Complex, coal-fired boilers 1 and 2 at the Kincaid Power Station, and coal-fired boiler 1 at the Newton Power Station (collectively, the "Affected Units") during periods of startup, malfunction and breakdown as set forth at 35 Ill. Admin. Code Part 212, Subpart B, and Part 201, Subparts C and I (as amended July 25, 2023).
2. The Adjusted Standard.

During times of startup of an Affected Unit, or of malfunction or breakdown of an Affected Unit or the air pollution control equipment serving the Affected Unit, when average opacity exceeds 20 percent (for Newton Affected Units) or 30

percent (for Baldwin or Kincaid Affected Units) for a six-minute period, compliance with the applicable 20 or 30 percent opacity standard (as applicable pursuant to 35 Ill. Admin. Code § 201.149 and either § 212.122(a) (except as allowed by § 212.122(b) or 212.124) or § 212.123(a) (except as allowed by § 212.123(b) or 212.124)) may alternatively be demonstrated for that six-minute period as follows.

a) Alternative Averaging Period.

Compliance for that six-minute period may be determined based on a three-hour average of opacity, utilizing opacity readings for those six minutes and the immediately preceding 174 minutes.

b) Recordkeeping and Reporting.

(i) Any person relying on the Alternative Averaging Period in Section 2.a) of this Adjusted Standard shall maintain records of such average opacity calculations and shall report such calculations to Illinois EPA as part of the next quarterly excess emissions report for the source.

(ii) For periods of startup, such report shall include:

(a) The date, time, and duration of the startup.

(b) A description of the startup.

(c) The reason(s) for the startup.

(d) An indication of whether or not written startup procedures were followed. If any written startup procedures were not followed, the report shall include any departures from established procedures and any reason the procedures could not be followed.

(e) A description of any actions taken to minimize the magnitude or duration of opacity that requires utilization of the Alternative Averaging Period in Section 2.a) of this Adjusted Standard.

(f) An explanation whether similar incidents could be prevented in the future and, if so, a description of the actions taken or to be taken to prevent similar incidents in the future.

(g) Confirmation of fulfillment of the requirements of Section 2.c) of this Adjusted Standard.

- (iii) For periods of malfunction and breakdown, such report shall include:
 - (a) The date, time, duration (i.e., the length of time during which operation continued with opacity in excess of 20 or 30 percent, as applicable, on a six-minute average basis) until corrective actions were taken or the boiler was taken out of service.
 - (b) A description of the incident.
 - (c) Any corrective actions used to reduce the magnitude or duration of opacity that requires utilization of the Alternative Averaging Period in Section 2.a) of this Adjusted Standard.
 - (d) Confirmation of fulfillment of the requirements of Sections 2.b)(iv) and 2.c) of this Adjusted Standard.
- (iv) Any person who causes or allows the continued operation of a coal-fired boiler during a malfunction or breakdown of the coal-fired boiler or related air pollution control equipment when such continued operation would require reliance on the Alternative Averaging Period in Section 2.a) of this Adjusted Standard to demonstrate compliance with 35 Ill. Admin. Code Part 201 and 212 shall immediately report such incident to the Agency by telephone, facsimile, electronic mail, or such other method as constitutes the fastest available alternative, except if otherwise provided in the operating permit. Thereafter, any such person shall comply with all reasonable directives of the Agency with respect to the incident.

c) Work Practices

Any person relying on the Alternative Averaging Period in Section 2.a) of this Adjusted Standard must comply with the following Work Practices.

- (i) Operate the coal-fired boiler and related air pollution control equipment in a manner consistent with good engineering practice for minimizing opacity during such startup, malfunction or breakdown.
- (ii) Use good engineering practices and best efforts to minimize the frequency and duration of operation in startup, malfunction and breakdown.

3. The Adjusted Standard is effective as of the date of this order.

* * *

3. Efforts Necessary to Achieve the Proposed AS

The Proposed AS is intuitively and demonstrably more stringent than the current SMB authorizations in the Stations' CAAPP permits and the Illinois SIP, which allow operations in excess of the applicable opacity standards during SMB events with no limit on the duration of opacity events or the maximum level of opacity during such events. Dynegy will continue utilizing the efforts described in the Vodopivec Declaration to comply with opacity requirements. It is possible that under the Proposed AS, there may be times when Dynegy may need to shut down an Affected Unit when it would have been able to continue operating with excess opacity pursuant to the Station's CAAPP permit and the Illinois SIP. Dynegy anticipates that the costs of compliance with the Proposed AS will be consistent with the costs it has historically incurred to comply with the opacity standard as set forth in its CAAPP permits and the Illinois SIP.

G. Environmental Impact (§ 104.406(g))

As noted above, the Proposed AS is designed to require compliance with the same standard as would apply under the AELs that Dynegy proposed in R23-18A. As such, the discussion of environmental impact of Dynegy's proposed AELs as discussed in its Sub-Docket SOR (including Sections IV and V) and the TSD is equally applicable to its Proposed AS. Dynegy incorporates that discussion from the Sub-Docket DOR and the TSD herein by reference.

H. Justification of the Proposed Adjusted Standard, and Consistency with Federal Law (§§ 104.406(h) and (i))

As required by Section 28.1(c)(1) of the Act, factors relating to Dynegy are substantially and significantly different from the factors relied upon by the Board in adopting the SMB Repeal. In adopting the SSM Repeal, the Board relied upon IEPA statements that its proposal corrects SIP

deficiencies and brings the Illinois air pollution rules in line with federal SSM policies and the CAA. Second Notice Opinion at 4, 15, 16; IEPA SOR at 12. The Board declined to consider Dynegy's proposal, or any of the proposals submitted by other participants, for AELs that would apply during SMB periods, stating it had no authority to do so as part of the fast-track SMB Repeal. Second Notice Opinion at 22. However, the Board recognized that it has authority to review and approve specific proposals for AELs that would apply during SMB events, and it opened a sub-docket (R2023-18A) to consider those proposals. *Id.* Moreover, in the Board's July 6th Order in R23-18A, the Board stated that "nothing in this order prevents anyone from filing a petition for ... adjusted standard within 20 days after the effective date of the R23-18 final rule." *Id.* at 3. That is precisely what Dynegy is doing through this Petition. The Board has never considered the site-specific impact that the SMB Repeal would have on the Affected Units, which cannot comply with the revised regulations 100% of the time during periods of SMB.

The fact that it is technically infeasible for the Affected Units to comply with the Illinois opacity standards 100% of the time during periods of SMB, irrespective of any authorization for operation in excess of opacity standards during SMB provided by permit, justifies granting this Proposed AS, as required by Section 28.1(c)(2) of the Act.

As explained above, the Proposed AS will not result in *any* negative environmental or health effects as compared to operation under the opacity standard (as codified following the SMB Repeal), let alone effects that are substantially and significantly more adverse than the effects considered by the Board. As such, the Proposed AS satisfies Section 28.1(c)(3) of the Act.

Finally, pursuant to Section 104.406(h) and (i), and Section 28.1(c)(4) of the Act, Dynegy states that the relief sought by the Proposed AS is fully consistent with applicable federal law for the same reasons that Dynegy's proposed AELs are consistent with applicable federal law. Those

reasons are explained in Sections IV and V of Dynegy's Sub-Docket SOR, together with the TSD, which are incorporated herein by reference. Thus, the Proposed AS satisfies Section 28.1(c)(4) of the Act. Dynegy notes that there are not additional procedural requirements under federal law that apply to the Board's decision on this Petition that are not required by 35 Ill. Admin. Code Part 104, Subpart D.

I. No Request for Hearing (§ 104.406(j))

Dynegy waives a hearing on the Petition.

J. Supporting Documents and Authority (§ 104.406(k))

Documents and legal authorities supporting the Petition are cited herein (and, where applicable, on the attached Index of Exhibits) when they are used as a basis for Dynegy's proof. Relevant portions of the documents and legal authorities, other than Board's final order, State regulations, statutes, and reported cases, are attached to this Petition or incorporated by reference pursuant to 35 Ill. Admin. Code § 101.306.

K. Additional Information Required in the Regulation of General Applicability (§ 104.406(l))

No additional information is required pursuant to Section 104.406(l).

IV. CONCLUSION

Principles of fairness require that sources not be subject to standards that are impossible to meet. It is not possible for the Affected Units to comply with the opacity limitations in the State's regulations 100% of the time during periods of SMB. The Proposed AS would provide narrowly tailored relief to allow Dynegy to continue compliant operation of the Affected Units during periods of SMB when they otherwise could not comply. The Proposed AS includes numeric opacity limits and work practices designed to minimize the frequency, duration and level of opacity during periods of SMB, and so it is more stringent than the existing Illinois SIP and the Stations'

CAAPP permits. The Proposed AS would not result in any greater opacity—or greater emissions of any pollutant. The Proposed AS would not authorize any increase in opacity or emissions above those levels currently authorized under the Illinois SIP and the Stations' CAAPP permits. As such, it will not result in backsliding. Dynegy drafted the Proposed AS to satisfy all of U.S. EPA's recommendations for such provisions and have incorporated by reference a TSD to support the State's CAA Section 110(l) demonstration. For these reasons, Dynegy believes the Proposed AS ultimately could and should be approved into the Illinois SIP.

WHEREFORE, for the reasons set forth above, Dynegy respectfully requests that the Board grant its Petition for Adjusted Standard from the requirements of the Illinois opacity standard applicable to Dynegy's Affected Units during periods of SMB, as codified at 35 Ill. Admin. Code Part 212, Subpart B, and Part 201, Subparts C and I.

Respectfully submitted,

Dynegy Midwest Generation, LLC;
Illinois Power Generating Company;
and Kincaid Generation, LLC

By: /s/ Samuel A. Rasche
One of its Attorneys

Dated: August 14, 2023

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
) AS 23-_____
PETITION OF DYNEGY)
FOR AN ADJUSTED STANDARD FROM) (Adjusted Standard – Air)
35 Ill. Admin. Code Parts 201 and 212)

LIST OF ATTACHMENTS

1. 40 C.F.R. Part 50, Appendix R
2. 40 C.F.R. § 51.102
3. 40 C.F.R. § 60.8
4. 40 C.F.R. § 60.11
5. 40 C.F.R. § 81.314
6. 42 U.S.C. § 7410
7. *Approval and Promulgation of Implementation Plans; Illinois*, 57 Fed. Reg. 61,834 (Dec. 29, 1992).
8. *Approval and Promulgation of Air Quality Implementation Plans; Illinois; Regional Haze, Final Rule*, 77 Fed. Reg. 39,943 (Jul. 6, 2012)
9. *State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction, Proposed Rule*, 78 Fed. Reg. 12,460 (Feb. 22, 2013).
10. *State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction, Final Action*, 80 Fed. Reg. 33,840 (Jun. 12, 2014).
11. *Air Plan Approval; Illinois; Regional Haze Report, Final Rule*, 83 Fed. Reg. 15,744 (Apr. 12, 2018).
12. *Findings of Failure to Submit State Implementation Plan Revisions in Response to the 2015 Findings of Substantial Inadequacy and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction, Final Action*, 87 Fed. Reg. 1,680 (Jan. 12, 2022).
13. *Air Plan Approval; WA; Excess Emissions, Startup, Shutdown, and Malfunction Revisions, Proposed Rule*, 88 Fed. Reg. 39,210 (Jun. 15, 2023).

Attachment 1

§ 51.102

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provided that such other techniques are shown to be adequate and appropriate for such purposes.

(d) To encourage a State to prepare, adopt, or submit a plan without taking into consideration the social and economic impact of the control strategy set forth in such plan, including, but not limited to, impact on availability of fuels, energy, transportation, and employment.

(e) To preclude a State from preparing, adopting, or submitting a plan which provides for attainment and maintenance of a national standard through the application of a control strategy not specifically identified or described in this part.

(f) To preclude a State or political subdivision thereof from adopting or enforcing any emission limitations or other measures or combinations thereof to attain and maintain air quality better than that required by a national standard.

(g) To encourage a State to adopt a control strategy uniformly applicable throughout a region unless there is no satisfactory alternative way of providing for attainment and maintenance of a national standard throughout such region.

[61 FR 30163, June 14, 1996]

§ 51.102 Public hearings.

(a) Except as otherwise provided in paragraph (c) of this section and within the 30 day notification period as required by paragraph (d) of this section, States must provide notice, provide the opportunity to submit written comments and allow the public the opportunity to request a public hearing. The State must hold a public hearing or provide the public the opportunity to request a public hearing. The notice announcing the 30 day notification period must include the date, place and time of the public hearing. If the State provides the public the opportunity to request a public hearing and a request is received the State must hold the scheduled hearing or schedule a public hearing (as required by paragraph (d) of this section). The State may cancel the public hearing through a method it identifies if no request for a public hearing is received during the 30 day notification period and the original no-

tice announcing the 30 day notification period clearly states: *If no request for a public hearing is received the hearing will be cancelled; identifies the method and time for announcing that the hearing has been cancelled; and provides a contact phone number for the public to call to find out if the hearing has been cancelled.* These requirements apply for adoption and submission to EPA of:

(1) Any plan or revision of it required by § 51.104(a).

(2) Any individual compliance schedule under (§ 51.260).

(3) Any revision under § 51.104(d).

(b) Separate hearings may be held for plans to implement primary and secondary standards.

(c) No hearing will be required for any change to an increment of progress in an approved individual compliance schedule unless such change is likely to cause the source to be unable to comply with the final compliance date in the schedule. The requirements of §§ 51.104 and 51.105 will be applicable to such schedules, however.

(d) Any hearing required by paragraph (a) of this section will be held only after reasonable notice, which will be considered to include, at least 30 days prior to the date of such hearing(s):

(1) Notice given to the public by prominent advertisement in the area affected announcing the date(s), time(s), and place(s) of such hearing(s);

(2) Availability of each proposed plan or revision for public inspection in at least one location in each region to which it will apply, and the availability of each compliance schedule for public inspection in at least one location in the region in which the affected source is located;

(3) Notification to the Administrator (through the appropriate Regional Office);

(4) Notification to each local air pollution control agency which will be significantly impacted by such plan, schedule or revision;

(5) In the case of an interstate region, notification to any other States included, in whole or in part, in the regions which are significantly impacted by such plan or schedule or revision.

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(e) The State must prepare and retain, for inspection by the Administrator upon request, a record of each hearing. The record must contain, as a minimum, a list of witnesses together with the text of each presentation.

(f) The State must submit with the plan, revision, or schedule, a certification that the requirements in paragraph (a) and (d) of this section were met. Such certification will include the date and place of any public hearing(s) held or that no public hearing was requested during the 30 day notification period.

(g) Upon written application by a State agency (through the appropriate Regional Office), the Administrator may approve State procedures for public hearings. The following criteria apply:

(1) Procedures approved under this section shall be deemed to satisfy the requirement of this part regarding public hearings.

(2) Procedures different from this part may be approved if they—

(i) Ensure public participation in matters for which hearings are required; and

(ii) Provide adequate public notification of the opportunity to participate.

(3) The Administrator may impose any conditions on approval he or she deems necessary.

[36 FR 22938, Nov. 25, 1971, as amended at 65 FR 8657, Feb. 22, 2000; 72 FR 38792, July 16, 2007]

§ 51.103 Submission of plans, preliminary review of plans.

(a) The State makes an official plan submission to EPA only when the submission conforms to the requirements of appendix V to this part and the State delivers the submission to EPA through one of the three following methods: An electronic submission through EPA's eSIP submission system; one paper submission to the appropriate Regional Office with an exact duplicate electronic version, preferably in a word searchable format; or three paper submissions. Any State submission under this part, whether through the eSIP submission system or in paper copy form, will serve as the official submission.

(b) Upon request by a State, the Administrator will work with the State to provide preliminary review of a plan or portion thereof submitted in advance of the date such plan is due. Such requests must be made to the appropriate Regional Office, and must indicate changes (such as redline/strikethrough) to the existing approved plan where applicable, and be submitted using a format agreed upon by the State and Regional Office. Requests for preliminary review do not relieve a State of the responsibility of adopting and submitting plans in accordance with prescribed due dates.

(c) In addition to conforming to the requirements of appendix V to this part for complete SIP submissions, the EPA requests that the state consult with the appropriate Regional Office regarding any additional guidance for submitting a plan to EPA.

[80 FR 7340, Feb. 10, 2015]

§ 51.104 Revisions.

(a) States may revise the plan from time to time consistent with the requirements applicable to implementation plans under this part.

(b) The States must submit any revision of any regulation or any compliance schedule under paragraph (c) of this section to the Administrator no later than 60 days after its adoption.

(c) EPA will approve revisions only after applicable hearing requirements of § 51.102 have been satisfied.

(d) In order for a variance to be considered for approval as a revision to the State implementation plan, the State must submit it in accordance with the requirements of this section.

[51 FR 40661, Nov. 7, 1986, as amended at 61 FR 16060, Apr. 11, 1996]

§ 51.105 Approval of plans.

Revisions of a plan, or any portion thereof, will not be considered part of an applicable plan until such revisions have been approved by the Administrator in accordance with this part.

[51 FR 40661, Nov. 7, 1986, as amended at 60 FR 33922, June 29, 1995]

Attachment 2

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subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

[36 FR 24877, Dec. 28, 1971, as amended at 40 FR 46254, Oct. 6, 1975; 40 FR 58418, Dec. 16, 1975; 45 FR 5617, Jan. 23, 1980; 48 FR 48335, Oct. 18, 1983; 50 FR 53113, Dec. 27, 1985; 52 FR 9781, Mar. 26, 1987; 55 FR 51382, Dec. 13, 1990; 59 FR 12428, Mar. 16, 1994; 59 FR 47265, Sep. 15, 1994; 64 FR 7463, Feb. 12, 1999]

§ 60.8 Performance tests.

(a) Except as specified in paragraphs (a)(1), (a)(2), (a)(3), and (a)(4) of this section, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by this part, and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

(1) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure, the owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have

known that the event may cause or caused a delay in testing beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.

(2) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(3) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(4) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(1), (2), and (3) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other

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factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Administrator (or delegated State or local agency) as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator (or delegated State or local agency) by mutual agreement.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during per-

formance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method.

(1) Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(2) Contents of report (electronic or paper submitted copy). Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, the report for a performance test shall include the elements identified in paragraphs (f)(2)(i) through (vi) of this section.

(i) General identification information for the facility including a mailing address, the physical address, the owner or operator or responsible official (where applicable) and his/her email address, and the appropriate Federal Registry System (FRS) number for the facility.

(ii) Purpose of the test including the applicable regulation(s) requiring the test, the pollutant(s) and other parameters being measured, the applicable emission standard and any process parameter component, and a brief process description.

(iii) Description of the emission unit tested including fuel burned, control devices, and vent characteristics; the appropriate source classification code (SCC); the permitted maximum process

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rate (where applicable); and the sampling location.

(iv) Description of sampling and analysis procedures used and any modifications to standard procedures, quality assurance procedures and results, record of process operating conditions that demonstrate the applicable test conditions are met, and values for any operating parameters for which limits were being set during the test.

(v) Where a test method requires you record or report, the following shall be included: Record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, chain-of-custody documentation, and example calculations for reported results.

(vi) Identification of the company conducting the performance test including the primary office address, telephone number, and the contact for this test program including his/her email address.

(g) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the af-

ected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(1) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3A and 3C of appendix A-3 of part 60, Methods 6C, 7E, 9, and 10 of appendix A-4 of part 60, Methods 18 and 19 of appendix A-6 of part 60, Methods 20, 22, and 25A of appendix A-7 of part 60, Methods 30A and 30B of appendix A-8 of part 60, and Methods 303, 318, 320, and 321 of appendix A of part 63

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of this chapter. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, *www.epa.gov/ttn/emc*, to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement

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that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(2) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

- (i) Preparing the sample;
- (ii) Confirming the true concentration of the sample;
- (iii) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range.
- (iv) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;
- (v) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;
- (vi) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;
- (vii) The AASP shall report the results from each audit sample in a timely manner to the compliance authority and then to the source owner, operator, or representative. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and

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then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

(viii) Evaluating the acceptance limits of samples at least once every two years to determine in cooperation with the voluntary consensus standard body if they should be changed;

(ix) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(3) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

(i) Checking audit samples to confirm their true value as reported by the AASP;

(ii) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years;

(iii) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that

will accredit the audit sample providers.

(4) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget Circular A-119. A copy of Circular A-119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395-6880 or downloading online at http://standards.gov/standards_gov/a119.cfm. The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (g)(2) through (4) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc>.

(h) Unless otherwise specified in the applicable subpart, each test location must be verified to be free of cyclonic flow and evaluated for the existence of emission gas stratification and the required number of sampling traverse points. If other procedures are not specified in the applicable subpart to the regulations, use the appropriate procedures in Method 1 to check for cyclonic flow and Method 7E to evaluate emission gas stratification and selection of sampling points.

(i) Whenever the use of multiple calibration gases is required by a test method, performance specification, or quality assurance procedure in a part 60 standard or appendix, Method 205 of 40 CFR part 51, appendix M of this chapter, "Verification of Gas Dilution

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Systems for Field Instrument Calibrations," may be used.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 9314, Mar. 8, 1974; 42 FR 57126, Nov. 1, 1977; 44 FR 33612, June 11, 1979; 54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989; 64 FR 7463, Feb. 12, 1999; 72 FR 27442, May 16, 2007; 75 FR 55646, Sept. 13, 2010; 79 FR 11241, Feb. 27, 2014; 81 FR 59809, Aug. 30, 2016]

§ 60.9 Availability of information.

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)

§ 60.10 State authority.

The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.

(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.

§ 60.11 Compliance with standards and maintenance requirements.

(a) Compliance with standards in this part, other than opacity standards, shall be determined in accordance with performance tests established by § 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in paragraph (e)(5) of this section. For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations

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(meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e)(1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in § 60.8 unless one of the following conditions apply. If no performance test under § 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under § 60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in § 60.7(a)(6) shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under § 60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from

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§ 60.9

Systems for Field Instrument Calibrations," may be used.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 9314, Mar. 8, 1974; 42 FR 57126, Nov. 1, 1977; 44 FR 33612, June 11, 1979; 54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989; 64 FR 7463, Feb. 12, 1999; 72 FR 27442, May 16, 2007; 75 FR 55646, Sept. 13, 2010; 79 FR 11241, Feb. 27, 2014; 81 FR 59809, Aug. 30, 2016]

§ 60.9 Availability of information.

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)

§ 60.10 State authority.

The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.

(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.

§ 60.11 Compliance with standards and maintenance requirements.

(a) Compliance with standards in this part, other than opacity standards, shall be determined in accordance with performance tests established by § 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in paragraph (e)(5) of this section. For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations

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(meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e)(1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in § 60.8 unless one of the following conditions apply. If no performance test under § 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under § 60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in § 60.7(a)(6) shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under § 60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from

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being made concurrently with the initial performance test in accordance with procedures contained in Method 9 of appendix B of this part. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The owner or operator of an affected facility shall make available, upon request by the Administrator, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. Except as provided in paragraph (e)(5) of this section, the results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in appendix B of this part, has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

(2) Except as provided in paragraph (e)(3) of this section, the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with paragraph (b) of this section, shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under § 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall

report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in § 60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of paragraph (e)(1) of this section shall apply.

(4) An owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by § 60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and § 60.8 performance test results.

(5) An owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under § 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under § 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under § 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under § 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under § 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in § 60.13(c) of this part, that

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the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates non-compliance, the Method 9 data will be used to determine compliance with the opacity standard.

(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by § 60.8, the opacity observation results and observer certification required by § 60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an opacity standard, only those results are required to be submitted along with the performance test results required by § 60.8. If the Administrator finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with § 60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, he shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

(8) The Administrator will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity

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standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity standard in the FEDERAL REGISTER.

(f) Special provisions set forth under an applicable subpart shall supersede any conflicting provisions in paragraphs (a) through (e) of this section.

(g) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[38 FR 28565, Oct. 15, 1973, as amended at 39 FR 39873, Nov. 12, 1974; 43 FR 8800, Mar. 3, 1978; 45 FR 23379, Apr. 4, 1980; 48 FR 48335, Oct. 18, 1983; 50 FR 53113, Dec. 27, 1985; 51 FR 1790, Jan. 15, 1986; 52 FR 9781, Mar. 26, 1987; 62 FR 8328, Feb. 24, 1997; 65 FR 61749, Oct. 17, 2000]

§ 60.12 Circumvention.

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[39 FR 9314, Mar. 8, 1974]

§ 60.13 Monitoring requirements.

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B to this part and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to this

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§ 81.314

IDAHO—2015 8-HOUR OZONE NAAQS
[Primary and Secondary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date	Type
Statewide	Attainment/Unclassifiable.		

¹ Includes any Indian country in each county or area, unless otherwise specified. EPA is not determining the boundaries of any area of Indian country in this table, including any area of Indian country located in the larger designation area. The inclusion of any Indian country in the designation area is not a determination that the state has regulatory authority under the Clean Air Act for such Indian country.

² This date is January 16, 2018, unless otherwise noted.

IDAHO—2008 LEAD NAAQS

Designated area	Designation for the 2008 NAAQS ^a	
	Date ¹	Type
Whole State	Unclassifiable/Attainment.

^a Includes Indian Country located in each county or area, except as otherwise specified.

¹ December 31, 2011 unless otherwise noted.

[54 FR 27344, June 29, 1989]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 81.313, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.govinfo.gov.

§ 81.314 Illinois.

ILLINOIS—TSP

Designated area	Does not meet primary	Does not meet secondary	Cannot be classified	Better than national standards
Cook County:				
a. Lyons Township	X	X		
b. The area bounded on the north by 79th Street, on the west by Interstate 57 between Sibley Boulevard and Interstate 94 and by Interstate 94 between Interstate 57 and 79th Street, on the south by Sibley Boulevard, and on the east by the Illinois/Indiana State line	X	X		
LaSalle County:				
Those portions of LaSalle Township located in the following Townships, ranges, and sections: T33N, R1E, S24; T33N, R1E, S25; T33N, R2E, S30; T33N, R2E, S31; and T33N, R1E, S36	X	X		
Those portions of Deer Park Township located in the following Townships, ranges, and sections: T32N, R1E, S1; T32N, R2E, S6; T33N, R1E, S24; T33N, R1E, S25; T33N, R2E, S30; T33N, R2E, S31; and T33N, R1E, S36			X	
Madison County: Granite City Township and Nameoki Township	X	X		
All other portions of Illinois counties				X

ILLINOIS—1971 SULFUR DIOXIDE NAAQS
[Primary and Secondary]

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
AQCR 65:				
Fulton County				X
Hancock County				X
Henderson County				X
Knox County				X
McDonough County				X
Mason County				X
Peoria County				X
Tazewell County				X

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ILLINOIS—1971 SULFUR DIOXIDE NAAQS—Continued
[Primary and Secondary]

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Warren County				X
Woodford County				X
Lee County				X
AQCR 66:				
Champaign County				X
Clark County				X
Coles County				X
Cumberland County				X
De Witt County				X
Douglas County				X
Edgar County				X
Ford County				X
Iroquois County				X
Livingston County				X
McLean County				X
Moultrie County				X
Platt County				X
Shelby County				X
Vermilion County				X
AQCR 67:				
Cook County:				
Bremer Twp			X	
Calumet Twp			X	
Thornton Twp			X	
Worth Twp			X	
All other Cook County twps				X
Will County:				
Channahon Twp			X	
Du Page Twp			X	
Joliet Twp			X	
Lockport Twp			X	
Troy Twp			X	
All other Will County twps				X
Du Page County				X
Grundy County				X
Kane County				X
Kankakee County				X
Kendall County				X
Lake County				X
McHenry County				X
AQCR 68:				
Jo Daviess County				X
AQCR 69:				
Carroll County				X
Henry County				X
Mercer County				X
Rock Island County				X
Whiteside County				X
AQCR 70:				
Madison County:				
Wood River Twp			X	
Alton Twp			X	
All other Madison twps				X
Bond County				X
Clinton County				X
Monroe County				X
Randolph County				X
St. Clair County				X
Washington County				X
AQCR 71:				
Bureau County:				
Shelby Twp			X	
All other Bureau twps				X
La Salle County				X
Lee County				X
Marshall County				X
Putnam County				X
Stark County				X

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ILLINOIS—1971 SULFUR DIOXIDE NAAQS—Continued
[Primary and Secondary]

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
AQCR 72:				
Massac County				X
Alexander County				X
Johnson County				X
Pope County				X
Pulaski County				X
Union County				X
AQCR 73				
Boone County				X
De Kalb County				X
Ogle County				X
Stephenson				X
Winnebago County				X
AQCR 74:				
Clay County				X
Crawford County				X
Edwards County				X
Effingham County				X
Fayette County				X
Franklin County				X
Gallatin County				X
Hamilton County				X
Hardin County				X
Jackson County				X
Jasper County				X
Jefferson County				X
Lawrence County				X
Marion County				X
Perry County				X
Richland County				X
Saline County				X
Wabash County				X
Wayne County				X
White County				X
Williamson County				X
AQCR 75:				
Christian County:				
South Fork Twp			X	
All other twps				X
Sangamon County:				
Capital Twp			X	
Cooper Twp			X	
Cotton Hill Twp			X	
Rochester Twp			X	
Woodside Twp			X	
All other twps				X
Adams County				X
Brown County				X
Calhoun County				X
Cass County				X
Greene County				X
Jersey County				X
Logan County				X
Macon County				X
Nacoupin County				X
Menard County				X
Montgomery County				X
Morgan County				X
Pike County				X
Schuyler County				X
Scott County				X

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ILLINOIS—2010 SULFUR DIOXIDE NAAQS
[Primary]

Designated area ¹	Designation	
	Date ²	Type
Alton Township, IL	9/12/2016	Nonattainment.
Madison County (part). Within Alton Township: Area east of Corporal Belchik Memorial Expressway, south of East Broadway, south of Route 3, and north of Route 143.		
Lemont, IL	5/26/2020	Attainment.
Cook County (part). Lemont Township. Will County (part). DuPage Township and Lockport Township.		
Pekin, IL	5/26/2020	Attainment.
Tazewell County (part). Cincinnati Township and Pekin Township.		
Peoria County (part). Hollis Township.		
Rest of State:		
Adams County		Attainment/Unclassifiable.
Alexander County		Attainment/Unclassifiable.
Bond County		Attainment/Unclassifiable.
Boone County		Attainment/Unclassifiable.
Brown County		Attainment/Unclassifiable.
Bureau County	9/12/2016	Attainment/Unclassifiable.
Calhoun County		Attainment/Unclassifiable.
Carroll County		Attainment/Unclassifiable.
Cass County		Attainment/Unclassifiable.
Champaign County		Attainment/Unclassifiable.
Christian County		Attainment/Unclassifiable.
Clark County		Attainment/Unclassifiable.
Clay County		Attainment/Unclassifiable.
Clinton County		Attainment/Unclassifiable.
Coles County		Attainment/Unclassifiable.
Cook County (part) (remainder)		Attainment/Unclassifiable.
Crawford County		Attainment/Unclassifiable.
Cumberland County		Attainment/Unclassifiable.
De Kalb County		Attainment/Unclassifiable.
De Witt County		Attainment/Unclassifiable.
Douglas County		Attainment/Unclassifiable.
Du Page County		Attainment/Unclassifiable.
Edgar County		Attainment/Unclassifiable.
Edwards County		Attainment/Unclassifiable.
Effingham County		Attainment/Unclassifiable.
Fayette County		Attainment/Unclassifiable.
Ford County		Attainment/Unclassifiable.
Franklin County		Attainment/Unclassifiable.
Fulton County		Attainment/Unclassifiable.
Gallatin County		Attainment/Unclassifiable.
Greene County		Attainment/Unclassifiable.
Grundy County		Attainment/Unclassifiable.
Hamilton County		Attainment/Unclassifiable.
Hancock County		Attainment/Unclassifiable.
Hardin County		Attainment/Unclassifiable.
Henderson County		Attainment/Unclassifiable.
Henry County		Attainment/Unclassifiable.
Iroquois County		Attainment/Unclassifiable.
Jackson County		Attainment/Unclassifiable.
Jasper County	9/12/2016	Attainment/Unclassifiable.
Jefferson County		Attainment/Unclassifiable.
Jersey County		Attainment/Unclassifiable.
Jo Daviess County		Attainment/Unclassifiable.
Johnson County		Attainment/Unclassifiable.
Kane County		Attainment/Unclassifiable.
Kankakee County		Attainment/Unclassifiable.
Kendall County		Attainment/Unclassifiable.
Knox County		Attainment/Unclassifiable.
Lake County		Attainment/Unclassifiable.
La Salle County		Attainment/Unclassifiable.
Lawrence County		Attainment/Unclassifiable.
Lee County		Attainment/Unclassifiable.
Livingston County		Attainment/Unclassifiable.

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ILLINOIS—2010 SULFUR DIOXIDE NAAQS—Continued
[Primary]

Designated area ¹	Designation	
	Date ²	Type
Logan County		Attainment/Unclassifiable.
McDonough County		Attainment/Unclassifiable.
McHenry County		Attainment/Unclassifiable.
McLean County		Attainment/Unclassifiable.
Macon County	4/30/2021	Attainment/Unclassifiable.
Macoupin County		Attainment/Unclassifiable.
Madison County (part) (remainder) ⁴		Attainment/Unclassifiable.
Marion County		Attainment/Unclassifiable.
Marshall County		Attainment/Unclassifiable.
Mason County		Attainment/Unclassifiable.
Massac County	9/12/2016	Attainment/Unclassifiable.
Menard County		Attainment/Unclassifiable.
Mercer County		Attainment/Unclassifiable.
Monroe County		Attainment/Unclassifiable.
Montgomery County		Attainment/Unclassifiable.
Morgan County		Attainment/Unclassifiable.
Moultrie County		Attainment/Unclassifiable.
Ogle County		Attainment/Unclassifiable.
Peoria County (part) (remainder)		Attainment/Unclassifiable.
Perry County		Attainment/Unclassifiable.
Piatt County		Attainment/Unclassifiable.
Pike County		Attainment/Unclassifiable.
Pope County		Attainment/Unclassifiable.
Pulaski County		Attainment/Unclassifiable.
Putnam County	9/12/2016	Attainment/Unclassifiable.
Randolph County		Attainment/Unclassifiable.
Richland County		Attainment/Unclassifiable.
Rock Island County		Attainment/Unclassifiable.
St. Clair County		Attainment/Unclassifiable.
Saline County		Attainment/Unclassifiable.
Sangamon County		Attainment/Unclassifiable.
Schuyler County		Attainment/Unclassifiable.
Scott County		Attainment/Unclassifiable.
Shelby County		Attainment/Unclassifiable.
Stark County		Attainment/Unclassifiable.
Stephenson County		Attainment/Unclassifiable.
Tazewell County (part) (remainder)		Attainment/Unclassifiable.
Union County		Attainment/Unclassifiable.
Vermilion County		Attainment/Unclassifiable.
Wabash County		Attainment/Unclassifiable.
Warren County		Attainment/Unclassifiable.
Washington County		Attainment/Unclassifiable.
Wayne County		Attainment/Unclassifiable.
White County		Attainment/Unclassifiable.
Whiteside County		Attainment/Unclassifiable.
Will County (part) (remainder)		Attainment/Unclassifiable.
Williamson County	³ 10/15/2019	Attainment/Unclassifiable.
Winnebago County		Attainment/Unclassifiable.
Woodford County		Attainment/Unclassifiable.

¹ Includes any Indian country in each county or area, unless otherwise specified. EPA is not determining the boundaries of any area of Indian country in this table, including any area of Indian country located in the larger designation area. The inclusion of any Indian country in the designation area is not a determination that the state has regulatory authority under the Clean Air Act for such Indian country.

² This date is April 9, 2018, unless otherwise noted.

³ Williamson County was initially designated on September 12, 2016. The initial designation was reconsidered and modified on October 15, 2019.

⁴ A portion of Madison County, specifically all of Wood River Township, and the area in Chouteau Township north of Cahokia Diversion Channel, was designated attainment/unclassifiable on 9/12/16.

ILLINOIS—CARBON MONOXIDE

Designated Area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Adams County		Unclassifiable/Attainment.		
Alexander County		Unclassifiable/Attainment.		
Bond County		Unclassifiable/Attainment.		
Boone County		Unclassifiable/Attainment.		
Brown County		Unclassifiable/Attainment.		

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ILLINOIS—CARBON MONOXIDE—Continued

Designated Area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Bureau County		Unclassifiable/Attainment.		
Calhoun County		Unclassifiable/Attainment.		
Carroll County		Unclassifiable/Attainment.		
Cass County		Unclassifiable/Attainment.		
Champaign County		Unclassifiable/Attainment.		
Christian County		Unclassifiable/Attainment.		
Clark County		Unclassifiable/Attainment.		
Clay County		Unclassifiable/Attainment.		
Clinton County		Unclassifiable/Attainment.		
Coles County		Unclassifiable/Attainment.		
Cook County		Unclassifiable/Attainment.		
Crawford County		Unclassifiable/Attainment.		
Cumberland County		Unclassifiable/Attainment.		
De Kalb County		Unclassifiable/Attainment.		
De Witt County		Unclassifiable/Attainment.		
Douglas County		Unclassifiable/Attainment.		
Du Page County		Unclassifiable/Attainment.		
Edgar County		Unclassifiable/Attainment.		
Edwards County		Unclassifiable/Attainment.		
Effingham County		Unclassifiable/Attainment.		
Fayette County		Unclassifiable/Attainment.		
Ford County		Unclassifiable/Attainment.		
Franklin County		Unclassifiable/Attainment.		
Fulton County		Unclassifiable/Attainment.		
Gallatin County		Unclassifiable/Attainment.		
Greene County		Unclassifiable/Attainment.		
Grundy County		Unclassifiable/Attainment.		
Hamilton County		Unclassifiable/Attainment.		
Hancock County		Unclassifiable/Attainment.		
Hardin County		Unclassifiable/Attainment.		
Henderson County		Unclassifiable/Attainment.		
Henry County		Unclassifiable/Attainment.		
Iroquois County		Unclassifiable/Attainment.		
Jackson County		Unclassifiable/Attainment.		
Jasper County		Unclassifiable/Attainment.		
Jefferson County		Unclassifiable/Attainment.		
Jersey County		Unclassifiable/Attainment.		
Jo Daviess County		Unclassifiable/Attainment.		
Johnson County		Unclassifiable/Attainment.		
Kane County		Unclassifiable/Attainment.		
Kankakee County		Unclassifiable/Attainment.		
Kendall County		Unclassifiable/Attainment.		
Knox County		Unclassifiable/Attainment.		
Lake County		Unclassifiable/Attainment.		
La Salle County		Unclassifiable/Attainment.		
Lawrence County		Unclassifiable/Attainment.		
Lee County		Unclassifiable/Attainment.		
Livingston County		Unclassifiable/Attainment.		
Logan County		Unclassifiable/Attainment.		
Macon County		Unclassifiable/Attainment.		
Macoupin County		Unclassifiable/Attainment.		
Madison County		Unclassifiable/Attainment.		
Marion County		Unclassifiable/Attainment.		
Marshall County		Unclassifiable/Attainment.		
Mason County		Unclassifiable/Attainment.		
Massac County		Unclassifiable/Attainment.		
McDonough County		Unclassifiable/Attainment.		
McHenry County		Unclassifiable/Attainment.		
McLean County		Unclassifiable/Attainment.		
Menard County		Unclassifiable/Attainment.		
Mercer County		Unclassifiable/Attainment.		
Monroe County		Unclassifiable/Attainment.		
Montgomery County		Unclassifiable/Attainment.		
Morgan County		Unclassifiable/Attainment.		
Moultrie County		Unclassifiable/Attainment.		
Ogle County		Unclassifiable/Attainment.		
Peoria County		Unclassifiable/Attainment.		
Perry County		Unclassifiable/Attainment.		
Piatt County		Unclassifiable/Attainment.		
Pike County		Unclassifiable/Attainment.		

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ILLINOIS—CARBON MONOXIDE—Continued

Designated Area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Pope County		Unclassifiable/Attainment.		
Pulaski County		Unclassifiable/Attainment.		
Putnam County		Unclassifiable/Attainment.		
Randolph County		Unclassifiable/Attainment.		
Richland County		Unclassifiable/Attainment.		
Rock Island County		Unclassifiable/Attainment.		
St. Clair County		Unclassifiable/Attainment.		
Saline County		Unclassifiable/Attainment.		
Sangamon County		Unclassifiable/Attainment.		
Schuyler County		Unclassifiable/Attainment.		
Scott County		Unclassifiable/Attainment.		
Shelby County		Unclassifiable/Attainment.		
Stark County		Unclassifiable/Attainment.		
Stephenson County		Unclassifiable/Attainment.		
Tazewell County		Unclassifiable/Attainment.		
Union County		Unclassifiable/Attainment.		
Vermilion County		Unclassifiable/Attainment.		
Wabash County		Unclassifiable/Attainment.		
Warren County		Unclassifiable/Attainment.		
Washington County		Unclassifiable/Attainment.		
Wayne County		Unclassifiable/Attainment.		
White County		Unclassifiable/Attainment.		
Whiteside County		Unclassifiable/Attainment.		
Will County		Unclassifiable/Attainment.		
Williamson County		Unclassifiable/Attainment.		
Winnebago County		Unclassifiable/Attainment.		
Woodford County		Unclassifiable/Attainment.		

¹ This date is November 15, 1990, unless otherwise noted.

ILLINOIS—OZONE (1-HOUR STANDARD)³

Designated area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Chicago-Gary-Lake County Area:				
Cook County	11/15/90	Nonattainment	11/15/90	Severe-17.
Du Page County	11/15/90	Nonattainment	11/15/90	Severe-17.
Grundy County (part)				
Aux Sable Township	11/15/90	Nonattainment	11/15/90	Severe-17.
Goose Lake Township	11/15/90	Nonattainment	11/15/90	Severe-17.
Kane County	11/15/90	Nonattainment	11/15/90	Severe-17.
Kendall County (part)				
Oswego Township	11/15/90	Nonattainment	11/15/90	Severe-17.
Lake County	11/15/90	Nonattainment	11/15/90	Severe-17.
McHenry County	11/15/90	Nonattainment	11/15/90	Severe-17.
Will County	11/15/90	Nonattainment	11/15/90	Severe-17.
Jersey County Area:				
Jersey County		Attainment ² .		
St. Louis Area:				
Madison County	5/12/03	Attainment.		
Monroe County	5/12/03	Attainment.		
St. Clair County	5/12/03	Attainment.		
Adams County		Unclassifiable/Attainment		
Alexander County		Unclassifiable/Attainment		
Bond County		Unclassifiable/Attainment		
Boone County		Unclassifiable/Attainment		
Brown County		Unclassifiable/Attainment		
Bureau County		Unclassifiable/Attainment		
Calhoun County		Unclassifiable/Attainment		
Carroll County		Unclassifiable/Attainment		
Cass County		Unclassifiable/Attainment		
Champaign County		Unclassifiable/Attainment		
Christian County		Unclassifiable/Attainment		
Clark County		Unclassifiable/Attainment		
Clay County		Unclassifiable/Attainment		
Clinton County		Unclassifiable/Attainment		
Coles County		Unclassifiable/Attainment		
Crawford County		Unclassifiable/Attainment		
Cumberland County		Unclassifiable/Attainment		

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ILLINOIS—OZONE (1-HOUR STANDARD)³—Continued

Designated area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
De Kalb County	Unclassifiable/Attainment		
De Witt County	Unclassifiable/Attainment		
Douglas County	Unclassifiable/Attainment		
Edgar County	Unclassifiable/Attainment		
Edwards County	Unclassifiable/Attainment		
Effingham County	Unclassifiable/Attainment		
Fayette County	Unclassifiable/Attainment		
Ford County	Unclassifiable/Attainment		
Franklin County	Unclassifiable/Attainment		
Fulton County	Unclassifiable/Attainment		
Gallatin County	Unclassifiable/Attainment		
Greene County	Unclassifiable/Attainment		
Grundy County (part) All townships except Aux Sable and Goose Lake.	Unclassifiable/Attainment		
Hamilton County	Unclassifiable/Attainment		
Hancock County	Unclassifiable/Attainment		
Hardin County	Unclassifiable/Attainment		
Henderson County	Unclassifiable/Attainment		
Henry County	Unclassifiable/Attainment		
Iroquois County	Unclassifiable/Attainment		
Jackson County	Unclassifiable/Attainment		
Jasper County	Unclassifiable/Attainment		
Jefferson County	Unclassifiable/Attainment		
Jo Daviess County	Unclassifiable/Attainment		
Johnson County	Unclassifiable/Attainment		
Kankakee County	Unclassifiable/Attainment		
Kendall County (part) All townships except Oswego.	Unclassifiable/Attainment		
Knox County	Unclassifiable/Attainment		
La Salle County	Unclassifiable/Attainment		
Lawrence County	Unclassifiable/Attainment		
Lee County	Unclassifiable/Attainment		
Livingston County	Unclassifiable/Attainment		
Logan County	Unclassifiable/Attainment		
Macon County	Unclassifiable/Attainment		
Maccoupin County	Unclassifiable/Attainment		
Marion County	Unclassifiable/Attainment		
Marshall County	Unclassifiable/Attainment		
Mason County	Unclassifiable/Attainment		
Massac County	Unclassifiable/Attainment		
McDonough County	Unclassifiable/Attainment		
McLean County	Unclassifiable/Attainment		
Menard County	Unclassifiable/Attainment		
Mercer County	Unclassifiable/Attainment		
Montgomery County	Unclassifiable/Attainment		
Morgan County	Unclassifiable/Attainment		
Moultrie County	Unclassifiable/Attainment		
Ogle County	Unclassifiable/Attainment		
Peoria County	Unclassifiable/Attainment		
Perry County	Unclassifiable/Attainment		
Piatt County	Unclassifiable/Attainment		
Pike County	Unclassifiable/Attainment		
Pope County	Unclassifiable/Attainment		
Pulaski County	Unclassifiable/Attainment		
Putnam County	Unclassifiable/Attainment		
Randolph County	Unclassifiable/Attainment		
Richland County	Unclassifiable/Attainment		
Rock Island County	Unclassifiable/Attainment		
Saline County	Unclassifiable/Attainment		
Sangamon County	Unclassifiable/Attainment		
Schuyler County	Unclassifiable/Attainment		
Scott County	Unclassifiable/Attainment		
Shelby County	Unclassifiable/Attainment		
Stark County	Unclassifiable/Attainment		
Stephenson County	Unclassifiable/Attainment		
Tazewell County	Unclassifiable/Attainment		
Union County	Unclassifiable/Attainment		
Vermilion County	Unclassifiable/Attainment		
Wabash County	Unclassifiable/Attainment		
Warren County	Unclassifiable/Attainment		

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ILLINOIS—OZONE (1-HOUR STANDARD)³—Continued

Designated area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Washington County	Unclassifiable/Attainment		
Wayne County	Unclassifiable/Attainment		
White County	Unclassifiable/Attainment		
Whiteside County	Unclassifiable/Attainment		
Williamson County	Unclassifiable/Attainment		
Winnebago County	Unclassifiable/Attainment		
Woodford County	Unclassifiable/Attainment		

¹ This date is October 18, 2000, unless otherwise noted.

² April 13, 1995.

³ The 1-hour ozone standard is revoked effective June 15, 2005 for all areas in Illinois. The Jersey Co. and St. Louis areas are maintenance areas for the 1-hour NAAQS for purposes of 40 CFR part 51 subpart X.

ILLINOIS—PM-10

Designated area	Designation		Classification	
	Date	Type	Date	Type
Cook County				
a. Lyons Township	11/21/05	Attainment.		
b. The area bounded on the north by 79th Street, on the west by Interstate 57 between Sibley Boulevard and Interstate 94 and by Interstate 94 between Interstate 57 and 79th Street, on the south by Sibley Boulevard, and on the east by the Illinois/Indiana State line	11/21/05	Attainment.		
LaSalle County				
Oglesby including the following Townships, ranges, and sections: T32N, R1E, S1; T32N, R2E, S6; T33N, R1E, S24; T33N, R1E, S25; T33N, R2E, S30; T33N, R2E, S31; and T33N, R1E, S36	10/7/96	Attainment		
Madison County				
Granite City Township and Nameoki Township.	5/11/98	Attainment.		
Rest of State	11/15/90	Unclassifiable.		

ILLINOIS—1997 ANNUAL PM_{2.5} NAAQS

[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date ²	Type
Chicago-Gary-Lake County, IL-IN:	10/2/13	Attainment.		
Cook County				
DuPage County				
Grundy County (part): Goose Lake and Aux Sable Townships				
Kane County				
Kendall County (part): Oswego Township				
Lake County				
McHenry County				
Will County				
St. Louis, MO-IL:				
Madison County	5/28/2019	Attainment .....	.....
Monroe County	5/28/2019	Attainment .....	.....
Randolph County (part): Baldwin Village.	5/28/2019	Attainment .....	.....
St. Clair County	5/28/2019	Attainment.		
Rest of State:				
Adams County .....	.....	Unclassifiable/Attainment.		
Alexander County	Unclassifiable/Attainment.		
Bond County	Unclassifiable/Attainment.		

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ILLINOIS—1997 ANNUAL PM_{2.5} NAAQS—Continued
[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date ²	Type
Boone County		Unclassifiable/Attainment.		
Brown County		Unclassifiable/Attainment.		
Bureau County		Unclassifiable/Attainment.		
Calhoun County		Unclassifiable/Attainment.		
Carroll County		Unclassifiable/Attainment.		
Cass County		Unclassifiable/Attainment.		
Champaign County		Unclassifiable/Attainment.		
Christian County		Unclassifiable/Attainment.		
Clark County		Unclassifiable/Attainment.		
Clay County		Unclassifiable/Attainment.		
Clinton County		Unclassifiable/Attainment.		
Coles County		Unclassifiable/Attainment.		
Crawford County		Unclassifiable/Attainment.		
Cumberland County		Unclassifiable/Attainment.		
DeKalb County		Unclassifiable/Attainment.		
De Witt County		Unclassifiable/Attainment.		
Douglas County		Unclassifiable/Attainment.		
Edgar County		Unclassifiable/Attainment.		
Edwards County		Unclassifiable/Attainment.		
Effingham County		Unclassifiable/Attainment.		
Fayette County		Unclassifiable/Attainment.		
Ford County		Unclassifiable/Attainment.		
Franklin County		Unclassifiable/Attainment.		
Fulton County		Unclassifiable/Attainment.		
Gallatin County		Unclassifiable/Attainment.		
Greene County		Unclassifiable/Attainment.		
Grundy County (remainder)		Unclassifiable/Attainment.		
Hamilton County		Unclassifiable/Attainment.		
Hancock County		Unclassifiable/Attainment.		
Hardin County		Unclassifiable/Attainment.		
Henderson County		Unclassifiable/Attainment.		
Henry County		Unclassifiable/Attainment.		
Iroquois County		Unclassifiable/Attainment.		
Jackson County		Unclassifiable/Attainment.		
Jasper County		Unclassifiable/Attainment.		
Jefferson County		Unclassifiable/Attainment.		
Jersey County		Unclassifiable/Attainment.		
Jo Daviess County		Unclassifiable/Attainment.		
Johnson County		Unclassifiable/Attainment.		
Kankakee County		Unclassifiable/Attainment.		
Kendall County (remainder)		Unclassifiable/Attainment.		
Knox County		Unclassifiable/Attainment.		
La Salle County		Unclassifiable/Attainment.		
Lawrence County		Unclassifiable/Attainment.		
Lee County		Unclassifiable/Attainment.		
Livingston County		Unclassifiable/Attainment.		
Logan County		Unclassifiable/Attainment.		
McDonough County		Unclassifiable/Attainment.		
McLean County		Unclassifiable/Attainment.		
Macon County		Unclassifiable/Attainment.		
Macoupin County		Unclassifiable/Attainment.		
Marion County		Unclassifiable/Attainment.		
Marshall County		Unclassifiable/Attainment.		
Mason County		Unclassifiable/Attainment.		
Massac County		Unclassifiable/Attainment.		
Menard County		Unclassifiable/Attainment.		
Mercer County		Unclassifiable/Attainment.		
Montgomery County		Unclassifiable/Attainment.		
Morgan County		Unclassifiable/Attainment.		
Moultrie County		Unclassifiable/Attainment.		
Ogle County		Unclassifiable/Attainment.		
Peoria County		Unclassifiable/Attainment.		
Perry County		Unclassifiable/Attainment.		
Piatt County		Unclassifiable/Attainment.		
Pike County		Unclassifiable/Attainment.		
Pope County		Unclassifiable/Attainment.		
Pulaski County		Unclassifiable/Attainment.		
Putnam County		Unclassifiable/Attainment.		
Randolph County (remainder)		Unclassifiable/Attainment.		

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ILLINOIS—1997 ANNUAL PM_{2.5} NAAQS—Continued
[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date ²	Type
Richland County	Unclassifiable/Attainment.		
Rock Island County	Unclassifiable/Attainment.		
Saline County	Unclassifiable/Attainment.		
Sangamon County	Unclassifiable/Attainment.		
Schuyler County	Unclassifiable/Attainment.		
Scott County	Unclassifiable/Attainment.		
Shelby County	Unclassifiable/Attainment.		
Stark County	Unclassifiable/Attainment.		
Stephenson County	Unclassifiable/Attainment.		
Tazewell County	Unclassifiable/Attainment.		
Union County	Unclassifiable/Attainment.		
Vermilion County	Unclassifiable/Attainment.		
Wabash County	Unclassifiable/Attainment.		
Warren County	Unclassifiable/Attainment.		
Washington County	Unclassifiable/Attainment.		
Wayne County	Unclassifiable/Attainment.		
White County	Unclassifiable/Attainment.		
Whiteside County	Unclassifiable/Attainment.		
Williamson County	Unclassifiable/Attainment.		
Winnebago County	Unclassifiable/Attainment.		
Woodford County	Unclassifiable/Attainment.		

^a Includes Indian Country located in each county or area, except as otherwise specified.
¹ This date is 90 days after January 5, 2005, unless otherwise noted.
² This date is July 2, 2014, unless otherwise noted.

ILLINOIS—2012 ANNUAL PM_{2.5} NAAQS
[Primary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Chicago, IL—IN:				
Cook County	Unclassifiable/Attainment..		
DuPage County	Unclassifiable/Attainment..		
Grundy County (part)	Unclassifiable/Attainment..		
Goose Lake and Aux Sable Townships	Unclassifiable/Attainment..		
Kane County	Unclassifiable/Attainment..		
Kendall County (part)	Unclassifiable/Attainment..		
Oswego Township	Unclassifiable/Attainment..		
Lake County	Unclassifiable/Attainment..		
McHenry County	Unclassifiable/Attainment..		
Will County	Unclassifiable/Attainment..		
Davenport-Moline-Rock Island, IL:				
Rock Island County	Unclassifiable/Attainment..		
Henry County	Unclassifiable/Attainment..		
Mercer County	Unclassifiable/Attainment..		
St. Louis, MO—IL:				
Madison County	Unclassifiable/Attainment..		
Monroe County	Unclassifiable/Attainment..		
Randolph County (part)	Unclassifiable/Attainment..		
Baldwin Village	Unclassifiable/Attainment..		
St. Clair County	Unclassifiable/Attainment..		
Rest of State:				
Adams County	Unclassifiable/Attainment..		
Alexander County	Unclassifiable/Attainment..		
Bond County	Unclassifiable/Attainment..		
Boone County	Unclassifiable/Attainment..		
Brown County	Unclassifiable/Attainment..		
Bureau County	Unclassifiable/Attainment..		
Calhoun County	Unclassifiable/Attainment..		
Carroll County	Unclassifiable/Attainment..		

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ILLINOIS—2012 ANNUAL PM_{2.5} NAAQS—Continued
[Primary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Cass County		Unclassifiable/Attainment..		
Champaign County		Unclassifiable/Attainment..		
Christian County		Unclassifiable/Attainment..		
Clark County		Unclassifiable/Attainment..		
Clay County		Unclassifiable/Attainment..		
Clinton County		Unclassifiable/Attainment..		
Coles County		Unclassifiable/Attainment..		
Crawford County		Unclassifiable/Attainment..		
Cumberland County		Unclassifiable/Attainment..		
DeKalb County		Unclassifiable/Attainment..		
De Witt County		Unclassifiable/Attainment..		
Douglas County		Unclassifiable/Attainment..		
Edgar County		Unclassifiable/Attainment..		
Edwards County		Unclassifiable/Attainment..		
Effingham County		Unclassifiable/Attainment..		
Fayette County		Unclassifiable/Attainment..		
Ford County		Unclassifiable/Attainment..		
Franklin County		Unclassifiable/Attainment..		
Fulton County		Unclassifiable/Attainment..		
Gallatin County		Unclassifiable/Attainment..		
Greene County		Unclassifiable/Attainment..		
Grundy County (remainder)		Unclassifiable/Attainment..		
Hamilton County		Unclassifiable/Attainment..		
Hancock County		Unclassifiable/Attainment..		
Hardin County		Unclassifiable/Attainment..		
Henderson County		Unclassifiable/Attainment..		
Iroquois County		Unclassifiable/Attainment..		
Jackson County		Unclassifiable/Attainment..		
Jasper County		Unclassifiable/Attainment..		
Jefferson County		Unclassifiable/Attainment..		
Jersey County		Unclassifiable/Attainment..		
Jo Daviess County		Unclassifiable/Attainment..		
Johnson County		Unclassifiable/Attainment..		
Kankakee County		Unclassifiable/Attainment..		
Kendall County (remainder)		Unclassifiable/Attainment..		
Knox County		Unclassifiable/Attainment..		
La Salle County		Unclassifiable/Attainment..		
Lawrence County		Unclassifiable/Attainment..		
Lee County		Unclassifiable/Attainment..		
Livingston County		Unclassifiable/Attainment..		
Logan County		Unclassifiable/Attainment..		
McDonough County		Unclassifiable/Attainment..		
McLean County		Unclassifiable/Attainment..		
Macon County		Unclassifiable/Attainment..		
Macoupin County		Unclassifiable/Attainment..		
Marion County		Unclassifiable/Attainment..		
Marshall County		Unclassifiable/Attainment..		
Mason County		Unclassifiable/Attainment..		
Massac County		Unclassifiable/Attainment..		
Menard County		Unclassifiable/Attainment..		
Montgomery County		Unclassifiable/Attainment..		
Morgan County		Unclassifiable/Attainment..		
Moultrie County		Unclassifiable/Attainment..		
Ogle County		Unclassifiable/Attainment..		
Peoria County		Unclassifiable/Attainment..		
Perry County		Unclassifiable/Attainment..		
Piatt County		Unclassifiable/Attainment..		
Pike County		Unclassifiable/Attainment..		
Pope County		Unclassifiable/Attainment..		
Pulaski County		Unclassifiable/Attainment..		
Putnam County		Unclassifiable/Attainment..		
Randolph County (remainder)		Unclassifiable/Attainment..		
Richland County		Unclassifiable/Attainment..		
Saline County		Unclassifiable/Attainment..		
Sangamon County		Unclassifiable/Attainment..		
Schuyler County		Unclassifiable/Attainment..		
Scott County		Unclassifiable/Attainment..		
Shelby County		Unclassifiable/Attainment..		
Stark County		Unclassifiable/Attainment..		

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ILLINOIS—2012 ANNUAL PM_{2.5} NAAQS—Continued
[Primary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Stephenson County		Unclassifiable/Attainment..		
Tazewell County		Unclassifiable/Attainment..		
Union County		Unclassifiable/Attainment..		
Vermilion County		Unclassifiable/Attainment..		
Wabash County		Unclassifiable/Attainment..		
Warren County		Unclassifiable/Attainment..		
Washington County		Unclassifiable/Attainment..		
Wayne County		Unclassifiable/Attainment..		
White County		Unclassifiable/Attainment..		
Whiteside County		Unclassifiable/Attainment..		
Williamson County		Unclassifiable/Attainment..		
Winnebago County		Unclassifiable/Attainment..		
Woodford County		Unclassifiable/Attainment..		

¹ Includes Indian Country located in each county or area, except as otherwise specified.
² This date is January 28, 2019, unless otherwise noted.

ILLINOIS—1997 24-HOUR PM_{2.5} NAAQS
[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date	Type
Statewide:				
Adams County		Unclassifiable/Attainment.		
Alexander County		Unclassifiable/Attainment.		
Bond County		Unclassifiable/Attainment.		
Boone County		Unclassifiable/Attainment.		
Brown County		Unclassifiable/Attainment.		
Bureau County		Unclassifiable/Attainment.		
Calhoun County		Unclassifiable/Attainment.		
Carroll County		Unclassifiable/Attainment.		
Cass County		Unclassifiable/Attainment.		
Champaign County		Unclassifiable/Attainment.		
Christian County		Unclassifiable/Attainment.		
Clark County		Unclassifiable/Attainment.		
Clay County		Unclassifiable/Attainment.		
Clinton County		Unclassifiable/Attainment.		
Coles County		Unclassifiable/Attainment.		
Cook County		Unclassifiable/Attainment.		
Crawford County		Unclassifiable/Attainment.		
Cumberland County		Unclassifiable/Attainment.		
DeKalb County		Unclassifiable/Attainment.		
De Witt County		Unclassifiable/Attainment.		
Douglas County		Unclassifiable/Attainment.		
DuPage County		Unclassifiable/Attainment.		
Edgar County		Unclassifiable/Attainment.		
Edwards County		Unclassifiable/Attainment.		
Effingham County		Unclassifiable/Attainment.		
Fayette County		Unclassifiable/Attainment.		
Ford County		Unclassifiable/Attainment.		
Franklin County		Unclassifiable/Attainment.		
Fulton County		Unclassifiable/Attainment.		
Gallatin County		Unclassifiable/Attainment.		
Greene County		Unclassifiable/Attainment.		
Grundy County		Unclassifiable/Attainment.		
Hamilton County		Unclassifiable/Attainment.		
Hancock County		Unclassifiable/Attainment.		
Hardin County		Unclassifiable/Attainment.		
Henderson County		Unclassifiable/Attainment.		
Henry County		Unclassifiable/Attainment.		
Iroquois County		Unclassifiable/Attainment.		
Jackson County		Unclassifiable/Attainment.		
Jasper County		Unclassifiable/Attainment.		
Jefferson County		Unclassifiable/Attainment.		
Jersey County		Unclassifiable/Attainment.		
Jo Daviess County		Unclassifiable/Attainment.		
Johnson County		Unclassifiable/Attainment.		

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ILLINOIS—1997 24-HOUR PM_{2.5} NAAQS—Continued
[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date	Type
Kane County		Unclassifiable/Attainment.		
Kankakee County		Unclassifiable/Attainment.		
Kendall County		Unclassifiable/Attainment.		
Knox County		Unclassifiable/Attainment.		
La Salle County		Unclassifiable/Attainment.		
Lake County		Unclassifiable/Attainment.		
Lawrence County		Unclassifiable/Attainment.		
Lee County		Unclassifiable/Attainment.		
Livingston County		Unclassifiable/Attainment.		
Logan County		Unclassifiable/Attainment.		
McDonough County		Unclassifiable/Attainment.		
McHenry County		Unclassifiable/Attainment.		
McLean County		Unclassifiable/Attainment.		
Macon County		Unclassifiable/Attainment.		
Macoupin County		Unclassifiable/Attainment.		
Madison County		Unclassifiable/Attainment.		
Marion County		Unclassifiable/Attainment.		
Marshall County		Unclassifiable/Attainment.		
Mason County		Unclassifiable/Attainment.		
Massac County		Unclassifiable/Attainment.		
Menard County		Unclassifiable/Attainment.		
Mercer County		Unclassifiable/Attainment.		
Monroe County		Unclassifiable/Attainment.		
Montgomery County		Unclassifiable/Attainment.		
Morgan County		Unclassifiable/Attainment.		
Moultrie County		Unclassifiable/Attainment.		
Ogle County		Unclassifiable/Attainment.		
Peoria County		Unclassifiable/Attainment.		
Perry County		Unclassifiable/Attainment.		
Piatt County		Unclassifiable/Attainment.		
Pike County		Unclassifiable/Attainment.		
Pope County		Unclassifiable/Attainment.		
Pulaski County		Unclassifiable/Attainment.		
Putnam County		Unclassifiable/Attainment.		
Randolph County		Unclassifiable/Attainment.		
Richland County		Unclassifiable/Attainment.		
Rock Island County		Unclassifiable/Attainment.		
St. Clair County		Unclassifiable/Attainment.		
Saline County		Unclassifiable/Attainment.		
Sangamon County		Unclassifiable/Attainment.		
Schuyler County		Unclassifiable/Attainment.		
Scott County		Unclassifiable/Attainment.		
Shelby County		Unclassifiable/Attainment.		
Stark County		Unclassifiable/Attainment.		
Stephenson County		Unclassifiable/Attainment.		
Tazewell County		Unclassifiable/Attainment.		
Union County		Unclassifiable/Attainment.		
Vermilion County		Unclassifiable/Attainment.		
Wabash County		Unclassifiable/Attainment.		
Warren County		Unclassifiable/Attainment.		
Washington County		Unclassifiable/Attainment.		
Wayne County		Unclassifiable/Attainment.		
White County		Unclassifiable/Attainment.		
Whiteside County		Unclassifiable/Attainment.		
Will County		Unclassifiable/Attainment.		
Williamson County		Unclassifiable/Attainment.		
Winnebago County		Unclassifiable/Attainment.		
Woodford County		Unclassifiable/Attainment.		

^a Includes Indian Country located in each county or area, except as otherwise specified.
¹ This date is 90 days after January 5, 2005, unless otherwise noted.

ILLINOIS—2006 24-HOUR PM_{2.5} NAAQS
[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date	Type
Statewide:				

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ILLINOIS—2006 24-HOUR PM_{2.5} NAAQS—Continued
[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date	Type
Adams County		Unclassifiable/Attainment.		
Alexander County		Unclassifiable/Attainment.		
Bond County		Unclassifiable/Attainment.		
Boone County		Unclassifiable/Attainment.		
Brown County		Unclassifiable/Attainment.		
Bureau County		Unclassifiable/Attainment.		
Calhoun County		Unclassifiable/Attainment.		
Carroll County		Unclassifiable/Attainment.		
Cass County		Unclassifiable/Attainment.		
Champaign County		Unclassifiable/Attainment.		
Christian County		Unclassifiable/Attainment.		
Clark County		Unclassifiable/Attainment.		
Clay County		Unclassifiable/Attainment.		
Clinton County		Unclassifiable/Attainment.		
Coles County		Unclassifiable/Attainment.		
Cook County		Unclassifiable/Attainment.		
Crawford County		Unclassifiable/Attainment.		
Cumberland County		Unclassifiable/Attainment.		
DeKalb County		Unclassifiable/Attainment.		
De Witt County		Unclassifiable/Attainment.		
Douglas County		Unclassifiable/Attainment.		
DuPage County		Unclassifiable/Attainment.		
Edgar County		Unclassifiable/Attainment.		
Edwards County		Unclassifiable/Attainment.		
Effingham County		Unclassifiable/Attainment.		
Fayette County		Unclassifiable/Attainment.		
Ford County		Unclassifiable/Attainment.		
Franklin County		Unclassifiable/Attainment.		
Fulton County		Unclassifiable/Attainment.		
Gallatin County		Unclassifiable/Attainment.		
Greene County		Unclassifiable/Attainment.		
Grundy County		Unclassifiable/Attainment.		
Hamilton County		Unclassifiable/Attainment.		
Hancock County		Unclassifiable/Attainment.		
Hardin County		Unclassifiable/Attainment.		
Henderson County		Unclassifiable/Attainment.		
Henry County		Unclassifiable/Attainment.		
Iroquois County		Unclassifiable/Attainment.		
Jackson County		Unclassifiable/Attainment.		
Jasper County		Unclassifiable/Attainment.		
Jefferson County		Unclassifiable/Attainment.		
Jersey County		Unclassifiable/Attainment.		
Jo Daviess County		Unclassifiable/Attainment.		
Johnson County		Unclassifiable/Attainment.		
Kane County		Unclassifiable/Attainment.		
Kankakee County		Unclassifiable/Attainment.		
Kendall County		Unclassifiable/Attainment.		
Knox County		Unclassifiable/Attainment.		
La Salle County		Unclassifiable/Attainment.		
Lake County		Unclassifiable/Attainment.		
Lawrence County		Unclassifiable/Attainment.		
Lee County		Unclassifiable/Attainment.		
Livingston County		Unclassifiable/Attainment.		
Logan County		Unclassifiable/Attainment.		
McDonough County		Unclassifiable/Attainment.		
McHenry County		Unclassifiable/Attainment.		
McLean County		Unclassifiable/Attainment.		
Macon County		Unclassifiable/Attainment.		
Macoupin County		Unclassifiable/Attainment.		
Madison County		Unclassifiable/Attainment.		
Marion County		Unclassifiable/Attainment.		
Marshall County		Unclassifiable/Attainment.		
Mason County		Unclassifiable/Attainment.		
Massac County		Unclassifiable/Attainment.		
Menard County		Unclassifiable/Attainment.		
Mercer County		Unclassifiable/Attainment.		
Monroe County		Unclassifiable/Attainment.		
Montgomery County		Unclassifiable/Attainment.		
Morgan County		Unclassifiable/Attainment.		

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ILLINOIS—2006 24-HOUR PM_{2.5} NAAQS—Continued
[Primary and Secondary]

Designated area	Designation ^a		Classification	
	Date ¹	Type	Date	Type
Moultrie County		Unclassifiable/Attainment.		
Ogle County		Unclassifiable/Attainment.		
Peoria County		Unclassifiable/Attainment.		
Perry County		Unclassifiable/Attainment.		
Piatt County		Unclassifiable/Attainment.		
Pike County		Unclassifiable/Attainment.		
Pope County		Unclassifiable/Attainment.		
Pulaski County		Unclassifiable/Attainment.		
Putnam County		Unclassifiable/Attainment.		
Randolph County		Unclassifiable/Attainment.		
Richland County		Unclassifiable/Attainment.		
Rock Island County		Unclassifiable/Attainment.		
St. Clair County		Unclassifiable/Attainment.		
Saline County		Unclassifiable/Attainment.		
Sangamon County		Unclassifiable/Attainment.		
Schuyler County		Unclassifiable/Attainment.		
Scott County		Unclassifiable/Attainment.		
Shelby County		Unclassifiable/Attainment.		
Stark County		Unclassifiable/Attainment.		
Stephenson County		Unclassifiable/Attainment.		
Tazewell County		Unclassifiable/Attainment.		
Union County		Unclassifiable/Attainment.		
Vermilion County		Unclassifiable/Attainment.		
Wabash County		Unclassifiable/Attainment.		
Warren County		Unclassifiable/Attainment.		
Washington County		Unclassifiable/Attainment.		
Wayne County		Unclassifiable/Attainment.		
White County		Unclassifiable/Attainment.		
Whiteside County		Unclassifiable/Attainment.		
Will County		Unclassifiable/Attainment.		
Williamson County		Unclassifiable/Attainment.		
Winnebago County		Unclassifiable/Attainment.		
Woodford County		Unclassifiable/Attainment.		

^a Includes Indian Country located in each county or area, except as otherwise specified.
¹ This date is 30 days after November 13, 2009, unless otherwise noted.

ILLINOIS—NO₂ (1971 ANNUAL STANDARD)

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
AQCR 65:		
Fulton County		X
Hancock County		X
Henderson County		X
Knox County		X
McDonough County		X
Mason County		X
Peoria County		X
Tazewell County		X
Warren County		X
Woodford County		X
Lae County		X
AQCR 66:		
Champaign County		X
Clark County		X
Coles County		X
Cumberland County		X
De Witt County		X
Douglas County		X
Edgar County		X
Ford County		X
Iroquois County		X
Livingston County		X
McLean County		X
Moultrie County		X
Piatt County		X

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ILLINOIS—NO₂ (1971 ANNUAL STANDARD)—Continued

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Shelby County		X
Vermilion County		X
AQCR 67:		
Cook County		X
Du Page County		X
Grundy County		X
Kane County		X
Kankakee County		X
Kendall County		X
Lake County		X
McHenry County		X
Will County		X
AQCR 68:		
Jo Daviess County		X
AQCR 69:		
Carroll County		X
Henry County		X
Mercer County		X
Rock Island County		X
Whiteside County		X
AQCR 70:		
Bond County		X
Clinton County		X
Madison County		X
Monroe County		X
Randolph County		X
St. Clair County		X
Washington County		X
AQCR 71:		
Bureau County		X
La Salle County		X
Lee County		X
Marshall County		X
Putnam County		X
Stark County		X
AQCR 72:		
Alexander County		X
Johnson County		X
Massac County		X
Pope County		X
Pulaski County		X
Union County		X
AQCR 73:		
Boone County		X
De Kalb County		X
Ogle County		X
Stephenson County		X
Winnebago County		X
AQCR 74:		
Clay County		X
Crawford County		X
Edwards County		X
Effingham County		X
Fayette County		X
Franklin County		X
Gallatin County		X
Hamilton County		X
Hardin County		X
Jackson County		X
Jasper County		X
Jefferson County		X
Lawrence County		X
Marion County		X
Perry County		X
Richland County		X
Saline County		X
Wabash County		X
Wayne County		X
White County		X
Williamson County		X

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ILLINOIS—NO₂ (1971 ANNUAL STANDARD)—Continued

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
AQCR 75:		
Adams County	X
Brown County	X
Calhoun County	X
Cass County	X
Christian County	X
Greene County	X
Jersey County	X
Logan County	X
Macon County	X
Macoupin County	X
Menard County	X
Montgomery County	X
Morgan County	X
Pike County	X
Sangamon County	X
Schuyler County	X
Scott County	X

ILLINOIS—NO₂ (2010 1-HOUR STANDARD)

Designated area	Designation ^a	
	Date ¹	Type
Adams County	Unclassifiable/Attainment.
Alexander County	Unclassifiable/Attainment.
Bond County	Unclassifiable/Attainment.
Boone County	Unclassifiable/Attainment.
Brown County	Unclassifiable/Attainment.
Bureau County	Unclassifiable/Attainment.
Calhoun County	Unclassifiable/Attainment.
Carroll County	Unclassifiable/Attainment.
Cass County	Unclassifiable/Attainment.
Champaign County	Unclassifiable/Attainment.
Christian County	Unclassifiable/Attainment.
Clark County	Unclassifiable/Attainment.
Clay County	Unclassifiable/Attainment.
Clinton County	Unclassifiable/Attainment.
Coles County	Unclassifiable/Attainment.
Cook County	Unclassifiable/Attainment.
Crawford County	Unclassifiable/Attainment.
Cumberland County	Unclassifiable/Attainment.
DeKalb County	Unclassifiable/Attainment.
De Witt County	Unclassifiable/Attainment.
Douglas County	Unclassifiable/Attainment.
DuPage County	Unclassifiable/Attainment.
Edgar County	Unclassifiable/Attainment.
Edwards County	Unclassifiable/Attainment.
Effingham County	Unclassifiable/Attainment.
Fayette County	Unclassifiable/Attainment.
Ford County	Unclassifiable/Attainment.
Franklin County	Unclassifiable/Attainment.
Fulton County	Unclassifiable/Attainment.
Gallatin County	Unclassifiable/Attainment.
Greene County	Unclassifiable/Attainment.
Grundy County	Unclassifiable/Attainment.
Hamilton County	Unclassifiable/Attainment.
Hancock County	Unclassifiable/Attainment.
Hardin County	Unclassifiable/Attainment.
Henderson County	Unclassifiable/Attainment.
Henry County	Unclassifiable/Attainment.
Iroquois County	Unclassifiable/Attainment.
Jackson County	Unclassifiable/Attainment.
Jasper County	Unclassifiable/Attainment.
Jefferson County	Unclassifiable/Attainment.
Jersey County	Unclassifiable/Attainment.
Jo Daviess County	Unclassifiable/Attainment.
Johnson County	Unclassifiable/Attainment.

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ILLINOIS—NO₂ (2010 1-HOUR STANDARD)—Continued

Designated area	Designation ^a	
	Date ¹	Type
Kane County		Unclassifiable/Attainment.
Kankakee County		Unclassifiable/Attainment.
Kendall County		Unclassifiable/Attainment.
Knox County		Unclassifiable/Attainment.
La Salle County		Unclassifiable/Attainment.
Lake County		Unclassifiable/Attainment.
Lawrence County		Unclassifiable/Attainment.
Lee County		Unclassifiable/Attainment.
Livingston County		Unclassifiable/Attainment.
Logan County		Unclassifiable/Attainment.
Madison County		Unclassifiable/Attainment.
McDonough County		Unclassifiable/Attainment.
McLean County		Unclassifiable/Attainment.
Macon County		Unclassifiable/Attainment.
Macoupin County		Unclassifiable/Attainment.
Marion County		Unclassifiable/Attainment.
Marshall County		Unclassifiable/Attainment.
Mason County		Unclassifiable/Attainment.
Massac County		Unclassifiable/Attainment.
McHenry County		Unclassifiable/Attainment.
Menard County		Unclassifiable/Attainment.
Mercer County		Unclassifiable/Attainment.
Monroe County		Unclassifiable/Attainment.
Montgomery County		Unclassifiable/Attainment.
Morgan County		Unclassifiable/Attainment.
Moultrie County		Unclassifiable/Attainment.
Ogle County		Unclassifiable/Attainment.
Peoria County		Unclassifiable/Attainment.
Perry County		Unclassifiable/Attainment.
Piatt County		Unclassifiable/Attainment.
Pike County		Unclassifiable/Attainment.
Pope County		Unclassifiable/Attainment.
Pulaski County		Unclassifiable/Attainment.
Putnam County		Unclassifiable/Attainment.
Randolph County		Unclassifiable/Attainment.
Richland County		Unclassifiable/Attainment.
Rock Island County		Unclassifiable/Attainment.
St. Clair County		Unclassifiable/Attainment.
Saline County		Unclassifiable/Attainment.
Sangamon County		Unclassifiable/Attainment.
Schuyler County		Unclassifiable/Attainment.
Scott County		Unclassifiable/Attainment.
Shelby County		Unclassifiable/Attainment.
Stark County		Unclassifiable/Attainment.
Stephenson County		Unclassifiable/Attainment.
Tazewell County		Unclassifiable/Attainment.
Union County		Unclassifiable/Attainment.
Vermilion County		Unclassifiable/Attainment.
Wabash County		Unclassifiable/Attainment.
Warren County		Unclassifiable/Attainment.
Washington County		Unclassifiable/Attainment.
Wayne County		Unclassifiable/Attainment.
White County		Unclassifiable/Attainment.
Whiteside County		Unclassifiable/Attainment.
Will County		Unclassifiable/Attainment.
Williamson County		Unclassifiable/Attainment.
Winnebago County		Unclassifiable/Attainment.
Woodford County		Unclassifiable/Attainment.

^a Includes Indian Country located in each county or area, except as otherwise specified.
¹ This date is 90 days after October 31, 2011, unless otherwise noted.

ILLINOIS—1997 8-HOUR OZONE NAAQS
 [Primary and Secondary]

Designated area	Designation ^a		Category/classification	
	Date ¹	Type	Date ¹	Type
Chicago-Gary-Lake County, IL-IN: Cook County	8/13/2012			

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ILLINOIS—1997 8-HOUR OZONE NAAQS—Continued
[Primary and Secondary]

Designated area	Designation ^a		Category/classification	
	Date ¹	Type	Date ¹	Type
DuPage County		Attainment.		
Grundy County (part). Aux Sable Township Goose Lake Township				
Kane County.				
Kendall County (part). Oswego Township				
Lake County.				
McHenry County.				
Will County.				
St. Louis, MO-IL:				
Jersey County	6/12/2012	Attainment.		
Madison County	6/12/2012	Attainment.		
Monroe County	6/12/2012	Attainment.		
St. Clair County	6/12/2012	Attainment.		
Rest of State				
Adams County		Unclassifiable/Attainment.		
Alexander County		Unclassifiable/Attainment.		
Bond County		Unclassifiable/Attainment.		
Boone County		Unclassifiable/Attainment.		
Brown County		Unclassifiable/Attainment.		
Bureau County		Unclassifiable/Attainment.		
Calhoun County		Unclassifiable/Attainment.		
Carroll County		Unclassifiable/Attainment.		
Cass County		Unclassifiable/Attainment.		
Champaign County		Unclassifiable/Attainment.		
Christian County		Unclassifiable/Attainment.		
Clark County		Unclassifiable/Attainment.		
Clay County		Unclassifiable/Attainment.		
Clinton County		Unclassifiable/Attainment.		
Coles County		Unclassifiable/Attainment.		
Crawford County		Unclassifiable/Attainment.		
Cumberland County		Unclassifiable/Attainment.		
De Witt County		Unclassifiable/Attainment.		
DeKalb County		Unclassifiable/Attainment.		
Douglas County		Unclassifiable/Attainment.		
Edgar County		Unclassifiable/Attainment.		
Edwards County		Unclassifiable/Attainment.		
Effingham County		Unclassifiable/Attainment.		
Fayette County		Unclassifiable/Attainment.		
Ford County		Unclassifiable/Attainment.		
Franklin County		Unclassifiable/Attainment.		
Fulton County		Unclassifiable/Attainment.		
Gallatin County		Unclassifiable/Attainment.		
Greene County		Unclassifiable/Attainment.		
Grundy County (part)		Unclassifiable/Attainment.		
All townships except Aux Sable and Goose Lake.				
Hamilton County		Unclassifiable/Attainment.		
Hancock County		Unclassifiable/Attainment.		
Hardin County		Unclassifiable/Attainment.		
Henderson County		Unclassifiable/Attainment.		
Henry County		Unclassifiable/Attainment.		
Iroquois County		Unclassifiable/Attainment.		
Jackson County		Unclassifiable/Attainment.		
Jasper County		Unclassifiable/Attainment.		
Jefferson County		Unclassifiable/Attainment.		
Jo Daviess County		Unclassifiable/Attainment.		
Johnson County		Unclassifiable/Attainment.		
Kankakee County		Unclassifiable/Attainment.		
Kendall County (part)		Unclassifiable/Attainment.		
All townships except Oswego				
Knox County		Unclassifiable/Attainment.		
La Salle County		Unclassifiable/Attainment.		
Lawrence County		Unclassifiable/Attainment.		
Lee County		Unclassifiable/Attainment.		
Livingston County		Unclassifiable/Attainment.		
Logan County		Unclassifiable/Attainment.		
Macon County		Unclassifiable/Attainment.		

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ILLINOIS—1997 8-HOUR OZONE NAAQS—Continued
[Primary and Secondary]

Designated area	Designation ^a		Category/classification	
	Date ¹	Type	Date ¹	Type
Macoupin County		Unclassifiable/Attainment.		
Marion County		Unclassifiable/Attainment.		
Marshall County		Unclassifiable/Attainment.		
Mason County		Unclassifiable/Attainment.		
Massac County		Unclassifiable/Attainment.		
McDonough County		Unclassifiable/Attainment.		
McLean County		Unclassifiable/Attainment.		
Menard County		Unclassifiable/Attainment.		
Mercer County		Unclassifiable/Attainment.		
Montgomery County		Unclassifiable/Attainment.		
Morgan County		Unclassifiable/Attainment.		
Moultrie County		Unclassifiable/Attainment.		
Ogle County		Unclassifiable/Attainment.		
Peoria County		Unclassifiable/Attainment.		
Perry County		Unclassifiable/Attainment.		
Piatt County		Unclassifiable/Attainment.		
Pike County		Unclassifiable/Attainment.		
Pope County		Unclassifiable/Attainment.		
Pulaski County		Unclassifiable/Attainment.		
Putnam County		Unclassifiable/Attainment.		
Randolph County		Unclassifiable/Attainment.		
Richland County		Unclassifiable/Attainment.		
Rock Island County		Unclassifiable/Attainment.		
Saline County		Unclassifiable/Attainment.		
Sangamon County		Unclassifiable/Attainment.		
Schuyler County		Unclassifiable/Attainment.		
Scott County		Unclassifiable/Attainment.		
Shelby County		Unclassifiable/Attainment.		
Stark County		Unclassifiable/Attainment.		
Stephenson County		Unclassifiable/Attainment.		
Tazewell County		Unclassifiable/Attainment.		
Union County		Unclassifiable/Attainment.		
Vermilion County		Unclassifiable/Attainment.		
Wabash County		Unclassifiable/Attainment.		
Warren County		Unclassifiable/Attainment.		
Washington County		Unclassifiable/Attainment.		
Wayne County		Unclassifiable/Attainment.		
White County		Unclassifiable/Attainment.		
Whiteside County		Unclassifiable/Attainment.		
Williamson County		Unclassifiable/Attainment.		
Winnebago County		Unclassifiable/Attainment.		
Woodford County		Unclassifiable/Attainment.		

^a Includes Indian Country located in each county or area, except as otherwise specified.
¹ This date is June 15, 2004, unless otherwise noted.

ILLINOIS—2008 8-HOUR OZONE NAAQS
[Primary and Secondary]

Designated area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Chicago-Naperville, IL-IN-WI ²	May 20, 2022.	Attainment		Serious.
Cook County.				
DuPage County.				
Grundy County (part):				
Aux Sable Township.				
Goose Lake Township.				
Kane County.				
Kendall County (part):				
Oswego Township.				
Lake County.				
McHenry County.				
Will County.				
St. Louis-St. Charles-Farmington, MO-IL: ²	3/1/2018	Attainment.		
Madison County, Monroe County, St. Clair County				
Adams County ³		Unclassifiable/Attainment.		

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ILLINOIS—2008 8-HOUR OZONE NAAQS—Continued
[Primary and Secondary]

Designated area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Alexander County ³	Unclassifiable/Attainment.		
Bond County ³	Unclassifiable/Attainment.		
Boone County ³	Unclassifiable/Attainment.		
Brown County ³	Unclassifiable/Attainment.		
Bureau County ³	Unclassifiable/Attainment.		
Calhoun County ³	Unclassifiable/Attainment.		
Carroll County ³	Unclassifiable/Attainment.		
Cass County ³	Unclassifiable/Attainment.		
Champaign County ³	Unclassifiable/Attainment.		
Christian County ³	Unclassifiable/Attainment.		
Clark County ³	Unclassifiable/Attainment.		
Clay County ³	Unclassifiable/Attainment.		
Clinton County ³	Unclassifiable/Attainment.		
Coles County ³	Unclassifiable/Attainment.		
Crawford County ³	Unclassifiable/Attainment.		
Cumberland County ³	Unclassifiable/Attainment.		
DeKalb County ³	Unclassifiable/Attainment.		
De Witt County ³	Unclassifiable/Attainment.		
Douglas County ³	Unclassifiable/Attainment.		
Edgar County ³	Unclassifiable/Attainment.		
Edwards County ³	Unclassifiable/Attainment.		
Effingham County ³	Unclassifiable/Attainment.		
Fayette County ³	Unclassifiable/Attainment.		
Ford County ³	Unclassifiable/Attainment.		
Franklin County ³	Unclassifiable/Attainment.		
Fulton County ³	Unclassifiable/Attainment.		
Gallatin County ³	Unclassifiable/Attainment.		
Greene County ³	Unclassifiable/Attainment.		
Grundy County (remainder) ³	Unclassifiable/Attainment.		
Hamilton County ³	Unclassifiable/Attainment.		
Hancock County ³	Unclassifiable/Attainment.		
Hardin County ³	Unclassifiable/Attainment.		
Henderson County ³	Unclassifiable/Attainment.		
Henry County ³	Unclassifiable/Attainment.		
Iroquois County ³	Unclassifiable/Attainment.		
Jackson County ³	Unclassifiable/Attainment.		
Jasper County ³	Unclassifiable/Attainment.		
Jefferson County ³	Unclassifiable/Attainment.		
Jersey County ³	Unclassifiable/Attainment.		
Jo Daviess County ³	Unclassifiable/Attainment.		
Johnson County ³	Unclassifiable/Attainment.		
Kankakee County ³	Unclassifiable/Attainment.		
Kendall County (remainder)	Unclassifiable/Attainment.		
Knox County ³	Unclassifiable/Attainment.		
La Salle County ³	Unclassifiable/Attainment.		
Lawrence County ³	Unclassifiable/Attainment.		
Lee County ³	Unclassifiable/Attainment.		
Livingston County ³	Unclassifiable/Attainment.		
Logan County ³	Unclassifiable/Attainment.		
McDonough County ³	Unclassifiable/Attainment.		
McLean County ³	Unclassifiable/Attainment.		
Macon County ³	Unclassifiable/Attainment.		
Macoupin County ³	Unclassifiable/Attainment.		
Marion County ³	Unclassifiable/Attainment.		
Marshall County ³	Unclassifiable/Attainment.		
Mason County ³	Unclassifiable/Attainment.		
Massac County ³	Unclassifiable/Attainment.		
Menard County ³	Unclassifiable/Attainment.		
Mercer County ³	Unclassifiable/Attainment.		
Montgomery County ³	Unclassifiable/Attainment.		
Morgan County ³	Unclassifiable/Attainment.		
Moultrie County ³	Unclassifiable/Attainment.		
Ogle County ³	Unclassifiable/Attainment.		
Peoria County ³	Unclassifiable/Attainment.		
Perry County ³	Unclassifiable/Attainment.		
Piatt County ³	Unclassifiable/Attainment.		
Pike County ³	Unclassifiable/Attainment.		
Pope County ³	Unclassifiable/Attainment.		
Pulaski County ³	Unclassifiable/Attainment.		

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ILLINOIS—2008 8-HOUR OZONE NAAQS—Continued
[Primary and Secondary]

Designated area	Designation		Classification	
	Date ¹	Type	Date ¹	Type
Putnam County ³	Unclassifiable/Attainment.		
Randolph County ³	Unclassifiable/Attainment.		
Richland County ³	Unclassifiable/Attainment.		
Rock Island County ³	Unclassifiable/Attainment.		
Saline County ³	Unclassifiable/Attainment.		
Sangamon County ³	Unclassifiable/Attainment.		
Schuyler County ³	Unclassifiable/Attainment.		
Scott County ³	Unclassifiable/Attainment.		
Shelby County ³	Unclassifiable/Attainment.		
Stark County ³	Unclassifiable/Attainment.		
Stephenson County ³	Unclassifiable/Attainment.		
Tazewell County ³	Unclassifiable/Attainment.		
Union County ³	Unclassifiable/Attainment.		
Vermilion County ³	Unclassifiable/Attainment.		
Wabash County ³	Unclassifiable/Attainment.		
Warren County ³	Unclassifiable/Attainment.		
Washington County ³	Unclassifiable/Attainment.		
Wayne County ³	Unclassifiable/Attainment.		
White County ³	Unclassifiable/Attainment.		
Whiteside County ³	Unclassifiable/Attainment.		
Williamson County ³	Unclassifiable/Attainment.		
Winnebago County ³	Unclassifiable/Attainment.		
Woodford County ³	Unclassifiable/Attainment.		

¹ This date is July 20, 2012, unless otherwise noted.
² Excludes Indian country located in each area, unless otherwise noted.
³ Includes any Indian country in each county or area, unless otherwise specified.
⁴ Attainment date is extended to July 20, 2016.

ILLINOIS—2015 8-HOUR OZONE NAAQS
[Primary and Secondary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Chicago, IL-IN-WI .....	.....	Nonattainment .....	.....	Marginal.
Cook County.				
DuPage County.				
Grundy County (part)				
Aux Sable				
Township and				
Goose Lake				
Township.				
Kane County.				
Kendall County (part)				
Oswego Town-				
ship.				
Lake County.				
McHenry County	July 14,			
	2021 ³			
Will County.				
St. Louis, MO-IL .....	.....	Nonattainment .....	.....	Marginal.
Madison County.				
Monroe County	July 14,			
	2021 ³			
St. Clair County.				
Adams County	1/16/18	Attainment/ Unclassifiable.		
Alexander County	1/16/18	Attainment/ Unclassifiable.		
Bond County	Attainment/ Unclassifiable.		
Boone County	1/16/18	Attainment/ Unclassifiable.		

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ILLINOIS—2015 8-HOUR OZONE NAAQS—Continued

[Primary and Secondary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Brown County	1/16/18	Attainment/ Unclassifiable.		
Bureau County		Attainment/ Unclassifiable.		
Calhoun County		Attainment/ Unclassifiable.		
Carroll County	1/16/18	Attainment/ Unclassifiable.		
Cass County	1/16/18	Attainment/ Unclassifiable.		
Champaign County	1/16/18	Attainment/ Unclassifiable.		
Christian County	1/16/18	Attainment/ Unclassifiable.		
Clark County	1/16/18	Attainment/ Unclassifiable.		
Clay County	1/16/18	Attainment/ Unclassifiable.		
Clinton County		Attainment/ Unclassifiable.		
Coles County	1/16/18	Attainment/ Unclassifiable.		
Crawford County	1/16/18	Attainment/ Unclassifiable.		
Cumberland County	1/16/18	Attainment/ Unclassifiable.		
De Kalb County		Attainment/ Unclassifiable.		
De Witt County	1/16/18	Attainment/ Unclassifiable.		
Douglas County	1/16/18	Attainment/ Unclassifiable.		
Edgar County	1/16/18	Attainment/ Unclassifiable.		
Edwards County	1/16/18	Attainment/ Unclassifiable.		
Effingham County	1/16/18	Attainment/ Unclassifiable.		
Fayette County	1/16/18	Attainment/ Unclassifiable.		
Ford County	1/16/18	Attainment/ Unclassifiable.		
Franklin County	1/16/18	Attainment/ Unclassifiable.		
Fulton County	1/16/18	Attainment/ Unclassifiable.		
Gallatin County	1/16/18	Attainment/ Unclassifiable.		
Greene County	1/16/18	Attainment/ Unclassifiable.		
Grundy County (part) remainder ...		Attainment/ Unclassifiable.		
Hamilton County	1/16/18	Attainment/ Unclassifiable.		
Hancock County	1/16/18	Attainment/ Unclassifiable.		
Hardin County	1/16/18	Attainment/ Unclassifiable.		

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ILLINOIS—2015 8-HOUR OZONE NAAQS—Continued

[Primary and Secondary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Henderson County	1/16/18	Attainment/ Unclassifiable.		
Henry County	1/16/18	Attainment/ Unclassifiable.		
Iroquois County	1/16/18	Attainment/ Unclassifiable.		
Jackson County	1/16/18	Attainment/ Unclassifiable.		
Jasper County	1/16/18	Attainment/ Unclassifiable.		
Jefferson County	1/16/18	Attainment/ Unclassifiable.		
Jersey County .....	.....	Attainment/ Unclassifiable.		
Jo Daviess County	1/16/18	Attainment/ Unclassifiable.		
Johnson County	1/16/18	Attainment/ Unclassifiable.		
Kankakee County .....	.....	Attainment/ Unclassifiable.		
Kendall County (part) remainder ...	.....	Attainment/ Unclassifiable.		
Knox County	1/16/18	Attainment/ Unclassifiable.		
La Salle County .....	.....	Attainment/ Unclassifiable.		
Lawrence County	1/16/18	Attainment/ Unclassifiable.		
Lee County	1/16/18	Attainment/ Unclassifiable.		
Livingston County	1/16/18	Attainment/ Unclassifiable.		
Logan County	1/16/18	Attainment/ Unclassifiable.		
Macon County	1/16/18	Attainment/ Unclassifiable.		
Macoupin County .....	.....	Attainment/ Unclassifiable.		
Marion County .....	.....	Attainment/ Unclassifiable.		
Marshall County	1/16/18	Attainment/ Unclassifiable.		
Mason County	1/16/18	Attainment/ Unclassifiable.		
Massac County	1/16/18	Attainment/ Unclassifiable.		
McDonough County	1/16/18	Attainment/ Unclassifiable.		
McLean County	1/16/18	Attainment/ Unclassifiable.		
Menard County	1/16/18	Attainment/ Unclassifiable.		
Mercer County	1/16/18	Attainment/ Unclassifiable.		
Montgomery County	1/16/18	Attainment/ Unclassifiable.		
Morgan County	1/16/18	Attainment/ Unclassifiable.		

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ILLINOIS—2015 8-HOUR OZONE NAAQS—Continued

[Primary and Secondary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Moultrie County	1/16/18	Attainment/ Unclassifiable.		
Ogle County	1/16/18	Attainment/ Unclassifiable.		
Peoria County	1/16/18	Attainment/ Unclassifiable.		
Perry County	1/16/18	Attainment/ Unclassifiable.		
Piatt County	1/16/18	Attainment/ Unclassifiable.		
Pike County	1/16/18	Attainment/ Unclassifiable.		
Pope County	1/16/18	Attainment/ Unclassifiable.		
Pulaski County	1/16/18	Attainment/ Unclassifiable.		
Putnam County		Attainment/ Unclassifiable.		
Randolph County	1/16/18	Attainment/ Unclassifiable.		
Richland County	1/16/18	Attainment/ Unclassifiable.		
Rock Island County	1/16/18	Attainment/ Unclassifiable.		
Saline County	1/16/18	Attainment/ Unclassifiable.		
Sangamon County	1/16/18	Attainment/ Unclassifiable.		
Schuyler County	1/16/18	Attainment/ Unclassifiable.		
Scott County	1/16/18	Attainment/ Unclassifiable.		
Shelby County	1/16/18	Attainment/ Unclassifiable.		
Stark County	1/16/18	Attainment/ Unclassifiable.		
Stephenson County	1/16/18	Attainment/ Unclassifiable.		
Tazewell County	1/16/18	Attainment/ Unclassifiable.		
Union County	1/16/18	Attainment/ Unclassifiable.		
Vermilion County	1/16/18	Attainment/ Unclassifiable.		
Wabash County	1/16/18	Attainment/ Unclassifiable.		
Warren County	1/16/18	Attainment/ Unclassifiable.		
Washington County	1/16/18	Attainment/ Unclassifiable.		
Wayne County	1/16/18	Attainment/ Unclassifiable.		
White County	1/16/18	Attainment/ Unclassifiable.		
Whiteside County	1/16/18	Attainment/ Unclassifiable.		
Williamson County	1/16/18	Attainment/ Unclassifiable.		

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ILLINOIS—2015 8-HOUR OZONE NAAQS—Continued

[Primary and Secondary]

Designated area ¹	Designation		Classification	
	Date ²	Type	Date ²	Type
Winnebago County	1/16/18	Attainment/ Unclassifiable.		
Woodford County	1/16/18	Attainment/ Unclassifiable.		

¹ Includes any Indian country in each county or area, unless otherwise specified. EPA is not determining the boundaries of any area of Indian country in this table, including any area of Indian country located in the larger designation area. The inclusion of any Indian country in the designation area is not a determination that the state has regulatory authority under the Clean Air Act for such Indian country.

² This date is August 3, 2018, unless otherwise noted.

³ EPA revised the nonattainment boundary in response to a court decision, which did not vacate any designations for the 2015 ozone NAAQS, but which remanded the designation for the identified county. Because this additional area is part of a previously designated nonattainment area, the implementation dates for the overall nonattainment area (e.g., the August 3, 2021 attainment date) remain unchanged regardless of this later designation date.

ILLINOIS—2008 LEAD NAAQS

Designated area	Designation for the 2008 NAAQS ^a	
	Date ¹	Type
Chicago, IL: Cook County (part) Area bounded by Damen Ave. on the west, Roosevelt Rd. on the north, the Dan Ryan Expressway on the east, and the Stevenson Expressway on the south.	3/28/18	Attainment.
Granite City, IL: Madison County (part) Area is bounded by Granite City Township and Venice Township.	3/28/18	Attainment.
Rest of State		Unclassifiable/Attainment.

^a Includes Indian Country located in each county or area, except as otherwise specified.

¹ December 31, 2011 unless otherwise noted.

[43 FR 8964, Mar. 3, 1978]

EDITORIAL NOTES: 1. For FEDERAL REGISTER citations affecting §81.314, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.govinfo.gov.

2. At 80 FR 2233, Jan. 15, 2015, §81.314 was amended by adding a table entitled “Illinois—2012 Annual PM_{2.5} NAAQS (Primary)” following the table “Illinois—1997 Annual PM_{2.5} NAAQS [Primary and secondary]”; however, the table appearing in the text was entitled “Illinois—2012 24-Hour PM_{2.5} NAAQS (Primary)”.

§ 81.315 Indiana.

INDIANA—1971 SULFUR DIOXIDE NAAQS

[Primary and Secondary]

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Dearborn County			X	
Gibson County			¹ X	
Jefferson County			¹ X	
Lake County				X
LaPorte County				X
Marion County				X
Porter County: An area bound on the north by Lake Michigan, on the west by the Lake-Porter County line, on the south by I-80 and 90 and on the east by the LaPorte-Porter County line			X	
The remainder of Porter County.....				X
Vigo County				X

Attachment 5

SUBCHAPTER C—AIR PROGRAMS

PART 50—NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS

Sec.

- 50.1 Definitions.
- 50.2 Scope.
- 50.3 Reference conditions.
- 50.4 National primary ambient air quality standards for sulfur oxides (sulfur dioxide).
- 50.5 National secondary ambient air quality standard for sulfur oxides (sulfur dioxide).
- 50.6 National primary and secondary ambient air quality standards for PM₁₀.
- 50.7 National primary and secondary ambient air quality standards for PM_{2.5}.
- 50.8 National primary ambient air quality standards for carbon monoxide.
- 50.9 National 1-hour primary and secondary ambient air quality standards for ozone.
- 50.10 National 8-hour primary and secondary ambient air quality standards for ozone.
- 50.11 National primary and secondary ambient air quality standards for oxides of nitrogen (with nitrogen dioxide as the indicator).
- 50.12 National primary and secondary ambient air quality standards for lead.
- 50.13 National primary and secondary ambient air quality standards for PM_{2.5}.
- 50.14 Treatment of air quality monitoring data influenced by exceptional events.
- 50.15 National primary and secondary ambient air quality standards for ozone.
- 50.16 National primary and secondary ambient air quality standards for lead.
- 50.17 National primary ambient air quality standards for sulfur oxides (sulfur dioxide).
- 50.18 National primary ambient air quality standards for PM_{2.5}.
- 50.19 National primary and secondary ambient air quality standards for ozone.
- APPENDIX A-1 TO PART 50—REFERENCE MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF SULFUR DIOXIDE IN THE ATMOSPHERE (ULTRAVIOLET FLUORESCENCE METHOD)
- APPENDIX A-2 TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF SULFUR DIOXIDE IN THE ATMOSPHERE (PARAROSANILINE METHOD)
- APPENDIX B TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD)
- APPENDIX C TO PART 50—MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF CARBON MONOXIDE

- IN THE ATMOSPHERE (NON-DISPERSIVE INFRARED PHOTOMETRY)
- APPENDIX D TO PART 50—REFERENCE MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF OZONE IN THE ATMOSPHERE (CHEMILUMINESCENCE METHOD)
- APPENDIX E TO PART 50 [RESERVED]
- APPENDIX F TO PART 50—MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF NITROGEN DIOXIDE IN THE ATMOSPHERE (GAS PHASE CHEMILUMINESCENCE)
- APPENDIX G TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF LEAD IN TOTAL SUSPENDED PARTICULATE MATTER
- APPENDIX H TO PART 50—INTERPRETATION OF THE 1-HOUR PRIMARY AND SECONDARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE
- APPENDIX I TO PART 50—INTERPRETATION OF THE 8-HOUR PRIMARY AND SECONDARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE
- APPENDIX J TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM₁₀ IN THE ATMOSPHERE
- APPENDIX K TO PART 50—INTERPRETATION OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR PARTICULATE MATTER
- APPENDIX L TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF FINE PARTICULATE MATTER AS PM_{2.5} IN THE ATMOSPHERE
- APPENDIX M TO PART 50 [RESERVED]
- APPENDIX N TO PART 50—INTERPRETATION OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR PM_{2.5}
- APPENDIX O TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF COARSE PARTICULATE MATTER AS PM_{10-2.5} IN THE ATMOSPHERE
- APPENDIX P TO PART 50—INTERPRETATION OF THE PRIMARY AND SECONDARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE
- APPENDIX Q TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF LEAD IN PARTICULATE MATTER AS PM₁₀ COLLECTED FROM AMBIENT AIR
- APPENDIX R TO PART 50—INTERPRETATION OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR LEAD
- APPENDIX S TO PART 50—INTERPRETATION OF THE PRIMARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OXIDES OF NITROGEN (NITROGEN DIOXIDE)
- APPENDIX T TO PART 50—INTERPRETATION OF THE PRIMARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OXIDES OF SULFUR (SULFUR DIOXIDE)
- APPENDIX U TO PART 50—INTERPRETATION OF THE PRIMARY AND SECONDARY NATIONAL

§ 50.1AMBIENT AIR QUALITY STANDARDS FOR
OZONEAUTHORITY: 42 U.S.C. 7401, *et seq.*SOURCE: 36 FR 22384, Nov. 25, 1971, unless
otherwise noted.**§ 50.1 Definitions.**

(a) As used in this part, all terms not defined herein shall have the meaning given them by the Act.

(b) *Act* means the Clean Air Act, as amended (42 U.S.C. 1857-1857I, as amended by Pub. L. 91-604).

(c) *Agency* means the Environmental Protection Agency.

(d) *Administrator* means the Administrator of the Environmental Protection Agency.

(e) *Ambient air* means that portion of the atmosphere, external to buildings, to which the general public has access.

(f) *Reference method* means a method of sampling and analyzing the ambient air for an air pollutant that is specified as a reference method in an appendix to this part, or a method that has been designated as a reference method in accordance with part 53 of this chapter; it does not include a method for which a reference method designation has been cancelled in accordance with § 53.11 or § 53.16 of this chapter.

(g) *Equivalent method* means a method of sampling and analyzing the ambient air for an air pollutant that has been designated as an equivalent method in accordance with part 53 of this chapter; it does not include a method for which an equivalent method designation has been cancelled in accordance with § 53.11 or § 53.16 of this chapter.

(h) *Traceable* means that a local standard has been compared and certified either directly or via not more than one intermediate standard, to a primary standard such as a National Bureau of Standards Standard Reference Material (NBS SRM), or a USEPA/NBS-approved Certified Reference Material (CRM).

(i) *Indian country* is as defined in 18 U.S.C. 1151.

(j) *Exceptional event* means an event(s) and its resulting emissions that affect air quality in such a way that there exists a clear causal relationship between the specific event(s) and the monitored exceedance(s) or violation(s), is not reasonably control-

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lable or preventable, is an event(s) caused by human activity that is unlikely to recur at a particular location or a natural event(s), and is determined by the Administrator in accordance with 40 CFR 50.14 to be an exceptional event. It does not include air pollution relating to source noncompliance. Stagnation of air masses and meteorological inversions do not directly cause pollutant emissions and are not exceptional events. Meteorological events involving high temperatures or lack of precipitation (*i.e.*, severe, extreme or exceptional drought) also do not directly cause pollutant emissions and are not considered exceptional events. However, conditions involving high temperatures or lack of precipitation may promote occurrences of particular types of exceptional events, such as wildfires or high wind events, which do directly cause emissions.

(k) *Natural event* means an event and its resulting emissions, which may recur at the same location, in which human activity plays little or no direct causal role. For purposes of the definition of a natural event, anthropogenic sources that are reasonably controlled shall be considered to not play a direct role in causing emissions.

(l) *Exceedance with respect to a national ambient air quality standard* means one occurrence of a measured or modeled concentration that exceeds the specified concentration level of such standard for the averaging period specified by the standard.

(m) *Prescribed fire* is any fire intentionally ignited by management actions in accordance with applicable laws, policies, and regulations to meet specific land or resource management objectives.

(n) *Wildfire* is any fire started by an unplanned ignition caused by lightning; volcanoes; other acts of nature; unauthorized activity; or accidental, human-caused actions, or a prescribed fire that has developed into a wildfire. A wildfire that predominantly occurs on wildland is a natural event.

(o) *Wildland* means an area in which human activity and development are essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.

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(p) *High wind dust event* is an event that includes the high-speed wind and the dust that the wind entrains and transports to a monitoring site.

(q) *High wind threshold* is the minimum wind speed capable of causing particulate matter emissions from natural undisturbed lands in the area affected by a high wind dust event.

(r) *Federal land manager* means, consistent with the definition in 40 CFR 51.301, the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission.

[36 FR 22384, Nov. 25, 1971, as amended at 41 FR 11253, Mar. 17, 1976; 48 FR 2529, Jan. 20, 1983; 63 FR 7274, Feb. 12, 1998; 72 FR 13580, Mar. 22, 2007; 81 FR 68276, Oct. 3, 2016]

§ 50.2 Scope.

(a) National primary and secondary ambient air quality standards under section 109 of the Act are set forth in this part.

(b) National primary ambient air quality standards define levels of air quality which the Administrator judges are necessary, with an adequate margin of safety, to protect the public health. National secondary ambient air quality standards define levels of air quality which the Administrator judges necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Such standards are subject to revision, and additional primary and secondary standards may be promulgated as the Administrator deems necessary to protect the public health and welfare.

(c) The promulgation of national primary and secondary ambient air quality standards shall not be considered in any manner to allow significant deterioration of existing air quality in any portion of any State or Indian country.

(d) The proposal, promulgation, or revision of national primary and secondary ambient air quality standards shall not prohibit any State or Indian country from establishing ambient air quality standards for that State or area under a tribal CAA program or

any portion thereof which are more stringent than the national standards.

[36 FR 22384, Nov. 25, 1971, as amended at 63 FR 7274, Feb. 12, 1998]

§ 50.3 Reference conditions.

All measurements of air quality that are expressed as mass per unit volume (e.g., micrograms per cubic meter) other than for particulate matter (PM_{2.5}) standards contained in §§ 50.7, 50.13, and 50.18, and lead standards contained in § 50.16 shall be corrected to a reference temperature of 25 (deg) C and a reference pressure of 760 millimeters of mercury (1,013.2 millibars). Measurements of PM_{2.5} for purposes of comparison to the standards contained in §§ 50.7, 50.13, and 50.18, and of lead for purposes of comparison to the standards contained in § 50.16 shall be reported based on actual ambient air volume measured at the actual ambient temperature and pressure at the monitoring site during the measurement period.

[78 FR 3277, Jan. 15, 2013]

§ 50.4 National primary ambient air quality standards for sulfur oxides (sulfur dioxide).

(a) The level of the annual standard is 0.030 parts per million (ppm), not to be exceeded in a calendar year. The annual arithmetic mean shall be rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm shall be rounded up).

(b) The level of the 24-hour standard is 0.14 parts per million (ppm), not to be exceeded more than once per calendar year. The 24-hour averages shall be determined from successive non-overlapping 24-hour blocks starting at midnight each calendar day and shall be rounded to two decimal places (fractional parts equal to or greater than 0.005 ppm shall be rounded up).

(c) Sulfur oxides shall be measured in the ambient air as sulfur dioxide by the reference method described in appendix A to this part or by an equivalent method designated in accordance with part 53 of this chapter.

(d) To demonstrate attainment, the annual arithmetic mean and the second-highest 24-hour averages must be based upon hourly data that are at

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least 75 percent complete in each calendar quarter. A 24-hour block average shall be considered valid if at least 75 percent of the hourly averages for the 24-hour period are available. In the event that only 18, 19, 20, 21, 22, or 23 hourly averages are available, the 24-hour block average shall be computed as the sum of the available hourly averages using 18, 19, etc. as the divisor. If fewer than 18 hourly averages are available, but the 24-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph (b) of this section, then this shall be considered a valid 24-hour average. In this case, the 24-hour block average shall be computed as the sum of the available hourly averages divided by 24.

(e) The standards set forth in this section will remain applicable to all areas notwithstanding the promulgation of SO₂ national ambient air quality standards (NAAQS) in § 50.17. The SO₂ NAAQS set forth in this section will no longer apply to an area one year after the effective date of the designation of that area, pursuant to section 107 of the Clean Air Act, for the SO₂ NAAQS set forth in § 50.17; except that for areas designated nonattainment for the SO₂ NAAQS set forth in this section as of the effective date of § 50.17, and areas not meeting the requirements of a SIP call with respect to requirements for the SO₂ NAAQS set forth in this section, the SO₂ NAAQS set forth in this section will apply until that area submits, pursuant to section 191 of the Clean Air Act, and EPA approves, an implementation plan providing for attainment of the SO₂ NAAQS set forth in § 50.17.

[61 FR 25579, May 22, 1996, as amended at 75 FR 35592, June 22, 2010]

§ 50.5 National secondary ambient air quality standard for sulfur oxides (sulfur dioxide).

(a) The level of the 3-hour standard is 0.5 parts per million (ppm), not to be exceeded more than once per calendar year. The 3-hour averages shall be determined from successive nonoverlapping 3-hour blocks starting at midnight each calendar day and shall be rounded to 1 decimal place (fractional parts

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equal to or greater than 0.05 ppm shall be rounded up).

(b) Sulfur oxides shall be measured in the ambient air as sulfur dioxide by the reference method described in appendix A of this part or by an equivalent method designated in accordance with part 53 of this chapter.

(c) To demonstrate attainment, the second-highest 3-hour average must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 3-hour block average shall be considered valid only if all three hourly averages for the 3-hour period are available. If only one or two hourly averages are available, but the 3-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph (a) of this section, then this shall be considered a valid 3-hour average. In all cases, the 3-hour block average shall be computed as the sum of the hourly averages divided by 3.

[61 FR 25580, May 22, 1996]

§ 50.6 National primary and secondary ambient air quality standards for PM₁₀.

(a) The level of the national primary and secondary 24-hour ambient air quality standards for particulate matter is 150 micrograms per cubic meter (µg/m³), 24-hour average concentration. The standards are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³, as determined in accordance with appendix K to this part, is equal to or less than one.

(b) [Reserved]

(c) For the purpose of determining attainment of the primary and secondary standards, particulate matter shall be measured in the ambient air as PM₁₀ (particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers) by:

(1) A reference method based on appendix J and designated in accordance with part 53 of this chapter, or

(2) An equivalent method designated in accordance with part 53 of this chapter.

[52 FR 24663, July 1, 1987, as amended at 62 FR 38711, July 18, 1997; 65 FR 80779, Dec. 22, 2000; 71 FR 61224, Oct. 17, 2006]

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§ 50.7 National primary and secondary ambient air quality standards for PM_{2.5}.

(a) The national primary and secondary ambient air quality standards for particulate matter are 15.0 micrograms per cubic meter (µg/m³) annual arithmetic mean concentration, and 65 µg/m³ 24-hour average concentration measured in the ambient air as PM_{2.5} (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by either:

(1) A reference method based on appendix L of this part and designated in accordance with part 53 of this chapter; or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The annual primary and secondary PM_{2.5} standards are met when the annual arithmetic mean concentration, as determined in accordance with appendix N of this part, is less than or equal to 15.0 micrograms per cubic meter.

(c) The 24-hour primary and secondary PM_{2.5} standards are met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N of this part, is less than or equal to 65 micrograms per cubic meter.

[62 FR 38711, July 18, 1997, as amended at 69 FR 45595, July 30, 2004]

§ 50.8 National primary ambient air quality standards for carbon monoxide.

(a) The national primary ambient air quality standards for carbon monoxide are:

(1) 9 parts per million (10 milligrams per cubic meter) for an 8-hour average concentration not to be exceeded more than once per year and

(2) 35 parts per million (40 milligrams per cubic meter) for a 1-hour average concentration not to be exceeded more than once per year.

(b) The levels of carbon monoxide in the ambient air shall be measured by:

(1) A reference method based on appendix C and designated in accordance with part 53 of this chapter, or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(c) An 8-hour average shall be considered valid if at least 75 percent of the hourly average for the 8-hour period are available. In the event that only six (or seven) hourly averages are available, the 8-hour average shall be computed on the basis of the hours available using six (or seven) as the divisor.

(d) When summarizing data for comparison with the standards, averages shall be stated to one decimal place. Comparison of the data with the levels of the standards in parts per million shall be made in terms of integers with fractional parts of 0.5 or greater rounding up.

[50 FR 37501, Sept. 13, 1985]

§ 50.9 National 1-hour primary and secondary ambient air quality standards for ozone.

(a) The level of the national 1-hour primary and secondary ambient air quality standards for ozone measured by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter, is 0.12 parts per million (235 µg/m³). The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 parts per million (235 µg/m³) is equal to or less than 1, as determined by appendix H to this part.

(b) The 1-hour standards set forth in this section will remain applicable to all areas notwithstanding the promulgation of 8-hour ozone standards under § 50.10. The 1-hour NAAQS set forth in paragraph (a) of this section will no longer apply to an area one year after the effective date of the designation of that area for the 8-hour ozone NAAQS pursuant to section 107 of the Clean Air Act. Area designations and classifications with respect to the 1-hour standards are codified in 40 CFR part 81.

[62 FR 38894, July 18, 1997, as amended at 65 FR 45200, July 20, 2000; 68 FR 38163, June 26, 2003, 69 FR 23996, Apr. 30, 2004; 77 FR 28441, May 14, 2012]

§ 50.10 National 8-hour primary and secondary ambient air quality standards for ozone.

(a) The level of the national 8-hour primary and secondary ambient air quality standards for ozone, measured

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by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter, is 0.08 parts per million (ppm), daily maximum 8-hour average.

(b) The 8-hour primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm, as determined in accordance with appendix I to this part.

(c) Until the effective date of the final Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements Rule (final SIP Requirements Rule) to be codified at 40 CFR 51.1100 *et seq.*, the 1997 ozone NAAQS set forth in this section will continue in effect, notwithstanding the promulgation of the 2008 ozone NAAQS under § 50.15. The 1997 ozone NAAQS set forth in this section will no longer apply upon the effective date of the final SIP Requirements Rule. For purposes of the anti-backsliding requirements of § 51.1105, § 51.165 and Appendix S to part 51, the area designations and classifications with respect to the revoked 1997 ozone NAAQS are codified in 40 CFR part 81.

[62 FR 38894, July 18, 1997, as amended at 77 FR 30170, May 21, 2012; 80 FR 12312, Mar. 6, 2015]

§ 50.11 National primary and secondary ambient air quality standards for oxides of nitrogen (with nitrogen dioxide as the indicator).

(a) The level of the national primary annual ambient air quality standard for oxides of nitrogen is 53 parts per billion (ppb, which is 1 part in 1,000,000,000), annual average concentration, measured in the ambient air as nitrogen dioxide.

(b) The level of the national primary 1-hour ambient air quality standard for oxides of nitrogen is 100 ppb, 1-hour average concentration, measured in the ambient air as nitrogen dioxide.

(c) The level of the national secondary ambient air quality standard for nitrogen dioxide is 0.053 parts per million (100 micrograms per cubic

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meter), annual arithmetic mean concentration.

(d) The levels of the standards shall be measured by:

(1) A reference method based on appendix F to this part; or

(2) By a Federal equivalent method (FEM) designated in accordance with part 53 of this chapter.

(e) The annual primary standard is met when the annual average concentration in a calendar year is less than or equal to 53 ppb, as determined in accordance with appendix S of this part for the annual standard.

(f) The 1-hour primary standard is met when the three-year average of the annual 98th percentile of the daily maximum 1-hour average concentration is less than or equal to 100 ppb, as determined in accordance with appendix S of this part for the 1-hour standard.

(g) The secondary standard is attained when the annual arithmetic mean concentration in a calendar year is less than or equal to 0.053 ppm, rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm must be rounded up). To demonstrate attainment, an annual mean must be based upon hourly data that are at least 75 percent complete or upon data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter.

[75 FR 6531, Feb. 9, 2010]

§ 50.12 National primary and secondary ambient air quality standards for lead.

(a) National primary and secondary ambient air quality standards for lead and its compounds, measured as elemental lead by a reference method based on appendix G to this part, or by an equivalent method, are: 1.5 micrograms per cubic meter, maximum arithmetic mean averaged over a calendar quarter.

(b) The standards set forth in this section will remain applicable to all areas notwithstanding the promulgation of lead national ambient air quality standards (NAAQS) in § 50.16. The lead NAAQS set forth in this section will no longer apply to an area one

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year after the effective date of the designation of that area, pursuant to section 107 of the Clean Air Act, for the lead NAAQS set forth in § 50.16; except that for areas designated nonattainment for the lead NAAQS set forth in this section as of the effective date of § 50.16, the lead NAAQS set forth in this section will apply until that area submits, pursuant to section 191 of the Clean Air Act, and EPA approves, an implementation plan providing for attainment and/or maintenance of the lead NAAQS set forth in § 50.16.

(Secs. 109, 301(a) Clean Air Act as amended (42 U.S.C. 7409, 7601(a)))

[43 FR 46258, Oct. 5, 1978, as amended at 73 FR 67051, Nov. 12, 2008]

§ 50.13 National primary and secondary ambient air quality standards for PM_{2.5}.

(a) The national primary and secondary ambient air quality standards for particulate matter are 15.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) annual arithmetic mean concentration, and 35 $\mu\text{g}/\text{m}^3$ 24-hour average concentration measured in the ambient air as PM_{2.5} (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by either:

(1) A reference method based on appendix L of this part and designated in accordance with part 53 of this chapter; or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The annual primary and secondary PM_{2.5} standards are met when the annual arithmetic mean concentration, as determined in accordance with appendix N of this part, is less than or equal to 15.0 $\mu\text{g}/\text{m}^3$.

(c) The 24-hour primary and secondary PM_{2.5} standards are met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N of this part, is less than or equal to 35 $\mu\text{g}/\text{m}^3$.

(d) Until the effective date of the final Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements rule to be codified at 40 CFR 51.1000 through 51.1016, the 1997 annual PM_{2.5} NAAQS set forth in this section will continue in effect, notwithstanding the

promulgation of the 2012 primary annual PM_{2.5} NAAQS under § 50.18. The 1997 primary annual PM_{2.5} NAAQS set forth in this section will no longer apply upon the effective date of the final Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements rule; except that for areas designated nonattainment for the 1997 annual PM_{2.5} NAAQS set forth in this section as of the effective date of the final Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements rule, the requirements applicable to the 1997 primary annual PM_{2.5} NAAQS set forth in this section will apply until the effective date of an area's redesignation to attainment for the 1997 annual PM_{2.5} NAAQS pursuant to the requirements of section 107 of the Clean Air Act. The 1997 secondary annual PM_{2.5} NAAQS and the 1997 24-hour PM_{2.5} NAAQS shall remain in effect. The area designations and classifications with respect to the 1997 annual and 24-hour PM_{2.5} NAAQS remain codified in 40 CFR part 81 in order to provide information on where the 1997 primary annual PM_{2.5} NAAQS has been revoked and to facilitate the implementation of the 1997 secondary annual PM_{2.5} NAAQS and the 1997 24-hour PM_{2.5} NAAQS.

[71 FR 61224, Oct. 17, 2006, as amended at 81 FR 58149, Aug. 24, 2016]

§ 50.14 Treatment of air quality monitoring data influenced by exceptional events.

(a) *Requirements*—(1) *Scope*. (i) This section applies to the treatment of data showing exceedances or violations of any national ambient air quality standard for purposes of the following types of regulatory determinations by the Administrator:

(A) An action to designate an area, pursuant to Clean Air Act section 107(d)(1), or redesignate an area, pursuant to Clean Air Act section 107(d)(3), for a particular national ambient air quality standard;

(B) The assignment or re-assignment of a classification category to a nonattainment area where such classification is based on a comparison of pollutant design values, calculated according

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to the specific data handling procedures in 40 CFR part 50 for each national ambient air quality standard, to the level of the relevant national ambient air quality standard;

(C) A determination regarding whether a nonattainment area has attained the level of the appropriate national ambient air quality standard by its specified deadline;

(D) A determination that an area has data for the specific NAAQS, which qualify the area for an attainment date extension under the CAA provisions for the applicable pollutant;

(E) A determination under Clean Air Act section 110(k)(5), if based on an area violating a national ambient air quality standard, that the state implementation plan is inadequate under the requirements of Clean Air Act section 110; and

(F) Other actions on a case-by-case basis as determined by the Administrator.

(ii) A State, federal land manager or other federal agency may request the Administrator to exclude data showing exceedances or violations of any national ambient air quality standard that are directly due to an exceptional event from use in determinations identified in paragraph (a)(1)(i) of this section by demonstrating to the Administrator's satisfaction that such event caused a specific air pollution concentration at a particular air quality monitoring location.

(A) For a federal land manager or other federal agency to be eligible to initiate such a request for data exclusion, the federal land manager or other federal agency must:

(1) Either operate a regulatory monitor that has been affected by an exceptional event or manage land on which an exceptional event occurred that influenced a monitored concentration at a regulatory monitor; and

(2) Initiate such a request only after the State in which the affected monitor is located concurs with the federal land manager's or other federal agency's submittal.

(B) With regard to such a request, all provisions in this section that are expressed as requirements applying to a State shall, except as noted, be require-

ments applying to the federal land manager or other federal agency.

(C) Provided all provisions in this section are met, the Administrator shall allow a State to submit demonstrations for any regulatory monitor within its jurisdictional bounds, including those operated by federal land managers, other federal agencies and delegated local agencies.

(D) Where multiple agencies within a state submit demonstrations for events that meet the requirements of the Exceptional Events Rule, a State submittal shall have primacy for any regulatory monitor within its jurisdictional bounds.

(2) A demonstration to justify data exclusion may include any reliable and accurate data, but must specifically address the elements in paragraphs (c)(3)(iv) and (v) of this section.

(b) *Determinations by the Administrator*—(1) *Generally*. The Administrator shall exclude data from use in determinations of exceedances and violations identified in paragraph (a)(1)(i) of this section where a State demonstrates to the Administrator's satisfaction that an exceptional event caused a specific air pollution concentration at a particular air quality monitoring location and otherwise satisfies the requirements of this section.

(2) *Fireworks displays*. The Administrator shall exclude data from use in determinations of exceedances and violations where a State demonstrates to the Administrator's satisfaction that emissions from fireworks displays caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section. Such data will be treated in the same manner as exceptional events under this rule, provided a State demonstrates that such use of fireworks is significantly integral to traditional national, ethnic, or other cultural events including, but not limited to, July Fourth celebrations that satisfy the requirements of this section.

(3) *Prescribed fires*. (i) The Administrator shall exclude data from use in determinations of exceedances and violations, where a State demonstrates to

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the Administrator's satisfaction that emissions from prescribed fires caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section.

(ii) In addressing the requirements set forth in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably controllable or preventable criterion:

(A) With respect to the requirement that a prescribed fire be not reasonably controllable, the State must either certify to the Administrator that it has adopted and is implementing a smoke management program or the State must demonstrate that the burn manager employed appropriate basic smoke management practices identified in Table 1 to § 50.14. Where a burn manager employs appropriate basic smoke management practices, the State may rely on a statement or other documentation provided by the burn manager that he or she employed those practices. If an exceedance or violation of a NAAQS occurs when a prescribed fire is employing an appropriate basic smoke management practices approach, the State and the burn manager must undertake a review of the subject fire, including a review of the basic smoke management practices applied during the subject fire to ensure the protection of air quality and public health and progress towards restoring and/or maintaining a sustainable and resilient wildland ecosystem. If the prescribed fire becomes the subject of an exceptional events demonstration, documentation of the post-burn review must accompany the demonstration.

(B) If the State anticipates satisfying the requirements of paragraph (c)(3)(iv)(D) of this section by employing the appropriate basic smoke management practices identified in Table 1 to § 50.14, then:

(1) The State, federal land managers, and other entities as appropriate, must periodically collaborate with burn managers operating within the jurisdiction of the State to discuss and document the process by which air agencies and land managers will work together to protect public health and

manage air quality impacts during the conduct of prescribed fires on wildland. Such discussions must include outreach and education regarding general expectations for the selection and application of appropriate basic smoke management practices and goals for advancing strategies and increasing adoption and communication of the benefits of appropriate basic smoke management practices;

(2) The State, federal land managers and burn managers shall have an initial implementation period, defined as being 2 years from September 30, 2016, to implement the collaboration and outreach effort identified in paragraph (b)(3)(ii)(B)(1) of this section; and

(3) Except as provided in paragraph (b)(3)(ii)(B)(2) of this section, the Administrator shall not place a concurrence flag in the appropriate field for the data record in the AQS database, as specified in paragraph (c)(2)(ii) of this section, if the data are associated with a prescribed fire on wildland unless the requirements of paragraph (b)(3)(ii)(B)(1) of this section have been met and associated documentation accompanies any applicable exceptional events demonstration. The Administrator may nonconcur or defer action on such a demonstration.

(C) With respect to the requirement that a prescribed fire be not reasonably preventable, the State may rely upon and reference a multi-year land or resource management plan for a wildland area with a stated objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem and/or to preserve endangered or threatened species through a program of prescribed fire provided that the Administrator determines that there is no compelling evidence to the contrary in the record and the use of prescribed fire in the area has not exceeded the frequency indicated in that plan.

(iii) Provided the Administrator determines that there is no compelling evidence to the contrary in the record, in addressing the requirements set forth in paragraph (c)(3)(iv)(E) of this section regarding the human activity unlikely to recur at a particular location criterion for demonstrations involving prescribed fires on wildland,

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the State must describe the actual frequency with which a burn was conducted, but may rely upon and reference an assessment of the natural fire return interval or the prescribed fire frequency needed to establish, restore and/or maintain a sustainable and resilient wildland ecosystem con-

tained in a multi-year land or resource management plan with a stated objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem and/or to preserve endangered or threatened species through a program of prescribed fire.

TABLE 1 TO § 50.14—SUMMARY OF BASIC SMOKE MANAGEMENT PRACTICES, BENEFIT ACHIEVED WITH THE BSMP, AND WHEN IT IS APPLIED^a

Basic Smoke Management Practice ^b	Benefit achieved with the BSMP	When the BSMP is applied—before/during/after the burn
Evaluate Smoke Dispersion Conditions. Monitor Effects on Air Quality	Minimize smoke impacts	Before, During, After.
Record-Keeping/Maintain a Burn/Smoke Journal.	Be aware of where the smoke is going and degree it impacts air quality. Retain information about the weather, burn and smoke. If air quality problems occur, documentation helps analyze and address air regulatory issues..	Before, During, After.
Communication—Public Notification ..	Notify neighbors and those potentially impacted by smoke, especially sensitive receptors.	Before, During.
Consider Emission Reduction Techniques. Share the Airshed—Coordination of Area Burning.	Reducing emissions through mechanisms such as reducing fuel loading can reduce downwind impacts. Coordinate multiple burns in the area to manage exposure of the public to smoke.	Before, During, After. Before, During, After.

^aThe EPA believes that elements of these BSMP could also be practical and beneficial to apply to wildfires for areas likely to experience recurring wildfires.

^bThe listing of BSMP in this table is not intended to be all-inclusive. Not all BSMP are appropriate for all burns. Goals for applicability should retain flexibility to allow for onsite variation and site-specific conditions that can be variable on the day of the burn. Burn managers can consider other appropriate BSMP as they become available due to technological advancement or programmatic refinement.

(4) *Wildfires.* The Administrator shall exclude data from use in determinations of exceedances and violations where a State demonstrates to the Administrator's satisfaction that emissions from wildfires caused a specific air pollution concentration in excess of one or more national ambient air quality standard at a particular air quality monitoring location and otherwise satisfies the requirements of this section. Provided the Administrator determines that there is no compelling evidence to the contrary in the record, the Administrator will determine every wildfire occurring predominantly on wildland to have met the requirements identified in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably controllable or preventable criterion.

national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section provided that such emissions are from high wind dust events.

(ii) The Administrator will consider high wind dust events to be natural events in cases where windblown dust is entirely from natural undisturbed lands in the area or where all anthropogenic sources are reasonably controlled as determined in accordance with paragraph (b)(8) of this section.

(iii) The Administrator will accept a high wind threshold of a sustained wind of 25 mph for areas in the States of Arizona, California, Colorado, Kansas, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming provided this value is not contradicted by evidence in the record at the time the State submits a demonstration. In lieu of this threshold, States can identify

(5) *High wind dust events.* (i) The Administrator shall exclude data from use in determinations of exceedances and violations, where a State demonstrates to the Administrator's satisfaction that emissions from a high wind dust event caused a specific air pollution concentration in excess of one or more

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and use an Administrator-approved alternate area-specific high wind threshold that is more representative of local or regional conditions, if appropriate.

(iv) In addressing the requirements set forth in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably preventable criterion, the State shall not be required to provide a case-specific justification for a high wind dust event.

(v) With respect to the not reasonably controllable criterion of paragraph (c)(3)(iv)(D) of this section, dust controls on an anthropogenic source shall be considered reasonable in any case in which the controls render the anthropogenic source as resistant to high winds as natural undisturbed lands in the area affected by the high wind dust event. The Administrator may determine lesser controls reasonable on a case-by-case basis.

(vi) For large-scale and high-energy high wind dust events, the Administrator will generally consider a demonstration documenting the nature and extent of the event to be sufficient with respect to the not reasonably controllable criterion of paragraph (c)(3)(iv)(D) of this section provided the State provides evidence showing that the event satisfies the following:

(A) The event is associated with a dust storm and is the focus of a Dust Storm Warning.

(B) The event has sustained winds that are greater than or equal to 40 miles per hour.

(C) The event has reduced visibility equal to or less than 0.5 miles.

(6) *Stratospheric Intrusions*. Where a State demonstrates to the Administrator's satisfaction that emissions from stratospheric intrusions caused a specific air pollution concentration in excess of one or more national ambient air quality standard at a particular air quality monitoring location and otherwise satisfies the requirements of this section, the Administrator will determine stratospheric intrusions to have met the requirements identified in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably controllable or preventable criterion and shall exclude data from use in determinations of exceedances and violations.

(7) *Determinations with respect to event aggregation, multiple national ambient air quality standards for the same pollutant, and exclusion of 24-hour values for particulate matter*.

(i) Where a State demonstrates to the Administrator's satisfaction that for national ambient air quality standards with averaging or cumulative periods less than or equal to 24 hours the aggregate effect of events occurring on the same day has caused an exceedance or violation, the Administrator shall determine such collective data to satisfy the requirements in paragraph (c)(3)(iv)(B) of this section regarding the clear causal relationship criterion. Where a State demonstrates to the Administrator's satisfaction that for national ambient air quality standards with averaging or cumulative periods longer than 24 hours the aggregate effect of events occurring on different days has caused an exceedance or violation, the Administrator shall determine such collective data to satisfy the requirements in paragraph (c)(3)(iv)(B) of this section regarding the clear causal relationship criterion.

(ii) The Administrator shall accept as part of a demonstration for the clear causal relationship in paragraph (c)(3)(iv)(B) of this section with respect to a 24-hour NAAQS, a State's comparison of a 24-hour concentration of any national ambient air quality standard pollutant to the level of a national ambient air quality standard for the same pollutant with a longer averaging period. The Administrator shall also accept as part of a demonstration for the clear causal relationship in paragraph (c)(3)(iv)(B) of this section with respect to a NAAQS with a longer averaging period, a State's comparison of a 24-hour concentration of any national ambient air quality standard pollutant to the level of the national ambient air quality standard for the same pollutant with a longer averaging period, without the State having to demonstrate that the event caused the annual average concentration of the pollutant to exceed the level of the NAAQS with the longer averaging period.

(iii) Where a State operates a continuous analyzer that has been designated

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as a Federal Equivalent Method monitor as defined in 40 CFR 50.1(g) that complies with the monitoring requirements of 40 CFR part 58, Appendix C, and the State believes that collected data have been influenced by an event, in following the process outlined in paragraph (c)(2) of this section, the State shall create an initial event description and flag the associated event-influenced data that have been submitted to the AQS database for the affected monitor. Where a State demonstrates to the Administrator's satisfaction that such data satisfy the requirements in paragraph (c)(3)(iv)(B) of this section regarding the clear causal relationship criterion and otherwise satisfy the requirements of this section, the Administrator shall agree to exclude all data within the affected calendar day(s).

(8) *Determinations with respect to the not reasonably controllable or preventable criterion.* (i) The not reasonably controllable or preventable criterion has two prongs that the State must demonstrate: prevention and control.

(ii) The Administrator shall determine that an event is not reasonably preventable if the State shows that reasonable measures to prevent the event were applied at the time of the event.

(iii) The Administrator shall determine that an event is not reasonably controllable if the State shows that reasonable measures to control the impact of the event on air quality were applied at the time of the event.

(iv) The Administrator shall assess the reasonableness of available controls for anthropogenic sources based on information available as of the date of the event.

(v) Except where a State, tribal or federal air agency is obligated to revise its state implementation plan, tribal implementation plan, or federal implementation plan, the Administrator shall consider enforceable control measures implemented in accordance with a state implementation plan, tribal implementation plan, or federal implementation plan, approved by the EPA within 5 years of the date of the event, that address the event-related pollutant and all sources necessary to fulfill the requirements of the Clean

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Air Act for the state implementation plan, tribal implementation plan, or federal implementation plan to be reasonable controls with respect to all anthropogenic sources that have or may have contributed to the monitored exceedance or violation.

(vi) Where a State, tribal or federal air agency is obligated to revise its state implementation plan, tribal implementation plan, or federal implementation plan, the deference to enforceable control measures identified in paragraph (b)(8)(v) of this section shall remain only until the due date of the required state implementation plan, tribal implementation plan, or federal implementation plan revisions. However, where an air agency is obligated to revise the enforceable control measures identified in paragraph (b)(8)(v) of this section in its implementation plan as a result of an action pursuant to Clean Air Act section 110(k)(5), the deference, if any, to those enforceable control measures shall be determined on a case-by-case basis.

(vii) The Administrator shall not require a State to provide case-specific justification to support the not reasonably controllable or preventable criterion for emissions-generating activity that occurs outside of the State's jurisdictional boundaries within which the concentration at issue was monitored. In the case of a tribe treated as a state under 40 CFR 49.2 with respect to exceptional events requirements, the tribe's jurisdictional boundaries for purposes of requiring or directly implementing emission controls apply. In the case of a federal land manager or other federal agency submitting a demonstration under the requirements of this section, the jurisdictional boundaries that apply are those of the State or the tribe depending on which has jurisdiction over the area where the event has occurred.

(viii) In addition to the provisions that apply to specific event types identified in paragraphs (b)(3)(ii) and (b)(5)(i) through (iii) of this section in addressing the requirements set forth in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably controllable or preventable criterion, the State must include the following components:

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(A) Identification of the natural and anthropogenic sources of emissions causing and contributing to the monitored exceedance or violation, including the contribution from local sources.

(B) Identification of the relevant state implementation plan, tribal implementation plan, or federal implementation plan or other enforceable control measures in place for the sources identified in paragraph (b)(8)(vii)(A) of this section and the implementation status of these controls.

(C) Evidence of effective implementation and enforcement of the measures identified in paragraph (b)(8)(vii)(B) of this section.

(D) The provisions in this paragraph shall not apply if the provisions in paragraph (b)(4), (b)(5)(vi), or (b)(6) of this section apply.

(9) *Mitigation plans.* (i) Except as provided for in paragraph (b)(9)(ii) of this section, where a State is subject to the requirements of 40 CFR 51.930(b), the Administrator shall not place a concurrence flag in the appropriate field for the data record in the AQS database, as specified in paragraph (c)(2)(ii) of this section, if the data are of the type and pollutant that are the focus of the mitigation plan until the State fulfills its obligations under the requirements of 40 CFR 51.930(b). The Administrator may nonconcur or defer action on such a demonstration.

(ii) The prohibition on placing a concurrence flag in the appropriate field for the data record in the AQS database by the Administrator stated in paragraph (b)(9)(i) of this section does not apply to data that are included in an exceptional events demonstration that is:

(A) submitted in accordance with paragraph (c)(3) of this section that is also of the type and pollutant that is the focus of the mitigation plan, and

(B) submitted within the 2-year period allowed for mitigation plan development as specified in 40 CFR 51.930(b)(3).

(c) *Schedules and procedures*—(1) *Public notification.* (i) In accordance with the mitigation requirement at 40 CFR 51.930(a)(1), all States and, where applicable, their political subdivisions must notify the public promptly whenever

an event occurs or is reasonably anticipated to occur which may result in the exceedance of an applicable air quality standard.

(ii) [Reserved]

(2) *Initial notification of potential exceptional event.* (i) A State shall notify the Administrator of its intent to request exclusion of one or more measured exceedances of an applicable national ambient air quality standard as being due to an exceptional event by creating an initial event description and flagging the associated data that have been submitted to the AQS database and by engaging in the Initial Notification of Potential Exceptional Event process as follows:

(A) The State and the appropriate EPA Regional office shall engage in regular communications to identify those data that have been potentially influenced by an exceptional event, to determine whether the identified data may affect a regulatory determination and to discuss whether the State should develop and submit an exceptional events demonstration according to the requirements in this section;

(B) For data that may affect an anticipated regulatory determination or where circumstances otherwise compel the Administrator to prioritize the resulting demonstration, the Administrator shall respond to a State's Initial Notification of Potential Exceptional Event with a due date for demonstration submittal that considers the nature of the event and the anticipated timing of the associated regulatory decision;

(C) The Administrator may waive the Initial Notification of Potential Exceptional Event process on a case-by-case basis.

(ii) The data shall not be excluded from determinations with respect to exceedances or violations of the national ambient air quality standards unless and until, following the State's submittal of its demonstration pursuant to paragraph (c)(3) of this section and the Administrator's review, the Administrator notifies the State of its concurrence by placing a concurrence flag in the appropriate field for the data record in the AQS database.

(iii) [Reserved]

(iv) [Reserved]

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(v) [Reserved] may influence the initial designation of areas for any new or revised national ambient air quality standard.

(vi) Table 2 to §50.14 identifies the submission process for data that will or

TABLE 2 TO § 50.14—SCHEDULE FOR INITIAL NOTIFICATION AND DEMONSTRATION SUBMISSION FOR DATA INFLUENCED BY EXCEPTIONAL EVENTS FOR USE IN INITIAL AREA DESIGNATIONS

Exceptional events/Regulatory action	Condition	Exceptional events deadline schedule ^d
(A) Initial Notification deadline for data years 1, 2 and 3. ^a .	If state and tribal initial designation recommendations for a new/revised national ambient air quality standard are due August through January,	then the Initial Notification deadline will be the July 1 prior to the recommendation deadline.
(B) Initial Notification deadline for data years 1, 2 and 3. ^a .	If state and tribal recommendations for a new/revised national ambient air quality standard are due February through July,	then the Initial Notification deadline will be the January 1 prior to the recommendation deadline.
(C) Exceptional events demonstration submittal deadline for data years 1, 2 and 3. ^a .	None	no later than the later of November 29, 2016 or the date that state and tribal recommendations are due to the Administrator.
(D) Initial Notification and exceptional events demonstration submittal deadline for data year 4 ^b and, where applicable, data year 5. ^c .	None	by the last day of the month that is 1 year and 7 months after promulgation of a new/revised national ambient air quality standard, unless either paragraph (E) or paragraph (F) applies.
(E) Initial Notification and exceptional events demonstration submittal deadline for data year 4 ^b and, where applicable, data year 5. ^c .	If the Administrator follows a 3-year designation schedule.	the deadline is 2 years and 7 months after promulgation of a new/revised national ambient air quality standard.
(F) Initial Notification and exceptional events demonstration submittal deadline for data year 4 ^b and, where applicable, data year 5. ^c .	If the Administrator notifies the state/tribe that it intends to complete the initial area designations process according to a schedule between 2 and 3 years..	the deadline is 5 months prior to the date specified for final designations decisions in such Administrator notification.

^aWhere data years 1, 2, and 3 are those years expected to be considered in state and tribal recommendations.

^bWhere data year 4 is the additional year of data that the Administrator may consider when making final area designations for a new/revised national ambient air quality standard under the standard designations schedule.

^cWhere data year 5 is the additional year of data that the Administrator may consider when making final area designations for a new/revised national ambient air quality standard under an extended designations schedule.

^dThe date by which air agencies must certify their ambient air quality monitoring data in AQS is annually on May 1 of the year following the year of data collection as specified in 40 CFR 58.15(a)(2). In some cases, however, air agencies may choose to certify a prior year's data in advance of May 1 of the following year, particularly if the Administrator has indicated intent to promulgate final designations in the first 8 months of the calendar year. Exceptional events demonstration deadlines for "early certified" data will follow the deadlines for "year 4" and "year 5" data.

(3) *Submission of demonstrations.* (i) Except as provided under paragraph (c)(2)(vi) of this section, a State that has flagged data as being due to an exceptional event and is requesting exclusion of the affected measurement data shall, after notice and opportunity for public comment, submit a demonstration to justify data exclusion to the Administrator according to the schedule established under paragraph (c)(2)(i)(B).

(ii) [Reserved]

(iii) [Reserved]

(iv) The demonstration to justify data exclusion must include:

(A) A narrative conceptual model that describes the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s)

led to the exceedance or violation at the affected monitor(s);

(B) A demonstration that the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation;

(C) Analyses comparing the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times to support the requirement at paragraph (c)(3)(iv)(B) of this section. The Administrator shall not require a State to prove a specific percentile point in the distribution of data;

(D) A demonstration that the event was both not reasonably controllable and not reasonably preventable; and

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(E) A demonstration that the event was a human activity that is unlikely to recur at a particular location or was a natural event.

(v) With the submission of the demonstration containing the elements in paragraph (c)(3)(iv) of this section, the State must:

(A) Document that the State followed the public comment process and that the comment period was open for a minimum of 30 days, which could be concurrent with the beginning of the Administrator's initial review period of the associated demonstration provided the State can meet all requirements in this paragraph;

(B) Submit the public comments it received along with its demonstration to the Administrator; and

(C) Address in the submission to the Administrator those comments disputing or contradicting factual evidence provided in the demonstration.

(vi) Where the State has submitted a demonstration according to the requirements of this section after September 30, 2016 and the Administrator has reviewed such demonstration and requested additional evidence to support one of the elements in paragraph (c)(3)(iv) of this section, the State shall have 12 months from the date of the Administrator's request to submit such evidence. At the conclusion of this time, if the State has not submitted the requested additional evidence, the Administrator will notify the State in writing that it considers the demonstration to be inactive and will not pursue additional review of the demonstration. After a 12-month period of inactivity by the State, if a State desires to pursue the inactive demonstration, it must reinitiate its request to exclude associated data by following the process beginning with paragraph (c)(2)(i) of this section.

[81 FR 68277, Oct. 3, 2016]

§ 50.15 National primary and secondary ambient air quality standards for ozone.

(a) The level of the national 8-hour primary and secondary ambient air quality standards for ozone (O₃) is 0.075 parts per million (ppm), daily maximum 8-hour average, measured by a reference method based on appendix D

to this part and designated in accordance with part 53 of this chapter or an equivalent method designated in accordance with part 53 of this chapter.

(b) The 8-hour primary and secondary O₃ ambient air quality standards are met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentration is less than or equal to 0.075 ppm, as determined in accordance with appendix P to this part.

[73 FR 16511, Mar. 27, 2008]

§ 50.16 National primary and secondary ambient air quality standards for lead.

(a) The national primary and secondary ambient air quality standards for lead (Pb) and its compounds are 0.15 micrograms per cubic meter, arithmetic mean concentration over a 3-month period, measured in the ambient air as Pb either by:

(1) A reference method based on appendix G of this part and designated in accordance with part 53 of this chapter or;

(2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The national primary and secondary ambient air quality standards for Pb are met when the maximum arithmetic 3-month mean concentration for a 3-year period, as determined in accordance with appendix R of this part, is less than or equal to 0.15 micrograms per cubic meter.

[73 FR 67052, Nov. 12, 2008]

§ 50.17 National primary ambient air quality standards for sulfur oxides (sulfur dioxide).

(a) The level of the national primary 1-hour annual ambient air quality standard for oxides of sulfur is 75 parts per billion (ppb), which is 1 part in 1,000,000,000, measured in the ambient air as sulfur dioxide (SO₂).

(b) The 1-hour primary standard is met at an ambient air quality monitoring site when the three-year average of the annual (99th percentile) of the daily maximum 1-hour average concentrations is less than or equal to 75 ppb, as determined in accordance with appendix T of this part.

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(c) The level of the standard shall be measured by a reference method based on appendix A or A-1 of this part, or by a Federal Equivalent Method (FEM) designated in accordance with part 53 of this chapter.

[75 FR 35592, June 22, 2010]

§ 50.18 National primary ambient air quality standards for PM_{2.5}.

(a) The national primary ambient air quality standards for PM_{2.5} are 12.0 micrograms per cubic meter (µg/m³) annual arithmetic mean concentration and 35 µg/m³ 24-hour average concentration measured in the ambient air as PM_{2.5} (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by either:

(1) A reference method based on appendix L to this part and designated in accordance with part 53 of this chapter; or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The primary annual PM_{2.5} standard is met when the annual arithmetic mean concentration, as determined in accordance with appendix N of this part, is less than or equal to 12.0 µg/m³.

(c) The primary 24-hour PM_{2.5} standard is met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N of this part, is less than or equal to 35 µg/m³.

[78 FR 3277, Jan. 15, 2013]

§ 50.19 National primary and secondary ambient air quality standards for ozone.

(a) The level of the national 8-hour primary ambient air quality standard for ozone (O₃) is 0.070 parts per million (ppm), daily maximum 8-hour average, measured by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter or an equivalent method designated in accordance with part 53 of this chapter.

(b) The 8-hour primary O₃ ambient air quality standard is met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentration is less than or equal to 0.070 ppm, as determined in

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accordance with appendix U to this part.

(c) The level of the national secondary ambient air quality standard for O₃ is 0.070 ppm, daily maximum 8-hour average, measured by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter or an equivalent method designated in accordance with part 53 of this chapter.

(d) The 8-hour secondary O₃ ambient air quality standard is met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentration is less than or equal to 0.070 ppm, as determined in accordance with appendix U to this part.

[80 FR 65452, Oct. 26, 2015]

APPENDIX A-1 TO PART 50—REFERENCE MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF SULFUR DIOXIDE IN THE ATMOSPHERE (ULTRAVIOLET FLUORESCENCE METHOD)

1.0 APPLICABILITY

1.1 This ultraviolet fluorescence (UVF) method provides a measurement of the concentration of sulfur dioxide (SO₂) in ambient air for determining compliance with the national primary and secondary ambient air quality standards for sulfur oxides (sulfur dioxide) as specified in § 50.4, § 50.5, and § 50.17 of this chapter. The method is applicable to the measurement of ambient SO₂ concentrations using continuous (real-time) sampling. Additional quality assurance procedures and guidance are provided in part 58, appendix A, of this chapter and in Reference 3.

2.0 PRINCIPLE

2.1 This reference method is based on automated measurement of the intensity of the characteristic fluorescence released by SO₂ in an ambient air sample contained in a measurement cell of an analyzer when the air sample is irradiated by ultraviolet (UV) light passed through the cell. The fluorescent light released by the SO₂ is also in the ultraviolet region, but at longer wavelengths than the excitation light. Typically, optimum instrumental measurement of SO₂ concentrations is obtained with an excitation wavelength in a band between approximately 190 to 230 nm, and measurement of the SO₂ fluorescence in a broad band around 320 nm, but these wavelengths are not necessarily

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constraints of this reference method. Generally, the measurement system (analyzer) also requires means to reduce the effects of aromatic hydrocarbon species, and possibly other compounds, in the air sample to control measurement interferences from these compounds, which may be present in the ambient air. References 1 and 2 describe UVF method.

2.2 The measurement system is calibrated by referencing the instrumental fluorescence measurements to SO₂ standard concentrations traceable to a National Institute of Standards and Technology (NIST) primary standard for SO₂ (see Calibration Procedure below).

2.3 An analyzer implementing this measurement principle is shown schematically in Figure 1. Designs should include a measurement cell, a UV light source of appropriate wavelength, a UV detector system with appropriate wave length sensitivity, a pump and flow control system for sampling the ambient air and moving it into the measurement cell, sample air conditioning components as necessary to minimize measurement interferences, suitable control and measurement processing capability, and other apparatus as may be necessary. The analyzer must be designed to provide accurate, repeatable, and continuous measurements of SO₂ concentrations in ambient air, with measurement performance as specified in Subpart B of Part 53 of this chapter.

2.4 *Sampling considerations:* The use of a particle filter on the sample inlet line of a UVF SO₂ analyzer is required to prevent interference, malfunction, or damage due to particles in the sampled air.

3.0 INTERFERENCES

3.1 The effects of the principal potential interferences may need to be mitigated to meet the interference equivalent requirements of part 53 of this chapter. Aromatic hydrocarbons such as xylene and naphthalene can fluoresce and act as strong positive interferences. These gases can be removed by using a permeation type scrubber (hydrocarbon "kicker"). Nitrogen oxide (NO) in high concentrations can also fluoresce and cause positive interference. Optical filtering can be employed to improve the rejection of interference from high NO. Ozone can absorb UV light given off by the SO₂ molecule and cause a measurement offset. This effect can be reduced by minimizing the measurement path length between the area where SO₂ fluorescence occurs and the photomultiplier tube detector (e.g., <5 cm). A hydrocarbon scrubber, optical filter and appropriate distancing of the measurement path length may be required method components to reduce interference.

4.0 CALIBRATION PROCEDURE

Atmospheres containing accurately known concentrations of sulfur dioxide are prepared using a compressed gas transfer standard diluted with accurately metered clean air flow rates.

4.1 *Apparatus:* Figure 2 shows a typical generic system suitable for diluting a SO₂ gas cylinder concentration standard with clean air through a mixing chamber to produce the desired calibration concentration standards. A valve may be used to conveniently divert the SO₂ from the sampling manifold to provide clean zero air at the output manifold for zero adjustment. The system may be made up using common laboratory components, or it may be a commercially manufactured system. In either case, the principle components are as follows:

4.1.1 SO₂ standard gas flow control and measurement devices (or a combined device) capable of regulating and maintaining the standard gas flow rate constant to within ± 2 percent and measuring the gas flow rate accurate to within ± 2 , properly calibrated to a NIST-traceable standard.

4.1.2 Dilution air flow control and measurement devices (or a combined device) capable of regulating and maintaining the air flow rate constant to within ± 2 percent and measuring the air flow rate accurate to within ± 2 , properly calibrated to a NIST-traceable standard.

4.1.3 Mixing chamber, of an inert material such as glass and of proper design to provide thorough mixing of pollutant gas and diluent air streams.

4.1.4 Sampling manifold, constructed of glass, polytetrafluoroethylene (PTFE Teflon™), or other suitably inert material and of sufficient diameter to insure a minimum pressure drop at the analyzer connection, with a vent designed to insure a minimum over-pressure (relative to ambient air pressure) at the analyzer connection and to prevent ambient air from entering the manifold.

4.1.5 Standard gas pressure regulator, of clean stainless steel with a stainless steel diaphragm, suitable for use with a high pressure SO₂ gas cylinder.

4.1.6 Reagents

4.1.6.1 SO₂ gas concentration transfer standard having a certified SO₂ concentration of not less than 10 ppm, in N₂, traceable to a NIST Standard Reference Material (SRM).

4.1.6.2 Clean zero air, free of contaminants that could cause a detectable response or a change in sensitivity of the analyzer. Since ultraviolet fluorescence analyzers may be sensitive to aromatic hydrocarbons and O₂-to-N₂ ratios, it is important that the clean zero air contains less than 0.1 ppm aromatic hydrocarbons and O₂ and N₂ percentages approximately the same as in ambient air. A

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procedure for generating zero air is given in reference 1.

4.2 Procedure

4.2.1 Obtain a suitable calibration apparatus, such as the one shown schematically in Figure 1, and verify that all materials in contact with the pollutant are of glass, Teflon™, or other suitably inert material and completely clean.

4.2.2 Purge the SO₂ standard gas lines and pressure regulator to remove any residual air.

4.2.3 Ensure that there are no leaks in the system and that the flow measuring devices are properly and accurately calibrated under the conditions of use against a reliable volume or flow rate standard such as a soap-bubble meter or a wet-test meter traceable to a NIST standard. All volumetric flow rates should be corrected to the same reference temperature and pressure by using the formula below:

$$F_c = F_m \frac{298.15 P_m}{760(T_m + 273.15)}$$

Where:

F_c = corrected flow rate (L/min at 25 °C and 760 mm Hg),

F_m = measured flow rate, (at temperature, T_m and pressure, P_m),

P_m = measured pressure in mm Hg, (absolute), and

T_m = measured temperature in degrees Celsius.

4.2.4 Allow the SO₂ analyzer under calibration to sample zero air until a stable re-

sponse is obtained, then make the proper zero adjustment.

4.2.5 Adjust the airflow to provide an SO₂ concentration of approximately 80 percent of the upper measurement range limit of the SO₂ instrument and verify that the total air flow of the calibration system exceeds the demand of all analyzers sampling from the output manifold (with the excess vented).

4.2.6 Calculate the actual SO₂ calibration concentration standard as:

$$[SO_2] = C \frac{F_p}{F_t}$$

Where:

C = the concentration of the SO₂ gas standard

F_p = the flow rate of SO₂ gas standard

F_t = the total air flow rate of pollutant and diluent gases

4.2.7 When the analyzer response has stabilized, adjust the SO₂ span control to obtain the desired response equivalent to the calculated standard concentration. If substantial adjustment of the span control is needed, it may be necessary to re-check the zero and span adjustments by repeating steps 4.2.4 through 4.2.7 until no further adjustments are needed.

4.2.8 Adjust the flow rate(s) to provide several other SO₂ calibration concentrations over the analyzer's measurement range. At least five different concentrations evenly spaced throughout the analyzer's range are suggested.

4.2.9 Plot the analyzer response (vertical or Y-axis) versus SO₂ concentration (horizontal

or X-axis). Compute the linear regression slope and intercept and plot the regression line to verify that no point deviates from this line by more than 2 percent of the maximum concentration tested.

NOTE: Additional information on calibration and pollutant standards is provided in Section 12 of Reference 3.

5.0 FREQUENCY OF CALIBRATION

The frequency of calibration, as well as the number of points necessary to establish the calibration curve and the frequency of other performance checking will vary by analyzer; however, the minimum frequency, acceptance criteria, and subsequent actions are specified in Reference 3, Appendix D: Measurement Quality Objectives and Validation Template for SO₂ (page 9 of 30). The user's quality control program should provide guidelines for initial establishment of these variables and for subsequent alteration as

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operational experience is accumulated. Manufacturers of analyzers should include in their instruction/operation manuals information and guidance as to these variables and on other matters of operation, calibration, routine maintenance, and quality control.

6.0 REFERENCES FOR SO₂ METHOD

1. H. Okabe, P. L. Splitstone, and J. J. Ball, "Ambient and Source SO₂ Detector

Based on a Fluorescence Method", *Journal of the Air Control Pollution Association*, vol. 23, p. 514-516 (1973).

2. F. P. Schwarz, H. Okabe, and J. K. Whitaker, "Fluorescence Detection of Sulfur Dioxide in Air at the Parts per Billion Level," *Analytical Chemistry*, vol. 46, pp. 1024-1028 (1974).

3. *QA Handbook for Air Pollution Measurement Systems—Volume II. Ambient Air Quality Monitoring Programs*. U.S.

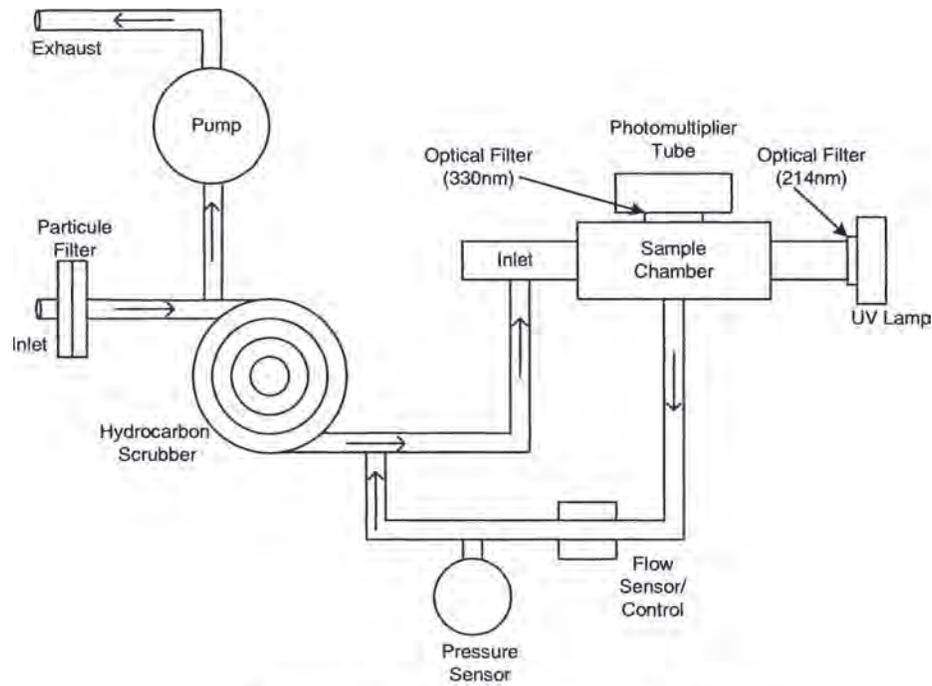


Figure 1. UVF SO₂ analyzer schematic diagram.

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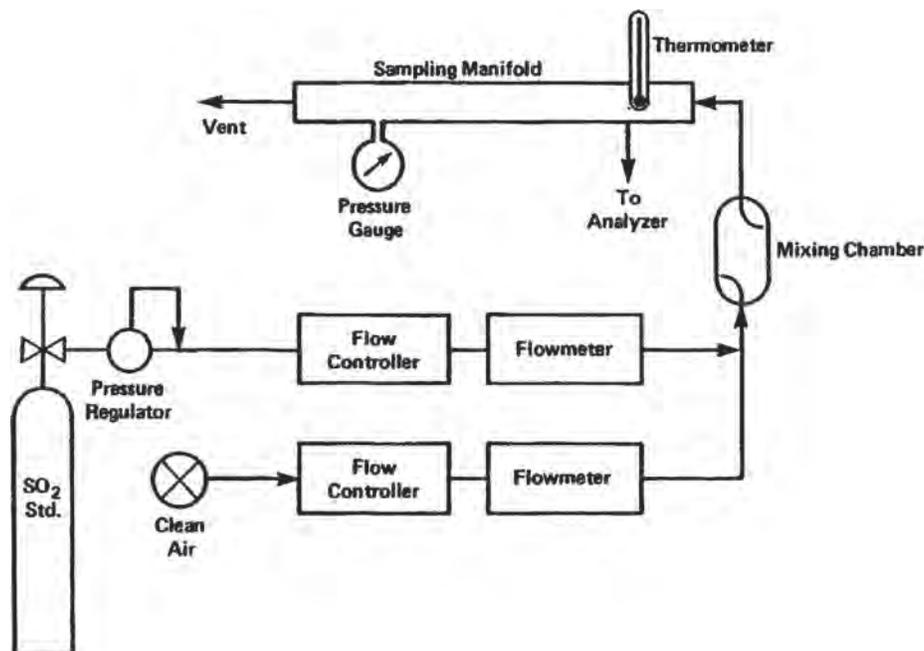


Figure 2. Calibration system using a compressed gas standard.

[75 FR 35593, June 22, 2010]

APPENDIX A-2 TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF SULFUR DIOXIDE IN THE ATMOSPHERE (PARAROSANILINE METHOD)

1.0 *Applicability.*

1.1 This method provides a measurement of the concentration of sulfur dioxide (SO₂) in ambient air for determining compliance with the primary and secondary national ambient air quality standards for sulfur oxides (sulfur dioxide) as specified in § 50.4 and § 50.5 of this chapter. The method is applicable to the measurement of ambient SO₂ concentrations using sampling periods ranging from 30 minutes to 24 hours. Additional quality assurance procedures and guidance are provided in part 58, appendixes A and B, of this chapter and in references 1 and 2.

2.0 *Principle.*

2.1 A measured volume of air is bubbled through a solution of 0.04 M potassium tetrachloromercurate (TCM). The SO₂ present in the air stream reacts with the

TCM solution to form a stable monochlorosulfonatomercurate(3) complex. Once formed, this complex resists air oxidation(4, 5) and is stable in the presence of strong oxidants such as ozone and oxides of nitrogen. During subsequent analysis, the complex is reacted with acid-bleached pararosanine dye and formaldehyde to form an intensely colored pararosanine methyl sulfonic acid.

(6) The optical density of this species is determined spectrophotometrically at 548 nm and is directly related to the amount of SO₂ collected. The total volume of air sampled, corrected to EPA reference conditions (25 °C, 760 mm Hg [101 kPa]), is determined from the measured flow rate and the sampling time. The concentration of SO₂ in the ambient air is computed and expressed in micrograms per standard cubic meter (µg/std m³).

3.0 *Range.*

3.1 The lower limit of detection of SO₂ in 10 mL of TCM is 0.75 µg (based on collaborative

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test results).(7) This represents a concentration of $25 \mu\text{g SO}_2/\text{m}^3$ (0.01 ppm) in an air sample of 30 standard liters (short-term sampling) and a concentration of $13 \mu\text{g SO}_2/\text{m}^3$ (0.005 ppm) in an air sample of 288 standard liters (long-term sampling). Concentrations less than $25 \mu\text{g SO}_2/\text{m}^3$ can be measured by sampling larger volumes of ambient air; however, the collection efficiency falls off rapidly at low concentrations.(8, 9) Beer's law is adhered to up to $34 \mu\text{g}$ of SO_2 in 25 mL of final solution. This upper limit of the analysis range represents a concentration of $1.130 \mu\text{g SO}_2/\text{m}^3$ (0.43 ppm) in an air sample of 30 standard liters and a concentration of $590 \mu\text{g SO}_2/\text{m}^3$ (0.23 ppm) in an air sample of 288 standard liters. Higher concentrations can be measured by collecting a smaller volume of air, by increasing the volume of absorbing solution, or by diluting a suitable portion of the collected sample with absorbing solution prior to analysis.

4.0 Interferences.

4.1 The effects of the principal potential interferences have been minimized or eliminated in the following manner: Nitrogen oxides by the addition of sulfamic acid,(10, 11) heavy metals by the addition of ethylenediamine tetracetic acid disodium salt (EDTA) and phosphoric acid,(10, 12) and ozone by time delay.(10) Up to $60 \mu\text{g Fe}$ (III), $22 \mu\text{g V}$ (V), $10 \mu\text{g Cu}$ (II), $10 \mu\text{g Mn}$ (II), and $10 \mu\text{g Cr}$ (III) in 10 mL absorbing reagent can be tolerated in the procedure.(10) No significant interference has been encountered with $2.3 \mu\text{g NH}_3$.(13)

5.0 Precision and Accuracy.

5.1 The precision of the analysis is 4.6 percent (at the 95 percent confidence level) based on the analysis of standard sulfite samples.(10)

5.2 Collaborative test results (14) based on the analysis of synthetic test atmospheres (SO_2 in scrubbed air) using the 24-hour sampling procedure and the sulfite-TCM calibration procedure show that:

- The replication error varies linearly with concentration from $\pm 2.5 \mu\text{g}/\text{m}^3$ at concentrations of $100 \mu\text{g}/\text{m}^3$ to $\pm 7 \mu\text{g}/\text{m}^3$ at concentrations of $400 \mu\text{g}/\text{m}^3$.
- The day-to-day variability within an individual laboratory (repeatability) varies linearly with concentration from $\pm 18.1 \mu\text{g}/\text{m}^3$ at levels of $100 \mu\text{g}/\text{m}^3$ to $\pm 50.9 \mu\text{g}/\text{m}^3$ at levels of $400 \mu\text{g}/\text{m}^3$.
- The day-to-day variability between two or more laboratories (reproducibility) varies linearly with concentration from $\pm 36.9 \mu\text{g}/\text{m}^3$ at levels of $100 \mu\text{g}/\text{m}^3$ to $\pm 103.5 \mu\text{g}/\text{m}^3$ at levels of $400 \mu\text{g}/\text{m}^3$.
- The method has a concentration-dependent bias, which becomes significant at the 95 percent confidence level at the high concentration level. Observed values tend to be lower than the expected SO_2 concentration level.

6.0 Stability.

6.1 By sampling in a controlled temperature environment of $15^\circ \pm 10^\circ \text{C}$, greater than 98.9 percent of the SO_2 -TCM complex is retained at the completion of sampling. (15) If kept at 5°C following the completion of sampling, the collected sample has been found to be stable for up to 30 days. (10) The presence of EDTA enhances the stability of SO_2 in the TCM solution and the rate of decay is independent of the concentration of SO_2 . (16)

7.0 Apparatus.

7.1 Sampling.

7.1.1 *Sample probe*: A sample probe meeting the requirements of section 7 of 40 CFR part 58, appendix E (Teflon® or glass with residence time less than 20 sec.) is used to transport ambient air to the sampling train location. The end of the probe should be designed or oriented to preclude the sampling of precipitation, large particles, etc. A suitable probe can be constructed from Teflon® tubing connected to an inverted funnel.

7.1.2 *Absorber—short-term sampling*: An all glass midget impinger having a solution capacity of 30 mL and a stem clearance of 4 ± 1 mm from the bottom of the vessel is used for sampling periods of 30 minutes and 1 hour (or any period considerably less than 24 hours). Such an impinger is shown in Figure 1. These impingers are commercially available from distributors such as Ace Glass, Incorporated.

7.1.3 *Absorber—24-hour sampling*: A polypropylene tube 32 mm in diameter and 164 mm long (available from Bel Art Products, Pequannock, NJ) is used as the absorber. The cap of the absorber must be a polypropylene cap with two ports (rubber stoppers are unacceptable because the absorbing reagent can react with the stopper to yield erroneously high SO_2 concentrations). A glass impinger stem, 6 mm in diameter and 158 mm long, is inserted into one port of the absorber cap. The tip of the stem is tapered to a small diameter orifice (0.4 ± 0.1 mm) such that a No. 79 jeweler's drill bit will pass through the opening but a No. 78 drill bit will not. Clearance from the bottom of the absorber to the tip of the stem must be 6 ± 2 mm. Glass stems can be fabricated by any reputable glass blower or can be obtained from a scientific supply firm. Upon receipt, the orifice test should be performed to verify the orifice size. The 50 mL volume level should be permanently marked on the absorber. The assembled absorber is shown in Figure 2.

7.1.4 *Moisture trap*: A moisture trap constructed of a glass trap as shown in Figure 1 or a polypropylene tube as shown in Figure 2 is placed between the absorber tube and flow control device to prevent entrained liquid from reaching the flow control device. The tube is packed with indicating silica gel as shown in Figure 2. Glass wool may be substituted for silica gel when collecting short-term samples (1 hour or less) as shown in

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Figure 1, or for long term (24 hour) samples if flow changes are not routinely encountered.

7.1.5 *Cap seals:* The absorber and moisture trap caps must seal securely to prevent leaks

during use. Heat-shrink material as shown in Figure 2 can be used to retain the cap seals if there is any chance of the caps coming loose during sampling, shipment, or storage.

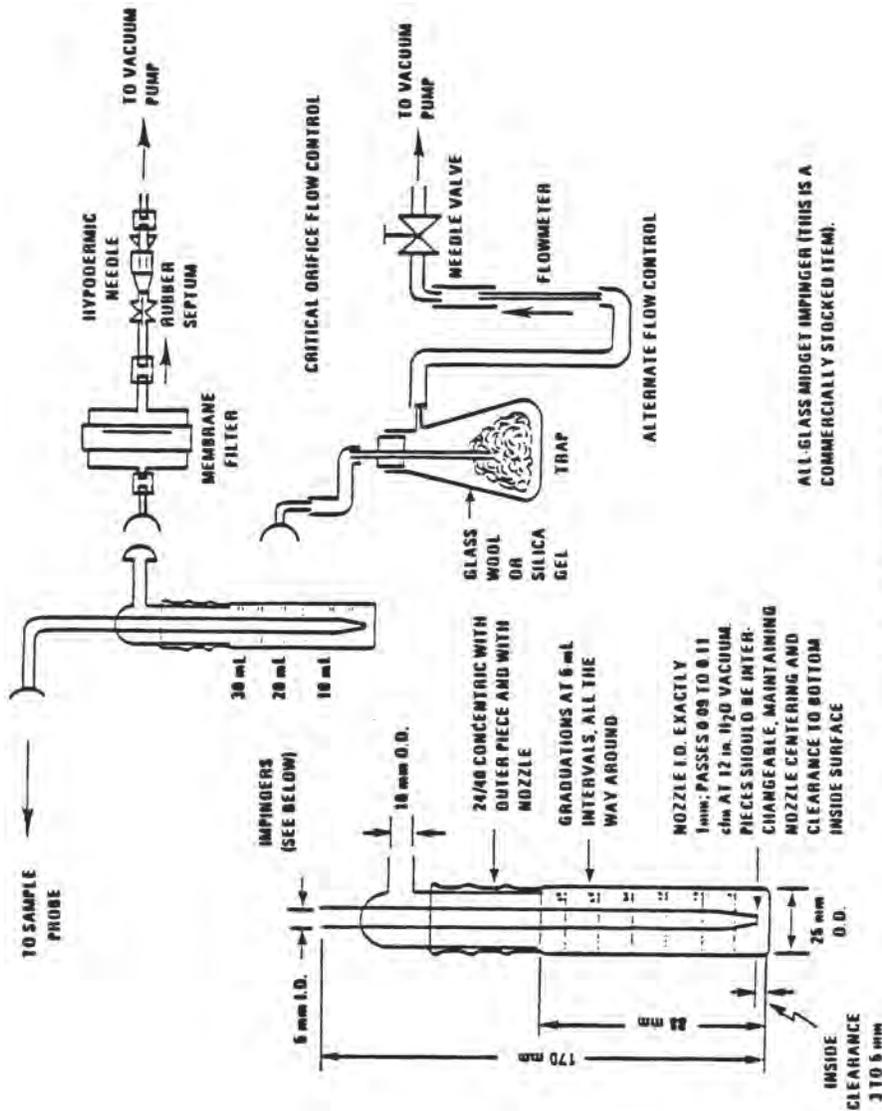


Figure 1. Short-term sampling train.

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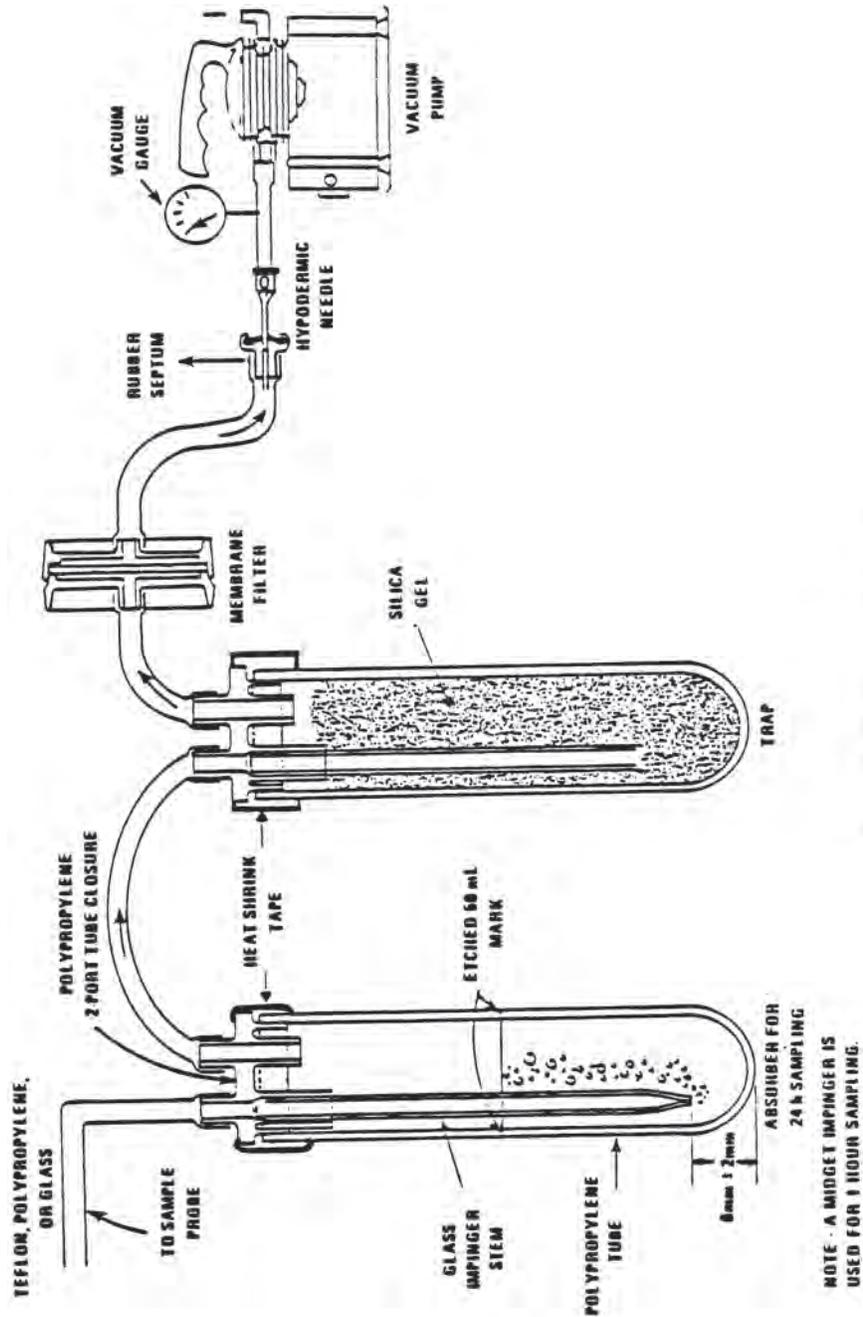


Figure 2. 24-Hour sampling system.

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7.1.6 *Flow control device*: A calibrated rotameter and needle valve combination capable of maintaining and measuring air flow to within ± 2 percent is suitable for short-term sampling but may not be used for long-term sampling. A critical orifice can be used for regulating flow rate for both long-term and short-term sampling. A 22-gauge hypodermic needle 25 mm long may be used as a critical orifice to yield a flow rate of approximately 1 L/min for a 30-minute sampling period. When sampling for 1 hour, a 23-gauge hypodermic needle 16 mm in length will provide a flow rate of approximately 0.5 L/min. Flow control for a 24-hour sample may be provided by a 27-gauge hypodermic needle critical orifice that is 9.5 mm in length. The flow rate should be in the range of 0.18 to 0.22 L/min.

7.1.7 *Flow measurement device*: Device calibrated as specified in 9.4.1 and used to measure sample flow rate at the monitoring site.

7.1.8 *Membrane particle filter*: A membrane filter of 0.8 to 2 μm porosity is used to protect the flow controller from particles during long-term sampling. This item is optional for short-term sampling.

7.1.9 *Vacuum pump*: A vacuum pump equipped with a vacuum gauge and capable of maintaining at least 70 kPa (0.7 atm) vacuum differential across the flow control device at the specified flow rate is required for sampling.

7.1.10 *Temperature control device*: The temperature of the absorbing solution during sampling must be maintained at $15^\circ \pm 10^\circ \text{C}$. As soon as possible following sampling and until analysis, the temperature of the collected sample must be maintained at $5^\circ \pm 5^\circ \text{C}$. Where an extended period of time may elapse before the collected sample can be moved to the lower storage temperature, a collection temperature near the lower limit of the $15 \pm 10^\circ \text{C}$ range should be used to minimize losses during this period. Thermoelectric coolers specifically designed for this temperature control are available commercially and normally operate in the range of 5° to 15°C . Small refrigerators can be modified to provide the required temperature control; however, inlet lines must be insulated from the lower temperatures to prevent condensation when sampling under humid conditions. A small heating pad may be necessary when sampling at low temperatures ($< 7^\circ \text{C}$) to prevent the absorbing solution from freezing. (17)

7.1.11 *Sampling train container*: The absorbing solution must be shielded from light during and after sampling. Most commercially available sampler trains are enclosed in a light-proof box.

7.1.12 *Timer*: A timer is recommended to initiate and to stop sampling for the 24-hour period. The timer is not a required piece of equipment; however, without the timer a technician would be required to start and stop the sampling manually. An elapsed time

meter is also recommended to determine the duration of the sampling period.

7.2 *Shipping*.

7.2.1 *Shipping container*: A shipping container that can maintain a temperature of $5^\circ \pm 5^\circ \text{C}$ is used for transporting the sample from the collection site to the analytical laboratory. Ice coolers or refrigerated shipping containers have been found to be satisfactory. The use of eutectic cold packs instead of ice will give a more stable temperature control. Such equipment is available from Cole-Parmer Company, 7425 North Oak Park Avenue, Chicago, IL 60648.

7.3 *Analysis*.

7.3.1 *Spectrophotometer*: A spectrophotometer suitable for measurement of absorbances at 548 nm with an effective spectral bandwidth of less than 15 nm is required for analysis. If the spectrophotometer reads out in transmittance, convert to absorbance as follows:

$$A = \log_{10}(1/T) \quad (1)$$

where:

A = absorbance, and

T = transmittance ($0 < T < 1$).

A standard wavelength filter traceable to the National Bureau of Standards is used to verify the wavelength calibration according to the procedure enclosed with the filter. The wavelength calibration must be verified upon initial receipt of the instrument and after each 160 hours of normal use or every 6 months, whichever occurs first.

7.3.2 *Spectrophotometer cells*: A set of 1-cm path length cells suitable for use in the visible region is used during analysis. If the cells are unmatched, a matching correction factor must be determined according to Section 10.1.

7.3.3 *Temperature control device*: The color development step during analysis must be conducted in an environment that is in the range of 20° to 30°C and controlled to $\pm 1^\circ \text{C}$. Both calibration and sample analysis must be performed under identical conditions (within 1°C). Adequate temperature control may be obtained by means of constant temperature baths, water baths with manual temperature control, or temperature controlled rooms.

7.3.4 *Glassware*: Class A volumetric glassware of various capacities is required for preparing and standardizing reagents and standards and for dispensing solutions during analysis. These included pipets, volumetric flasks, and burets.

7.3.5 *TCM waste receptacle*: A glass waste receptacle is required for the storage of spent TCM solution. This vessel should be stoppered and stored in a hood at all times.

8.0 *Reagents*.8.1 *Sampling*.

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8.1.1 *Distilled water*: Purity of distilled water must be verified by the following procedure:⁽¹⁸⁾

- Place 0.20 mL of potassium permanganate solution (0.316 g/L), 500 mL of distilled water, and 1mL of concentrated sulfuric acid in a chemically resistant glass bottle, stopper the bottle, and allow to stand.
- If the permanganate color (pink) does not disappear completely after a period of 1 hour at room temperature, the water is suitable for use.
- If the permanganate color does disappear, the water can be purified by redistilling with one crystal each of barium hydroxide and potassium permanganate in an all glass still.

8.1.2 *Absorbing reagent* (0.04 M potassium tetrachloromercurate [TCM]): Dissolve 10.86 g mercuric chloride, 0.066 g EDTA, and 6.0 g potassium chloride in distilled water and dilute to volume with distilled water in a 1,000-mL volumetric flask. (*Caution*: Mercuric chloride is highly poisonous. If spilled on skin, flush with water immediately.) The pH of this reagent should be between 3.0 and 5.0 (10) Check the pH of the absorbing solution by using pH indicating paper or a pH meter. If the pH of the solution is not between 3.0 and 5.0, dispose of the solution according to one of the disposal techniques described in Section 13.0. The absorbing reagent is normally stable for 6 months. If a precipitate forms, dispose of the reagent according to one of the procedures described in Section 13.0.

8.2 *Analysis.*

8.2.1 *Sulfamic acid* (0.6%): Dissolve 0.6 g sulfamic acid in 100 mL distilled water. Prepare fresh daily.

8.2.2 *Formaldehyde* (0.2%): Dilute 5 mL formaldehyde solution (36 to 38 percent) to 1,000 mL with distilled water. Prepare fresh daily.

8.2.3 *Stock iodine solution* (0.1 N): Place 12.7 g resublimed iodine in a 250-mL beaker and add 40 g potassium iodide and 25 mL water. Stir until dissolved, transfer to a 1,000 mL volumetric flask and dilute to volume with distilled water.

8.2.4 *Iodine solution* (0.01 N): Prepare approximately 0.01 N iodine solution by diluting 50 mL of stock iodine solution (Section 8.2.3) to 500 mL with distilled water.

8.2.5 *Starch indicator solution*: Triturate 0.4 g soluble starch and 0.002 g mercuric iodide (preservative) with enough distilled water to form a paste. Add the paste slowly to 200 mL of boiling distilled water and continue boiling until clear. Cool and transfer the solution to a glass stoppered bottle.

8.2.6 *1 N hydrochloric acid*: Slowly and while stirring, add 86 mL of concentrated hydrochloric acid to 500 mL of distilled water. Allow to cool and dilute to 1,000 mL with distilled water.

8.2.7 *Potassium iodate solution*: Accurately weigh to the nearest 0.1 mg, 1.5 g (record weight) of primary standard grade potassium iodate that has been previously dried at 180 °C for at least 3 hours and cooled in a desiccator. Dissolve, then dilute to volume in a 500-mL volumetric flask with distilled water.

8.2.8 *Stock sodium thiosulfate solution* (0.1 N): Prepare a stock solution by dissolving 25 g sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3 + 5\text{H}_2\text{O}$) in 1,000 mL freshly boiled, cooled, distilled water and adding 0.1 g sodium carbonate to the solution. Allow the solution to stand at least 1 day before standardizing. To standardize, accurately pipet 50 mL of potassium iodate solution (Section 8.2.7) into a 500-mL iodine flask and add 2.0 g of potassium iodide and 10 mL of 1 N HCl. Stopper the flask and allow to stand for 5 minutes. Titrate the solution with stock sodium thiosulfate solution (Section 8.2.8) to a pale yellow color. Add 5 mL of starch solution (Section 8.2.5) and titrate until the blue color just disappears. Calculate the normality (N_s) of the stock sodium thiosulfate solution as follows:

$$N_s = \frac{W}{M} \times 2.80 \quad (2)$$

where:

M = volume of thiosulfate required in mL, and

W = weight of potassium iodate in g (recorded weight in Section 8.2.7).

$$2.80 = \frac{10^3(\text{conversion of g to mg}) \times 0.1(\text{fraction iodate used})}{35.67(\text{equivalent weight of potassium iodate})}$$

8.2.9 *Working sodium thiosulfate titrant* (0.01 N): Accurately pipet 100 mL of stock sodium thiosulfate solution (Section 8.2.8) into a 1,000-mL volumetric flask and dilute to volume with freshly boiled, cooled, distilled water. Calculate the normality of the working sodium thiosulfate titrant (N_T) as follows:

$$N_T = N_s \times 0.100 \quad (3)$$

8.2.10 *Standardized sulfite solution for the preparation of working sulfite-TCM solution*: Dissolve 0.30 g sodium metabisulfite ($\text{Na}_2\text{S}_2\text{O}_5$) or 0.40 g sodium sulfite (Na_2SO_3) in 500 mL of recently boiled, cooled, distilled water. (Sulfite solution is unstable; it is therefore important to use water of the highest purity to minimize this instability.) This solution contains the equivalent of 320 to 400 $\mu\text{g SO}_2/\text{mL}$. The actual concentration of the solution is determined by adding excess iodine and back-titrating with standard sodium thiosulfate solution. To back-titrate, pipet 50 mL of the 0.01 N iodine solution (Section 8.2.4) into each of two 500-mL iodine flasks (A and B). To flask A (blank) add 25 mL distilled water, and to flask B (sample)

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pipet 25 mL sulfite solution. Stopper the flasks and allow to stand for 5 minutes. Prepare the working sulfite-TCM solution (Section 8.2.11) immediately prior to adding the iodine solution to the flasks. Using a buret containing standardized 0.01 N thiosulfate titrant (Section 8.2.9), titrate the solution in each flask to a pale yellow color. Then add 5 mL starch solution (Section 8.2.5) and con-

tinue the titration until the blue color just disappears.

8.2.11 *Working sulfite-TCM solution:* Accurately pipet 5 mL of the standard sulfite solution (Section 8.2.10) into a 250-mL volumetric flask and dilute to volume with 0.04 M TCM. Calculate the concentration of sulfur dioxide in the working solution as follows:

$$C_{\text{TCM}/\text{SO}_2}(\mu\text{g SO}_2/\text{mL}) = \frac{(A - B)(N_T)(32,000)}{25} \times 0.02 \quad (4)$$

where:

A = volume of thiosulfate titrant required for the blank, mL;

B = volume of thiosulfate titrant required for the sample, mL;

N_T = normality of the thiosulfate titrant, from equation (3);

32,000 = milliequivalent weight of SO_2 , μg ;

25 = volume of standard sulfite solution, mL; and

0.02 = dilution factor.

This solution is stable for 30 days if kept at 5 °C. (16) If not kept at 5 °C, prepare fresh daily.

8.2.12 *Purified pararosaniline (PRA) stock solution* (0.2% nominal):

8.2.12.1 *Dye specifications*—

- The dye must have a maximum absorbance at a wavelength of 540 nm when assayed in a buffered solution of 0.1 M sodium acetate-acetic acid;
- The absorbance of the reagent blank, which is temperature sensitive (0.015 absorbance unit/°C), must not exceed 0.170 at 22 °C with a 1-cm optical path length when the blank is prepared according to the specified procedure;
- The calibration curve (Section 10.0) must have a slope equal to 0.030 ± 0.002 absorbance unit/ $\mu\text{g SO}_2$ with a 1-cm optical path length when the dye is pure and the sulfite solution is properly standardized.

8.2.12.2 *Preparation of stock PRA solution*—A specially purified (99 to 100 percent pure) solution of pararosaniline, which meets the above specifications, is commercially available in the required 0.20 percent concentration (Harleco Co.). Alternatively, the dye may be purified, a stock solution prepared, and then assayed according to the procedure as described below.(10)

8.2.12.3 *Purification procedure for PRA*—

1. Place 100 mL each of 1-butanol and 1 N HCl in a large separatory funnel (250-mL) and allow to equilibrate. Note: Certain batches of 1-butanol contain oxidants that create an SO_2 demand. Before using, check by placing 20 mL of 1-butanol and 5 mL of 20

percent potassium iodide (KI) solution in a 50-mL separatory funnel and shake thoroughly. If a yellow color appears in the alcohol phase, redistill the 1-butanol from silver oxide and collect the middle fraction or purchase a new supply of 1-butanol.

2. Weigh 100 mg of pararosaniline hydrochloride dye (PRA) in a small beaker. Add 50 mL of the equilibrated acid (drain in acid from the bottom of the separatory funnel in 1.) to the beaker and let stand for several minutes. Discard the remaining acid phase in the separatory funnel.

3. To a 125-mL separatory funnel, add 50 mL of the equilibrated 1-butanol (draw the 1-butanol from the top of the separatory funnel in 1.). Transfer the acid solution (from 2.) containing the dye to the funnel and shake carefully to extract. The violet impurity will transfer to the organic phase.

4. Transfer the lower aqueous phase into another separatory funnel, add 20 mL of equilibrated 1-butanol, and extract again.

5. Repeat the extraction procedure with three more 10-mL portions of equilibrated 1-butanol.

6. After the final extraction, filter the acid phase through a cotton plug into a 50-mL volumetric flask and bring to volume with 1 N HCl. This stock reagent will be a yellowish red.

7. To check the purity of the PRA, perform the assay and adjustment of concentration (Section 8.2.12.4) and prepare a reagent blank (Section 11.2); the absorbance of this reagent blank at 540 nm should be less than 0.170 at 22 °C. If the absorbance is greater than 0.170 under these conditions, further extractions should be performed.

8.2.12.4 *PRA assay procedure*—The concentration of pararosaniline hydrochloride (PRA) need be assayed only once after purification. It is also recommended that commercial solutions of pararosaniline be assayed when first purchased. The assay procedure is as follows:(10)

1. Prepare 1 M acetate-acetic acid buffer stock solution with a pH of 4.79 by dissolving

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13.61 g of sodium acetate trihydrate in distilled water in a 100-mL volumetric flask. Add 5.70 mL of glacial acetic acid and dilute to volume with distilled water.

2. Pipet 1 mL of the stock PRA solution obtained from the purification process or from a commercial source into a 100-mL volumetric flask and dilute to volume with distilled water.

3. Transfer a 5-mL aliquot of the diluted PRA solution from 2. into a 50-mL volumetric flask. Add 5 mL of 1 M acetate-acetic acid buffer solution from 1. and dilute the mixture to volume with distilled water. Let the mixture stand for 1 hour.

4. Measure the absorbance of the above solution at 540 nm with a spectrophotometer against a distilled water reference. Compute the percentage of nominal concentration of PRA by

$$\%PRA = \frac{A \times K}{W} \quad (5)$$

where:

A = measured absorbance of the final mixture (absorbance units);

W = weight in grams of the PRA dye used in the assay to prepare 50 mL of stock solution (for example, 0.100 g of dye was used to prepare 50 mL of solution in the purification procedure; when obtained from commercial sources, use the stated concentration to compute W; for 98% PRA, W = .098 g.); and

K = 21.3 for spectrophotometers having a spectral bandwidth of less than 15 nm and a path length of 1 cm.

8.2.13 *Pararosaniline reagent*: To a 250-mL volumetric flask, add 20 mL of stock PRA solution. Add an additional 0.2 mL of stock solution for each percentage that the stock assays below 100 percent. Then add 25 mL of 3 M phosphoric acid and dilute to volume with distilled water. The reagent is stable for at least 9 months. Store away from heat and light.

9.0 Sampling Procedure.

9.1 *General Considerations*. Procedures are described for short-term sampling (30-minute and 1-hour) and for long-term sampling (24-hour). Different combinations of absorbing reagent volume, sampling rate, and sampling time can be selected to meet special needs. For combinations other than those specifically described, the conditions must be ad-

justed so that linearity is maintained between absorbance and concentration over the dynamic range. Absorbing reagent volumes less than 10 mL are not recommended. The collection efficiency is above 98 percent for the conditions described; however, the efficiency may be substantially lower when sampling concentrations below 25 $\mu\text{gSO}_2/\text{m}^3$.(8,9)

9.2 *30-Minute and 1-Hour Sampling*. Place 10 mL of TCM absorbing reagent in a midsize impinger and seal the impinger with a thin film of silicon stopcock grease (around the ground glass joint). Insert the sealed impinger into the sampling train as shown in Figure 1, making sure that all connections between the various components are leak tight. Greaseless ball joint fittings, heat shrinkable Teflon® tubing, or Teflon® tube fittings may be used to attain leakfree conditions for portions of the sampling train that come into contact with air containing SO_2 . Shield the absorbing reagent from direct sunlight by covering the impinger with aluminum foil or by enclosing the sampling train in a light-proof box. Determine the flow rate according to Section 9.4.2. Collect the sample at 1 \pm 0.10 L/min for 30-minute sampling or 0.500 \pm 0.05 L/min for 1-hour sampling. Record the exact sampling time in minutes, as the sample volume will later be determined using the sampling flow rate and the sampling time. Record the atmospheric pressure and temperature.

9.3 *24-Hour Sampling*. Place 50 mL of TCM absorbing solution in a large absorber, close the cap, and, if needed, apply the heat shrink material as shown in Figure 3. Verify that the reagent level is at the 50 mL mark on the absorber. Insert the sealed absorber into the sampling train as shown in Figure 2. At this time verify that the absorber temperature is controlled to 15 \pm 10 °C. During sampling, the absorber temperature must be controlled to prevent decomposition of the collected complex. From the onset of sampling until analysis, the absorbing solution must be protected from direct sunlight. Determine the flow rate according to Section 9.4.2. Collect the sample for 24 hours from midnight to midnight at a flow rate of 0.200 \pm 0.020 L/min. A start/stop timer is helpful for initiating and stopping sampling and an elapsed time meter will be useful for determining the sampling time.

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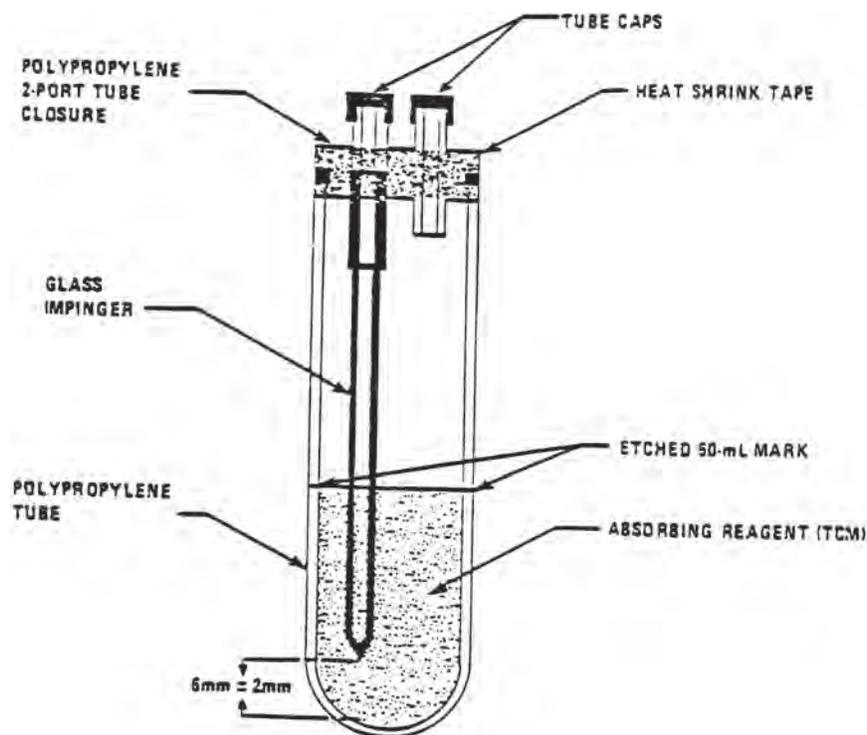


Figure 3. An absorber (24-hour sample) filled and assembled for shipment.

9.4 Flow Measurement.

9.4.1 *Calibration:* Flow measuring devices used for the on-site flow measurements required in 9.4.2 must be calibrated against a reliable flow or volume standard such as an NBS traceable bubble flowmeter or calibrated wet test meter. Rotameters or critical orifices used in the sampling train may be calibrated, if desired, as a quality control check, but such calibration shall not replace the on-site flow measurements required by 9.4.2. In-line rotameters, if they are to be calibrated, should be calibrated in situ, with the appropriate volume of solution in the absorber.

9.4.2 *Determination of flow rate at sampling site:* For short-term samples, the standard flow rate is determined at the sampling site at the initiation and completion of sample collection with a calibrated flow measuring device connected to the inlet of the absorber.

For 24-hour samples, the standard flow rate is determined at the time the absorber is placed in the sampling train and again when the absorber is removed from the train for shipment to the analytical laboratory with a calibrated flow measuring device connected to the inlet of the sampling train. The flow rate determination must be made with all components of the sampling system in operation (e.g., the absorber temperature controller and any sample box heaters must also be operating). Equation 6 may be used to determine the standard flow rate when a calibrated positive displacement meter is used as the flow measuring device. Other types of calibrated flow measuring devices may also be used to determine the flow rate at the sampling site provided that the user applies any appropriate corrections to devices for which output is dependent on temperature or pressure.

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$$Q_{\text{std}} = Q_{\text{act}} \times \frac{P_b - (1 - \text{RH})P_{\text{H}_2\text{O}}}{P_{\text{std}}} \times \frac{298.16}{(T_{\text{meter}} + 273.16)} \quad (6)$$

where:

Q_{std} = flow rate at standard conditions, std L/min (25 °C and 760 mm Hg);

Q_{act} = flow rate at monitoring site conditions, L/min;

P_b = barometric pressure at monitoring site conditions, mm Hg or kPa;

RH = fractional relative humidity of the air being measured;

$P_{\text{H}_2\text{O}}$ = vapor pressure of water at the temperature of the air in the flow or volume standard, in the same units as P_b , (for

wet volume standards only, i.e., bubble flowmeter or wet test meter; for dry standards, i.e., dry test meter, $P_{\text{H}_2\text{O}} = 0$);

P_{std} = standard barometric pressure, in the same units as P_b (760 mm Hg or 101 kPa); and

T_{meter} = temperature of the air in the flow or volume standard, °C (e.g., bubble flowmeter).

If a barometer is not available, the following equation may be used to determine the barometric pressure:

$$P_b = 760 - .076(H) \text{ mm Hg, or } P_b = 101 - .01(H) \text{ kPa} \quad (7)$$

where:

H = sampling site elevation above sea level in meters.

If the initial flow rate (Q_i) differs from the flow rate of the critical orifice or the flow rate indicated by the flowmeter in the sampling train (Q_c) by more than 5 percent as determined by equation (8), check for leaks and redetermine Q_c .

$$\% \text{ Diff} = \frac{Q_i - Q_c}{Q_c} \times 100 \quad (8)$$

Invalidate the sample if the difference between the initial (Q_i) and final (Q_f) flow rates is more than 5 percent as determined by equation (9):

$$\% \text{ Diff} = \frac{Q_i - Q_f}{Q_f} \times 100 \quad (9)$$

9.5 Sample Storage and Shipment. Remove the impinger or absorber from the sampling train and stopper immediately. Verify that the temperature of the absorber is not above 25 °C. Mark the level of the solution with a temporary (e.g., grease pencil) mark. If the sample will not be analyzed within 12 hours of sampling, it must be stored at 5° ±5 °C until analysis. Analysis must occur within 30 days. If the sample is transported or shipped for a period exceeding 12 hours, it is recommended that thermal coolers using eutectic ice packs, refrigerated shipping containers, etc., be used for periods up to 48 hours. (17) Measure the temperature of the absorber solution when the shipment is received. Invalidate the sample if the tempera-

ture is above 10 °C. Store the sample at 5° ±5 °C until it is analyzed.

10.0 Analytical Calibration.

10.1 Spectrophotometer Cell Matching. If unmatched spectrophotometer cells are used, an absorbance correction factor must be determined as follows:

1. Fill all cells with distilled water and designate the one that has the lowest absorbance at 548 nm as the reference. (This reference cell should be marked as such and continually used for this purpose throughout all future analyses.)

2. Zero the spectrophotometer with the reference cell.

3. Determine the absorbance of the remaining cells (A_c) in relation to the reference cell and record these values for future use. Mark all cells in a manner that adequately identifies the correction.

The corrected absorbance during future analyses using each cell is determined as follows:

$$A = A_{\text{obs}} - A_c \quad (10)$$

where:

A = corrected absorbance,

A_{obs} = uncorrected absorbance, and

A_c = cell correction.

10.2 Static Calibration Procedure (Option 1). Prepare a dilute working sulfite-TCM solution by diluting 10 mL of the working sulfite-TCM solution (Section 8.2.11) to 100 mL with TCM absorbing reagent. Following the table below, accurately pipet the indicated volumes of the sulfite-TCM solutions into a series of 25-mL volumetric flasks. Add TCM absorbing reagent as indicated to bring the volume in each flask to 10 mL.

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Sulfite-TCM solution	Volume of sulfite-TCM solution	Volume of TCM, mL	Total µg SO ₂ (approx.*
Working	4.0	6.0	28.8
Working	3.0	7.0	21.6
Working	2.0	8.0	14.4
Dilute working	10.0	0.0	7.2
Dilute working	5.0	5.0	3.6
	0.0	10.0	0.0

*Based on working sulfite-TCM solution concentration of 7.2 µg SO₂/mL; the actual total µg SO₂ must be calculated using equation 11 below.

To each volumetric flask, add 1 mL 0.6% sulfamic acid (Section 8.2.1), accurately pipet 2 mL 0.2% formaldehyde solution (Section 8.2.2), then add 5 mL pararosaniline solution (Section 8.2.13). Start a laboratory

timer that has been set for 30 minutes. Bring all flasks to volume with recently boiled and cooled distilled water and mix thoroughly. The color must be developed (during the 30-minute period) in a temperature environment in the range of 20° to 30 °C, which is controlled to ±1 °C. For increased precision, a constant temperature bath is recommended during the color development step. After 30 minutes, determine the corrected absorbance of each standard at 548 nm against a distilled water reference (Section 10.1). Denote this absorbance as (A). Distilled water is used in the reference cell rather than the reagent blank because of the temperature sensitivity of the reagent blank. Calculate the total micrograms SO₂ in each solution:

$$\mu\text{g SO}_2 = V_{\text{TCM/SO}_2} \times C_{\text{TCM/SO}_2} \times D \quad (11)$$

where:

V_{TCM/SO₂} = volume of sulfite-TCM solution used, mL;

C_{TCM/SO₂} = concentration of sulfur dioxide in the working sulfite-TCM, µg SO₂/mL (from equation 4); and

D = dilution factor (D = 1 for the working sulfite-TCM solution; D = 0.1 for the diluted working sulfite-TCM solution).

A calibration equation is determined using the method of linear least squares (Section 12.1). The total micrograms SO₂ contained in each solution is the x variable, and the corrected absorbance (eq. 10) associated with each solution is the y variable. For the calibration to be valid, the slope must be in the range of 0.030 ±0.002 absorbance unit/µg SO₂, the intercept as determined by the least squares method must be equal to or less than 0.170 absorbance unit when the color is developed at 22 °C (add 0.015 to this 0.170 specification for each °C above 22 °C) and the correlation coefficient must be greater than 0.998. If these criteria are not met, it may be the result of an impure dye and/or an improperly standardized sulfite-TCM solution. A calibration factor (B_c) is determined by calculating the reciprocal of the slope and is subsequently used for calculating the sample concentration (Section 12.3).

10.3 *Dynamic Calibration Procedures* (Option 2). Atmospheres containing accurately known concentrations of sulfur dioxide are prepared using permeation devices. In the systems for generating these atmospheres, the permeation device emits gaseous SO₂ at a known, low, constant rate, provided the temperature of the device is held constant (±0.1 °C) and the device has been accurately calibrated at the temperature of use. The SO₂ permeating from the device is carried by

a low flow of dry carrier gas to a mixing chamber where it is diluted with SO₂-free air to the desired concentration and supplied to a vented manifold. A typical system is shown schematically in Figure 4 and this system and other similar systems have been described in detail by O'Keefe and Ortman; (19) Scaringelli, Frey, and Saltzman, (20) and Scaringelli, O'Keefe, Rosenberg, and Bell. (21) Permeation devices may be prepared or purchased and in both cases must be traceable either to a National Bureau of Standards (NBS) Standard Reference Material (SRM 1625, SRM 1626, SRM 1627) or to an NBS/EPA-approved commercially available Certified Reference Material (CRM). CRM's are described in Reference 22, and a list of CRM sources is available from the address shown for Reference 22. A recommended protocol for certifying a permeation device to an NBS SRM or CRM is given in Section 2.0.7 of Reference 2. Device permeation rates of 0.2 to 0.4 µg/min, inert gas flows of about 50 mL/min, and dilution air flow rates from 1.1 to 15 L/min conveniently yield standard atmospheres in the range of 25 to 600 µg SO₂/m³ (0.010 to 0.230 ppm).

10.3.1 *Calibration Option 2A* (30-minute and 1-hour samples): Generate a series of six standard atmospheres of SO₂ (e.g., 0, 50, 100, 200, 350, 500, 750 µg/m³) by adjusting the dilution flow rates appropriately. The concentration of SO₂ in each atmosphere is calculated as follows:

$$C_a = \frac{P_r \times 10^3}{Q_d + Q_p} \quad (12)$$

where:

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C_a = concentration of SO_2 at standard conditions, $\mu\text{g}/\text{m}^3$;
 P_r = permeation rate, $\mu\text{g}/\text{min}$;

Q_d = flow rate of dilution air, std L/min; and
 Q_p = flow rate of carrier gas across permeation device, std L/min.

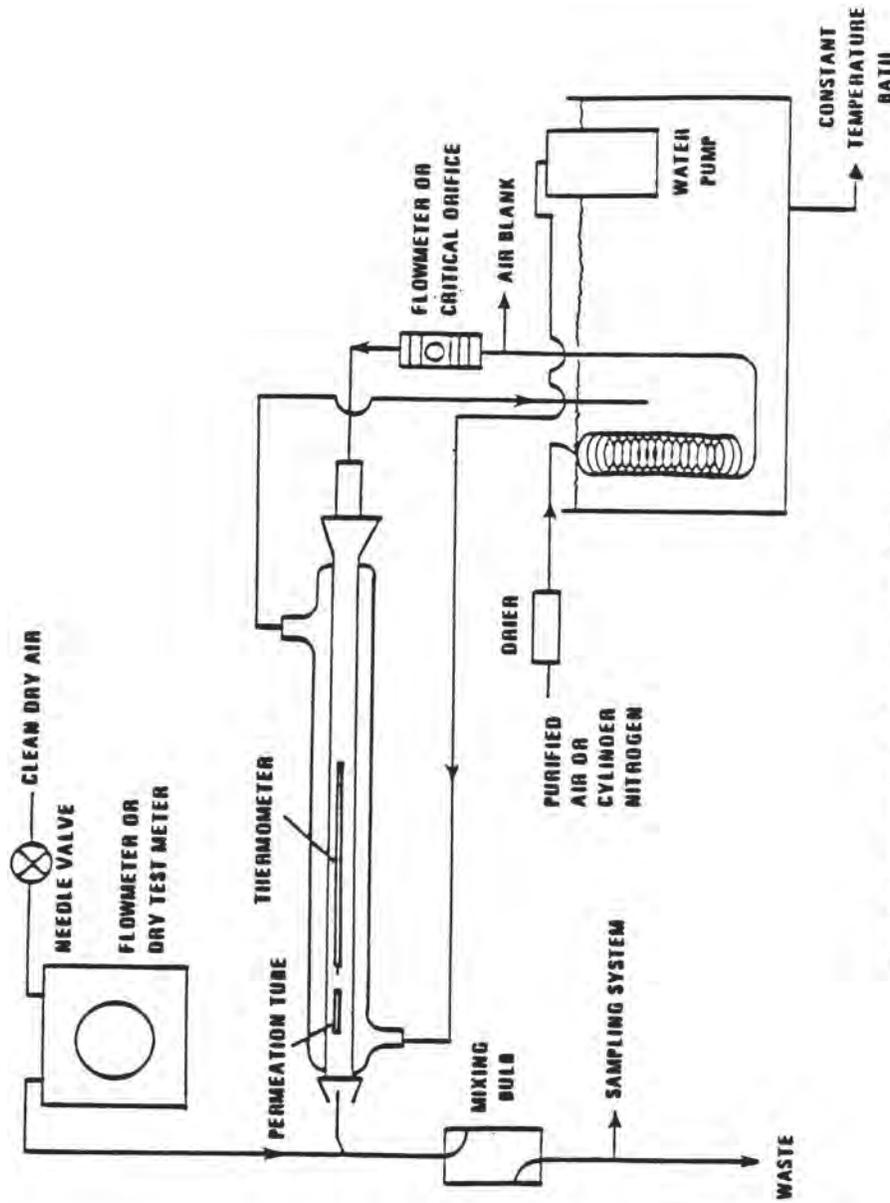


Figure 4. Permeation tube schematic for laboratory use.

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Be sure that the total flow rate of the standard exceeds the flow demand of the sample train, with the excess flow vented at atmospheric pressure. Sample each atmosphere using similar apparatus as shown in Figure 1 and under the same conditions as field sampling (*i.e.*, use same absorbing reagent volume and sample same volume of air at an equivalent flow rate). Due to the length of the sampling periods required, this method is not recommended for 24-hour sampling. At the completion of sampling, quantitatively transfer the contents of each impinger to one of a series of 25-mL volumetric flasks (if 10 mL of absorbing solution was used) using small amounts of distilled water for rinse (<5mL). If >10 mL of absorbing solution was used, bring the absorber solution in each impinger to original volume with distilled H₂O and pipet 10-mL portions from each impinger into a series of 25-mL volumetric flasks. If the color development steps are not to be started within 12 hours of sampling, store the solutions at 5° ±5 °C. Calculate the total micrograms SO₂ in each solution as follows:

$$\mu\text{gSO}_2 = \frac{C_a \times Q_s \times t \times V_a \times 10^{-3}}{V_b} \quad (13)$$

where:

C_a = concentration of SO₂ in the standard atmosphere, µg/m³;

Q_s = sampling flow rate, std L/min;

t = sampling time, min;

V_a = volume of absorbing solution used for color development (10 mL); and

V_b = volume of absorbing solution used for sampling, mL.

Add the remaining reagents for color development in the same manner as in Section 10.2 for static solutions. Calculate a calibration equation and a calibration factor (B₂) according to Section 10.2, adhering to all the specified criteria.

10.3.2 Calibration Option 2B (24-hour samples): Generate a standard atmosphere containing approximately 1,050 µg SO₂/m³ and calculate the exact concentration according to equation 12. Set up a series of six absorbers according to Figure 2 and connect to a common manifold for sampling the standard atmosphere. Be sure that the total flow rate of the standard exceeds the flow demand at the sample manifold, with the excess flow vented at atmospheric pressure. The absorbers are then allowed to sample the atmosphere for varying time periods to yield solutions containing 0, 0.2, 0.6, 1.0, 1.4, 1.8, and 2.2 µg SO₂/mL solution. The sampling times required to attain these solution concentrations are calculated as follows:

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$$t = \frac{V_b \times C_s}{C_a \times Q_s \times 10^{-3}} \quad (14)$$

where:

t = sampling time, min;

V_b = volume of absorbing solution used for sampling (50 mL);

C_s = desired concentration of SO₂ in the absorbing solution, µg/mL;

C_a = concentration of the standard atmosphere calculated according to equation 12, µg/m³; and

Q_s = sampling flow rate, std L/min.

At the completion of sampling, bring the absorber solutions to original volume with distilled water. Pipet a 10-mL portion from each absorber into one of a series of 25-mL volumetric flasks. If the color development steps are not to be started within 12 hours of sampling, store the solutions at 5° ±5 °C. Add the remaining reagents for color development in the same manner as in Section 10.2 for static solutions. Calculate the total µg SO₂ in each standard as follows:

$$\mu\text{gSO}_2 = \frac{C_a \times Q_s \times t \times V_a \times 10^{-3}}{V_b} \quad (15)$$

where:

V_a = volume of absorbing solution used for color development (10 mL).

All other parameters are defined in equation 14.

Calculate a calibration equation and a calibration factor (B₁) according to Section 10.2 adhering to all the specified criteria.

11.0 Sample Preparation and Analysis.

11.1 *Sample Preparation.* Remove the samples from the shipping container. If the shipment period exceeded 12 hours from the completion of sampling, verify that the temperature is below 10 °C. Also, compare the solution level to the temporary level mark on the absorber. If either the temperature is above 10 °C or there was significant loss (more than 10 mL) of the sample during shipping, make an appropriate notation in the record and invalidate the sample. Prepare the samples for analysis as follows:

1. For 30-minute or 1-hour samples: Quantitatively transfer the entire 10 mL amount of absorbing solution to a 25-mL volumetric flask and rinse with a small amount (<5 mL) of distilled water.

2. For 24-hour samples: If the volume of the sample is less than the original 50-mL volume (permanent mark on the absorber), adjust the volume back to the original volume with distilled water to compensate for water lost to evaporation during sampling. If the final volume is greater than the original volume, the volume must be measured using a graduated cylinder. To analyze, pipet 10 mL

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of the solution into a 25-mL volumetric flask.

11.2 *Sample Analysis.* For each set of determinations, prepare a reagent blank by adding 10 mL TCM absorbing solution to a 25-mL volumetric flask, and two control standards containing approximately 5 and 15 $\mu\text{g SO}_2$, respectively. The control standards are prepared according to Section 10.2 or 10.3. The analysis is carried out as follows:

1. Allow the sample to stand 20 minutes after the completion of sampling to allow any ozone to decompose (if applicable).

2. To each 25-mL volumetric flask containing reagent blank, sample, or control standard, add 1 mL of 0.6% sulfamic acid (Section 8.2.1) and allow to react for 10 min.

3. Accurately pipet 2 mL of 0.2% formaldehyde solution (Section 8.2.2) and then 5 mL of pararosaniline solution (Section 8.2.13) into each flask. Start a laboratory timer set at 30 minutes.

4. Bring each flask to volume with recently boiled and cooled distilled water and mix thoroughly.

5. During the 30 minutes, the solutions must be in a temperature controlled environment in the range of 20° to 30 °C maintained to ± 1 °C. This temperature must also be within 1 °C of that used during calibration.

6. After 30 minutes and before 60 minutes, determine the corrected absorbances (equation 10) of each solution at 548 nm using 1-cm optical path length cells against a distilled water reference (Section 10.1). (*Distilled water is used as a reference instead of the reagent blank because of the sensitivity of the reagent blank to temperature.*)

7. Do not allow the colored solution to stand in the cells because a film may be deposited. Clean the cells with isopropyl alcohol after use.

8. The reagent blank must be within 0.03 absorbance units of the intercept of the calibration equation determined in Section 10.

11.3 *Absorbance range.* If the absorbance of the sample solution ranges between 1.0 and 2.0, the sample can be diluted 1:1 with a portion of the reagent blank and the absorbance redetermined within 5 minutes. Solutions with higher absorbances can be diluted up to sixfold with the reagent blank in order to obtain scale readings of less than 1.0 absorbance unit. However, it is recommended that a smaller portion (<10 mL) of the original sample be reanalyzed (if possible) if the sample requires a dilution greater than 1:1.

11.4 *Reagent disposal.* All reagents containing mercury compounds must be stored and disposed of using one of the procedures contained in Section 13. Until disposal, the discarded solutions can be stored in closed glass containers and should be left in a fume hood.

12.0 *Calculations.*

12.1 *Calibration Slope, Intercept, and Correlation Coefficient.* The method of least squares

is used to calculate a calibration equation in the form of:

$$y = mx + b \quad (16)$$

where:

y = corrected absorbance,

m = slope, absorbance unit/ $\mu\text{g SO}_2$,

x = micrograms of SO_2 ,

b = y intercept (absorbance units).

The slope (m), intercept (b), and correlation coefficient (r) are calculated as follows:

$$m = \frac{n \sum xy - (\sum x)(\sum y)}{n \sum x^2 - (\sum x)^2} \quad (17)$$

$$b = \frac{\sum y - m \sum x}{n} \quad (18)$$

$$r = \frac{m(\sum xy - \sum x \sum y / n)}{\sqrt{\sum y^2 - (\sum y)^2 / n}} \quad (19)$$

where n is the number of calibration points.

A data form (Figure 5) is supplied for easily organizing calibration data when the slope, intercept, and correlation coefficient are calculated by hand.

12.2 *Total Sample Volume.* Determine the sampling volume at standard conditions as follows:

$$V_{\text{std}} = \frac{Q_i + Q_f}{2} \times t \quad (20)$$

where:

V_{std} = sampling volume in std L,

Q_i = standard flow rate determined at the initiation of sampling in std L/min,

Q_f = standard flow rate determined at the completion of sampling in std L/min, and

t = total sampling time, min.

12.3 *Sulfur Dioxide Concentration.* Calculate and report the concentration of each sample as follows:

$$\mu\text{g SO}_2/\text{m}^3 = \frac{(A - A_o)(B_x)(10^3)}{V_{\text{std}}} \times \frac{V_b}{V_a} \quad (21)$$

where:

A = corrected absorbance of the sample solution, from equation (10);

A_o = corrected absorbance of the reagent blank, using equation (10);

B_x = calibration factor equal to B_s , B_g , or B_l depending on the calibration procedure used, the reciprocal of the slope of the calibration equation;

V_a = volume of absorber solution analyzed, mL;

V_b = total volume of solution in absorber (see 11.1-2), mL; and

V_{std} = standard air volume sampled, std L (from Section 12.2).

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DATA FORM
[For hand calculations]

Calibration point no.	Micrograms SO ₂	Absorbance units			
	(x)	(y)	x ²	xy	y ²
1
2
3
4
5
6

Σ x= _____ Σ y= _____ Σ x²= _____ Σ xy _____
 Σ y² _____
 n= _____ (number of pairs of coordinates.)

FIGURE 5. Data form for hand calculations.

12.4 Control Standards. Calculate the analyzed micrograms of SO₂ in each control standard as follows:

$$C_q = (A - A_o) \times B_x \quad (22)$$

where:

C_q = analyzed μg SO₂ in each control standard,

A = corrected absorbance of the control standard, and

A_o = corrected absorbance of the reagent blank.

The difference between the true and analyzed values of the control standards must not be greater than 1 μg. If the difference is greater than 1 μg, the source of the discrepancy must be identified and corrected.

12.5 Conversion of μg/m³ to ppm (v/v). If desired, the concentration of sulfur dioxide at reference conditions can be converted to ppm SO₂ (v/v) as follows:

$$\text{ppm SO}_2 = \frac{\mu\text{g SO}_2}{\text{m}^3} \times 3.82 \times 10^{-4} \quad (23)$$

13.0 The TCM absorbing solution and any reagents containing mercury compounds must be treated and disposed of by one of the methods discussed below. Both methods remove greater than 99.99 percent of the mercury.

13.1 *Disposal of Mercury-Containing Solutions.*

13.2 *Method for Forming an Amalgam.*

1. Place the waste solution in an uncapped vessel in a hood.

2. For each liter of waste solution, add approximately 10 g of sodium carbonate until neutralization has occurred (NaOH may have to be used).

3. Following neutralization, add 10 g of granular zinc or magnesium.

4. Stir the solution in a hood for 24 hours. Caution must be exercised as hydrogen gas is evolved by this treatment process.

5. After 24 hours, allow the solution to stand without stirring to allow the mercury amalgam (solid black material) to settle to the bottom of the waste receptacle.

6. Upon settling, decant and discard the supernatant liquid.

7. Quantitatively transfer the solid material to a container and allow to dry.

8. The solid material can be sent to a mercury reclaiming plant. It must not be discarded.

13.3 *Method Using Aluminum Foil Strips.*

1. Place the waste solution in an uncapped vessel in a hood.

2. For each liter of waste solution, add approximately 10 g of aluminum foil strips. If all the aluminum is consumed and no gas is evolved, add an additional 10 g of foil. Repeat until the foil is no longer consumed and allow the gas to evolve for 24 hours.

3. Decant the supernatant liquid and discard.

4. Transfer the elemental mercury that has settled to the bottom of the vessel to a storage container.

5. The mercury can be sent to a mercury reclaiming plant. It must not be discarded.

14.0 *References for SO₂ Method.*

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[47 FR 54899, Dec. 6, 1982; 48 FR 17355, Apr. 22, 1983. Redesignated at 75 FR 35595, June 22, 2010]

APPENDIX B TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD)

1.0 *Applicability.*

1.1 This method provides a measurement of the mass concentration of total suspended particulate matter (TSP) in ambient air for determining compliance with the primary and secondary national ambient air quality standards for particulate matter as specified in §50.6 and §50.7 of this chapter. The measurement process is nondestructive, and the size of the sample collected is usually adequate for subsequent chemical analysis. Quality assurance procedures and guidance are provided in part 58, appendixes A and B, of this chapter and in References 1 and 2.

2.0 *Principle.*

2.1 An air sampler, properly located at the measurement site, draws a measured quantity of ambient air into a covered housing and through a filter during a 24-hr (nominal) sampling period. The sampler flow rate and the geometry of the shelter favor the collection of particles up to 25–50 μm (aerodynamic diameter), depending on wind speed and direction.(3) The filters used are specified to have a minimum collection efficiency of 99 percent for 0.3 μm (DOP) particles (see Section 7.1.4).

2.2 The filter is weighed (after moisture equilibration) before and after use to determine the net weight (mass) gain. The total volume of air sampled, corrected to EPA standard conditions (25 °C, 760 mm Hg [101 kPa]), is determined from the measured flow rate and the sampling time. The concentration of total suspended particulate matter in the ambient air is computed as the mass of collected particles divided by the volume of air sampled, corrected to standard conditions, and is expressed in micrograms per standard cubic meter ($\mu\text{g}/\text{std m}^3$). For samples collected at temperatures and pressures significantly different than standard conditions, these corrected concentrations may differ substantially from actual concentrations (micrograms per actual cubic meter), particularly at high elevations. The actual particulate matter concentration can be calculated from the corrected concentration using the actual temperature and pressure during the sampling period.

3.0 *Range.*

3.1 The approximate concentration range of the method is 2 to 750 $\mu\text{g}/\text{std m}^3$. The upper limit is determined by the point at which the

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sampler can no longer maintain the specified flow rate due to the increased pressure drop of the loaded filter. This point is affected by particle size distribution, moisture content of the collected particles, and variability from filter to filter, among other things. The lower limit is determined by the sensitivity of the balance (see Section 7.10) and by inherent sources of error (see Section 6).

3.2 At wind speeds between 1.3 and 4.5 m/sec (3 and 10 mph), the high-volume air sampler has been found to collect particles up to 25 to 50 μm , depending on wind speed and direction.(3) For the filter specified in Section 7.1, there is effectively no lower limit on the particle size collected.

4.0 Precision.

4.1 Based upon collaborative testing, the relative standard deviation (coefficient of variation) for single analyst precision (repeatability) of the method is 3.0 percent. The corresponding value for interlaboratory precision (reproducibility) is 3.7 percent.(4)

5.0 Accuracy.

5.1 The absolute accuracy of the method is undefined because of the complex nature of atmospheric particulate matter and the difficulty in determining the "true" particulate matter concentration. This method provides a measure of particulate matter concentration suitable for the purpose specified under Section 1.0, Applicability.

6.0 Inherent Sources of Error.

6.1 *Airflow variation.* The weight of material collected on the filter represents the (integrated) sum of the product of the instantaneous flow rate times the instantaneous particle concentration. Therefore, dividing this weight by the average flow rate over the sampling period yields the true particulate matter concentration only when the flow rate is constant over the period. The error resulting from a nonconstant flow rate depends on the magnitude of the instantaneous changes in the flow rate and in the particulate matter concentration. Normally, such errors are not large, but they can be greatly reduced by equipping the sampler with an automatic flow controlling mechanism that maintains constant flow during the sampling period. Use of a constant flow controller is recommended.*

6.2 *Air volume measurement.* If the flow rate changes substantially or nonuniformly during the sampling period, appreciable error in the estimated air volume may result from using the average of the presampling and postsampling flow rates. Greater air volume measurement accuracy may be achieved by (1) equipping the sampler with a flow controlling mechanism that maintains constant

air flow during the sampling period,* (2) using a calibrated, continuous flow rate recording device to record the actual flow rate during the sampling period and integrating the flow rate over the period, or (3) any other means that will accurately measure the total air volume sampled during the sampling period. Use of a continuous flow recorder is recommended, particularly if the sampler is not equipped with a constant flow controller.

6.3 *Loss of volatiles.* Volatile particles collected on the filter may be lost during subsequent sampling or during shipment and/or storage of the filter prior to the postsampling weighing.(5) Although such losses are largely unavoidable, the filter should be reweighed as soon after sampling as practical.

6.4 *Artifact particulate matter.* Artifact particulate matter can be formed on the surface of alkaline glass fiber filters by oxidation of acid gases in the sample air, resulting in a higher than true TSP determination.(6 7) This effect usually occurs early in the sample period and is a function of the filter pH and the presence of acid gases. It is generally believed to account for only a small percentage of the filter weight gain, but the effect may become more significant where relatively small particulate weights are collected.

6.5 *Humidity.* Glass fiber filters are comparatively insensitive to changes in relative humidity, but collected particulate matter can be hygroscopic.(8) The moisture conditioning procedure minimizes but may not completely eliminate error due to moisture.

6.6 *Filter handling.* Careful handling of the filter between the presampling and postsampling weighings is necessary to avoid errors due to loss of fibers or particles from the filter. A filter paper cartridge or cassette used to protect the filter can minimize handling errors. (See Reference 2, Section 2).

6.7 *Nonsampled particulate matter.* Particulate matter may be deposited on the filter by wind during periods when the sampler is inoperative. (9) It is recommended that errors from this source be minimized by an automatic mechanical device that keeps the filter covered during nonsampling periods, or by timely installation and retrieval of filters to minimize the nonsampling periods prior to and following operation.

6.8 *Timing errors.* Samplers are normally controlled by clock timers set to start and stop the sampler at midnight. Errors in the nominal 1,440-min sampling period may result from a power interruption during the sampling period or from a discrepancy between the start or stop time recorded on the filter information record and the actual start or stop time of the sampler. Such discrepancies may be caused by (1) poor resolution of the timer set-points, (2) timer error due to power interruption, (3) missetting of

*At elevated altitudes, the effectiveness of automatic flow controllers may be reduced because of a reduction in the maximum sampler flow.

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the timer, or (4) timer malfunction. In general, digital electronic timers have much better set-point resolution than mechanical timers, but require a battery backup system to maintain continuity of operation after a power interruption. A continuous flow recorder or elapsed time meter provides an indication of the sampler run-time, as well as indication of any power interruption during the sampling period and is therefore recommended.

6.9 *Recirculation of sampler exhaust.* Under stagnant wind conditions, sampler exhaust air can be resampled. This effect does not appear to affect the TSP measurement substantially, but may result in increased carbon and copper in the collected sample. (10) This problem can be reduced by ducting the exhaust air well away, preferably downwind, from the sampler.

7.0 *Apparatus.*

(See References 1 and 2 for quality assurance information.)

NOTE: Samplers purchased prior to the effective date of this amendment are not subject to specifications preceded by (†).

7.1 *Filter.* (Filters supplied by the Environmental Protection Agency can be assumed to meet the following criteria. Additional specifications are required if the sample is to be analyzed chemically.)

7.1.1 *Size:* 20.3 ±0.2 × 25.4 ±0.2 cm (nominal 8 × 10 in).

7.1.2 *Nominal exposed area:* 406.5 cm² (63 in²).

7.1.3 *Material:* Glass fiber or other relatively inert, nonhygroscopic material. (8)

7.1.4 *Collection efficiency:* 99 percent minimum as measured by the DOP test (ASTM-2986) for particles of 0.3 μm diameter.

7.1.5 *Recommended pressure drop range:* 42–54 mm Hg (5.6–7.2 kPa) at a flow rate of 1.5 std m³/min through the nominal exposed area.

7.1.6 *pH:* 6 to 10. (11)

7.1.7 *Integrity:* 2.4 mg maximum weight loss. (11)

7.1.8 *Pinholes:* None.

7.1.9 *Tear strength:* 500 g minimum for 20 mm wide strip cut from filter in weakest dimension. (See ASTM Test D828–60).

7.1.10 *Brittleness:* No cracks or material separations after single lengthwise crease.

7.2 *Sampler.* The air sampler shall provide means for drawing the air sample, via reduced pressure, through the filter at a uniform face velocity.

7.2.1 The sampler shall have suitable means to:

a. Hold and seal the filter to the sampler housing.

b. Allow the filter to be changed conveniently.

c. Preclude leaks that would cause error in the measurement of the air volume passing through the filter.

d. (†) Manually adjust the flow rate to accommodate variations in filter pressure drop and site line voltage and altitude. The adjustment may be accomplished by an automatic flow controller or by a manual flow adjustment device. Any manual adjustment device must be designed with positive detents or other means to avoid unintentional changes in the setting.

7.2.2 *Minimum sample flow rate, heavily loaded filter:* 1.1 m³/min (39 ft³/min).‡

7.2.3 *Maximum sample flow rate, clean filter:* 1.7 m³/min (60 ft³/min).‡

7.2.4 *Blower Motor:* The motor must be capable of continuous operation for 24-hr periods.

7.3 *Sampler shelter.*

7.3.1 The sampler shelter shall:

a. Maintain the filter in a horizontal position at least 1 m above the sampler supporting surface so that sample air is drawn downward through the filter.

b. Be rectangular in shape with a gabled roof, similar to the design shown in Figure 1.

c. Cover and protect the filter and sampler from precipitation and other weather.

d. Discharge exhaust air at least 40 cm from the sample air inlet.

e. Be designed to minimize the collection of dust from the supporting surface by incorporating a baffle between the exhaust outlet and the supporting surface.

7.3.2 The sampler cover or roof shall overhang the sampler housing somewhat, as shown in Figure 1, and shall be mounted so as to form an air inlet gap between the cover and the sampler housing walls. † This sample air inlet should be approximately uniform on all sides of the sampler. † The area of the sample air inlet must be sized to provide an effective particle capture air velocity of between 20 and 35 cm/sec at the recommended operational flow rate. The capture velocity is the sample air flow rate divided by the inlet area measured in a horizontal plane at the lower edge of the cover. † Ideally, the inlet area and operational flow rate should be selected to obtain a capture air velocity of 25 ±2 cm/sec.

7.4 *Flow rate measurement devices.*

7.4.1 The sampler shall incorporate a flow rate measurement device capable of indicating the total sampler flow rate. Two common types of flow indicators covered in the calibration procedure are (1) an electronic mass flowmeter and (2) an orifice or orifices

(†) See note at beginning of Section 7 of this appendix.

‡ These specifications are in actual air volume units; to convert to EPA standard air volume units, multiply the specifications by $(P_b/P_{std})(298/T)$ where P_b and T are the barometric pressure in mm Hg (or kPa) and the temperature in K at the sampler, and P_{std} is 760 mm Hg (or 101 kPa).

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located in the sample air stream together with a suitable pressure indicator such as a manometer, or aneroid pressure gauge. A pressure recorder may be used with an orifice to provide a continuous record of the flow. Other types of flow indicators (including rotameters) having comparable precision and accuracy are also acceptable.

7.4.2 † The flow rate measurement device must be capable of being calibrated and read in units corresponding to a flow rate which is readable to the nearest 0.02 std m³/min over the range 1.0 to 1.8 std m³/min.

7.5 *Thermometer*, to indicate the approximate air temperature at the flow rate measurement orifice, when temperature corrections are used.

7.5.1 *Range*: -40° to +50 °C (223-323 K).

7.5.2 *Resolution*: 2 °C (2 K).

7.6 *Barometer*, to indicate barometric pressure at the flow rate measurement orifice, when pressure corrections are used.

7.6.1 *Range*: 500 to 800 mm Hg (66-106 kPa).

7.6.2 *Resolution*: ±5 mm Hg (0.67 kPa).

7.7 *Timing/control device*.

7.7.1 The timing device must be capable of starting and stopping the sampler to obtain an elapsed run-time of 24 hr ±1 hr (1,440 ±60 min).

7.7.2 *Accuracy of time setting*: ±30 min, or better. (See Section 6.8).

7.8 *Flow rate transfer standard*, traceable to a primary standard. (See Section 9.2.)

7.8.1 *Approximate range*: 1.0 to 1.8 m³/min.

7.8.2 *Resolution*: 0.02 m³/min.

7.8.3 *Reproducibility*: ±2 percent (2 times coefficient of variation) over normal ranges of ambient temperature and pressure for the stated flow rate range. (See Reference 2, Section 2.)

7.8.4 *Maximum pressure drop at 1.7 std m³/min*; 50 cm H₂O (5 kPa).

7.8.5 The flow rate transfer standard must connect without leaks to the inlet of the sampler and measure the flow rate of the total air sample.

7.8.6 The flow rate transfer standard must include a means to vary the sampler flow rate over the range of 1.0 to 1.8 m³/min (35-64 ft³/min) by introducing various levels of flow resistance between the sampler and the transfer standard inlet.

7.8.7 The conventional type of flow transfer standard consists of: An orifice unit with adapter that connects to the inlet of the sampler, a manometer or other device to measure orifice pressure drop, a means to vary the flow through the sampler unit, a thermometer to measure the ambient temperature, and a barometer to measure ambient pressure. Two such devices are shown in Figures 2a and 2b. Figure 2a shows multiple fixed resistance plates, which necessitate disassembly of the unit each time the flow resistance is changed. A preferable design, illustrated in Figure 2b, has a variable flow restriction that can be adjusted externally

without disassembly of the unit. Use of a conventional, orifice-type transfer standard is assumed in the calibration procedure (Section 9). However, the use of other types of transfer standards meeting the above specifications, such as the one shown in Figure 2c, may be approved; see the note following Section 9.1.

7.9 *Filter conditioning environment*

7.9.1 *Controlled temperature*: between 15° and 30 °C with less than ±3 °C variation during equilibration period.

7.9.2 *Controlled humidity*: Less than 50 percent relative humidity, constant within ±5 percent.

7.10 *Analytical balance*.

7.10.1 *Sensitivity*: 0.1 mg.

7.10.2 Weighing chamber designed to accept an unfolded 20.3 × 25.4 cm (8 × 10 in) filter.

7.11 *Area light source*, similar to X-ray film viewer, to backlight filters for visual inspection.

7.12 *Numbering device*, capable of printing identification numbers on the filters before they are placed in the filter conditioning environment, if not numbered by the supplier.

8.0 *Procedure*.

(See References 1 and 2 for quality assurance information.)

8.1 Number each filter, if not already numbered, near its edge with a unique identification number.

8.2 Backlight each filter and inspect for pinholes, particles, and other imperfections; filters with visible imperfections must not be used.

8.3 Equilibrate each filter in the conditioning environment for at least 24-hr.

8.4 Following equilibration, weigh each filter to the nearest milligram and record this tare weight (W_i) with the filter identification number.

8.5 Do not bend or fold the filter before collection of the sample.

8.6 Open the shelter and install a numbered, preweighed filter in the sampler, following the sampler manufacturer's instructions. During inclement weather, precautions must be taken while changing filters to prevent damage to the clean filter and loss of sample from or damage to the exposed filter. Filter cassettes that can be loaded and unloaded in the laboratory may be used to minimize this problem (See Section 6.6).

8.7 Close the shelter and run the sampler for at least 5 min to establish run-temperature conditions.

8.8 Record the flow indicator reading and, if needed, the barometric pressure (P₃) and the ambient temperature (T₃) see NOTE following step 8.12). Stop the sampler. Determine the sampler flow rate (see Section 10.1); if it is outside the acceptable range (1.1 to 1.7 m³/min [39-60 ft³/min]), use a different filter, or adjust the sampler flow rate. Warning: Substantial flow adjustments may affect the

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calibration of the orifice-type flow indicators and may necessitate recalibration.

8.9 Record the sampler identification information (filter number, site location or identification number, sample date, and starting time).

8.10 Set the timer to start and stop the sampler such that the sampler runs 24-hrs. from midnight to midnight (local time).

8.11 As soon as practical following the sampling period, run the sampler for at least 5 min to again establish run-temperature conditions.

8.12 Record the flow indicator reading and, if needed, the barometric pressure (P^3) and the ambient temperature (T^3).

NOTE: No onsite pressure or temperature measurements are necessary if the sampler flow indicator does not require pressure or temperature corrections (e.g., a mass flowmeter) or if average barometric pressure and seasonal average temperature for the site are incorporated into the sampler calibration (see step 9.3.9). For individual pressure and temperature corrections, the ambient pressure and temperature can be obtained by onsite measurements or from a nearby weather station. Barometric pressure readings obtained from airports must be station pressure, not corrected to sea level, and may need to be corrected for differences in elevation between the sampler site and the airport. For samplers having flow recorders but not constant flow controllers, the average temperature and pressure at the site *during the sampling period* should be estimated from weather bureau or other available data.

8.13 Stop the sampler and carefully remove the filter, following the sampler manufacturer's instructions. Touch only the outer edges of the filter. See the precautions in step 8.6.

8.14 Fold the filter in half lengthwise so that only surfaces with collected particulate matter are in contact and place it in the filter holder (glassine envelope or manila folder).

8.15 Record the ending time or elapsed time on the filter information record, either from the stop set-point time, from an elapsed time indicator, or from a continuous flow record. The sample period must be $1,440 \pm 60$ min. for a valid sample.

8.16 Record on the filter information record any other factors, such as meteorological conditions, construction activity, fires or dust storms, etc., that might be pertinent to the measurement. If the sample is known to be defective, void it at this time.

8.17 Equilibrate the exposed filter in the conditioning environment for at least 24-hrs.

8.18 Immediately after equilibration, reweigh the filter to the nearest milligram and record the gross weight with the filter identification number. See Section 10 for TSP concentration calculations.

9.0 Calibration.

9.1 Calibration of the high volume sampler's flow indicating or control device is necessary to establish traceability of the field measurement to a primary standard via a flow rate transfer standard. Figure 3a illustrates the certification of the flow rate transfer standard and Figure 3b illustrates its use in calibrating a sampler flow indicator. Determination of the corrected flow rate from the sampler flow indicator, illustrated in Figure 3c, is addressed in Section 10.1

NOTE: The following calibration procedure applies to a conventional orifice-type flow transfer standard and an orifice-type flow indicator in the sampler (the most common types). For samplers using a pressure recorder having a square-root scale, 3 other acceptable calibration procedures are provided in Reference 12. Other types of transfer standards may be used if the manufacturer or user provides an appropriately modified calibration procedure that has been approved by EPA under Section 2.8 of appendix C to part 58 of this chapter.

9.2 Certification of the flow rate transfer standard.

9.2.1 *Equipment required:* Positive displacement standard volume meter traceable to the National Bureau of Standards (such as a Roots meter or equivalent), stop-watch, manometer, thermometer, and barometer.

9.2.2 Connect the flow rate transfer standard to the inlet of the standard volume meter. Connect the manometer to measure the pressure at the inlet of the standard volume meter. Connect the orifice manometer to the pressure tap on the transfer standard. Connect a high-volume air pump (such as a high-volume sampler blower) to the outlet side of the standard volume meter. See Figure 3a.

9.2.3 Check for leaks by temporarily clamping both manometer lines (to avoid fluid loss) and blocking the orifice with a large-diameter rubber stopper, wide cellophane tape, or other suitable means. Start the high-volume air pump and note any change in the standard volume meter reading. The reading should remain constant. If the reading changes, locate any leaks by listening for a whistling sound and/or retightening all connections, making sure that all gaskets are properly installed.

9.2.4 After satisfactorily completing the leak check as described above, unclamp both manometer lines and zero both manometers.

9.2.5 Achieve the appropriate flow rate through the system, either by means of the variable flow resistance in the transfer standard or by varying the voltage to the air pump. (Use of resistance plates as shown in Figure 1a is discouraged because the above leak check must be repeated each time a new resistance plate is installed.) At least five

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different but constant flow rates, evenly distributed, with at least three in the specified flow rate interval (1.1 to 1.7 m³/min [39–60 ft³/min]), are required.

9.2.6 Measure and record the certification data on a form similar to the one illustrated in Figure 4 according to the following steps.

9.2.7 Observe the barometric pressure and record as P₁ (item 8 in Figure 4).

9.2.8 Read the ambient temperature in the vicinity of the standard volume meter and record it as T₁ (item 9 in Figure 4).

9.2.9 Start the blower motor, adjust the flow, and allow the system to run for at least 1 min for a constant motor speed to be attained.

9.2.10 Observe the standard volume meter reading and simultaneously start a stopwatch. Record the initial meter reading (V_i) in column 1 of Figure 4.

9.2.11 Maintain this constant flow rate until at least 3 m³ of air have passed through the standard volume meter. Record the standard volume meter inlet pressure manometer reading as ΔP (column 5 in Figure 4), and the orifice manometer reading as ΔH (column 7 in Figure 4). Be sure to indicate the correct units of measurement.

9.2.12 After at least 3 m³ of air have passed through the system, observe the standard volume meter reading while simultaneously stopping the stopwatch. Record the final meter reading (V_f) in column 2 and the elapsed time (t) in column 3 of Figure 4.

9.2.13 Calculate the volume measured by the standard volume meter at meter conditions of temperature and pressures as V_m = V_f – V_i. Record in column 4 of Figure 4.

9.2.14 Correct this volume to standard volume (std m³) as follows:

$$V_{\text{std}} = V_m \frac{P_1 - \Delta P}{P_{\text{std}}} \frac{T_{\text{std}}}{T_1}$$

where:

V_{std} = standard volume, std m³;

V_m = actual volume measured by the standard volume meter;

P₁ = barometric pressure during calibration, mm Hg or kPa;

ΔP = differential pressure at inlet to volume meter, mm Hg or kPa;

P_{std} = 760 mm Hg or 101 kPa;

T_{std} = 298 K;

T₁ = ambient temperature during calibration, K.

Calculate the standard flow rate (std m³/min) as follows:

$$Q_{\text{std}} = \frac{V_{\text{std}}}{t}$$

where:

Q_{std} = standard volumetric flow rate, std m³/min

t = elapsed time, minutes.

Record Q_{std} to the nearest 0.01 std m³/min in column 6 of Figure 4.

9.2.15 Repeat steps 9.2.9 through 9.2.14 for at least four additional constant flow rates, evenly spaced over the approximate range of 1.0 to 1.8 std m³/min (35–64 ft³/min).

9.2.16 For each flow, compute

$$\sqrt{\Delta\Delta H (P_1/P_{\text{std}})(298/T_1)}$$

(column 7a of Figure 4) and plot these value against Q_{std} as shown in Figure 3a. Be sure to use consistent units (mm Hg or kPa) for barometric pressure. Draw the orifice transfer standard certification curve or calculate the linear least squares slope (m) and intercept (b) of the certification curve:

$$\sqrt{\Delta\Delta H (P_1/P_{\text{std}})(298/T_1)}$$

= mQ_{std} + b. See Figures 3 and 4. A certification graph should be readable to 0.02 std m³/min.

9.2.17 Recalibrate the transfer standard annually or as required by applicable quality control procedures. (See Reference 2.)

9.3 Calibration of sampler flow indicator.

NOTE: For samplers equipped with a flow controlling device, the flow controller must be disabled to allow flow changes during calibration of the sampler's flow indicator, or the alternate calibration of the flow controller given in 9.4 may be used. For samplers using an orifice-type flow indicator downstream of the motor, do not vary the flow rate by adjusting the voltage or power supplied to the sampler.

9.3.1 A form similar to the one illustrated in Figure 5 should be used to record the calibration data.

9.3.2 Connect the transfer standard to the inlet of the sampler. Connect the orifice manometer to the orifice pressure tap, as illustrated in Figure 3b. Make sure there are no leaks between the orifice unit and the sampler.

9.3.3 Operate the sampler for at least 5 minutes to establish thermal equilibrium prior to the calibration.

9.3.4 Measure and record the ambient temperature, T₂, and the barometric pressure, P₂, during calibration.

9.3.5 Adjust the variable resistance or, if applicable, insert the appropriate resistance plate (or no plate) to achieve the desired flow rate.

9.3.6 Let the sampler run for at least 2 min to re-establish the run-temperature conditions. Read and record the pressure drop across the orifice (ΔH) and the sampler flow rate indication (I) in the appropriate columns of Figure 5.

9.3.7 Calculate $\sqrt{\Delta\Delta H(P_2/P_{\text{std}})(298/T_2)}$ and determine the flow rate at standard conditions (Q_{std}) either graphically from the certification curve or by calculating Q_{std} from the least square slope and intercept of the transfer standard's transposed certification curve:

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$Q_{std} = 1/m \sqrt{\Delta H(P_2/P_{std})(298/T_2)} - b$. Record the value of Q_{std} on Figure 5.

9.3.8 Repeat steps 9.3.5, 9.3.6, and 9.3.7 for several additional flow rates distributed over a range that includes 1.1 to 1.7 std m³/min.

9.3.9 Determine the calibration curve by plotting values of the appropriate expression involving I, selected from table 1, against Q_{std} . The choice of expression from table 1 depends on the flow rate measurement device used (see Section 7.4.1) and also on whether the calibration curve is to incorporate geographic average barometric pressure (P_a) and seasonal average temperature (T_a) for the site to approximate actual pressure and temperature. Where P_a and T_a can be determined for a site for a seasonal period such that the actual barometric pressure and temperature at the site do not vary by more than ± 60 mm Hg (8 kPa) from P_a or ± 15 °C from T_a , respectively, then using P_a and T_a avoids the need for subsequent pressure and temperature calculation when the sampler is used. The geographic average barometric pressure (P_a) may be estimated from an altitude-pressure table or by making an (approximate) elevation correction of -26 mm Hg (-3.46 kPa) for each 305 m (1,000 ft) above sea level (760 mm Hg or 101 kPa). The seasonal average temperature (T_a) may be estimated from weather station or other records. Be sure to use consistent units (mm Hg or kPa) for barometric pressure.

9.3.10 Draw the sampler calibration curve or calculate the linear least squares slope (m), intercept (b), and correlation coefficient of the calibration curve: [Expression from table 1] = $mQ_{std} + b$. See Figures 3 and 5. Cali-

bration curves should be readable to 0.02 std m³/min.

9.3.11 For a sampler equipped with a flow controller, the flow controlling mechanism should be re-enabled and set to a flow near the lower flow limit to allow maximum control range. The sample flow rate should be verified at this time with a clean filter installed. Then add two or more filters to the sampler to see if the flow controller maintains a constant flow; this is particularly important at high altitudes where the range of the flow controller may be reduced.

9.4 Alternate calibration of flow-controlled samplers. A flow-controlled sampler may be calibrated solely at its controlled flow rate, provided that previous operating history of the sampler demonstrates that the flow rate is stable and reliable. In this case, the flow indicator may remain uncalibrated but should be used to indicate any relative change between initial and final flows, and the sampler should be recalibrated more often to minimize potential loss of samples because of controller malfunction.

9.4.1 Set the flow controller for a flow near the lower limit of the flow range to allow maximum control range.

9.4.2 Install a clean filter in the sampler and carry out steps 9.3.2, 9.3.3, 9.3.4, 9.3.6, and 9.3.7.

9.4.3 Following calibration, add one or two additional clean filters to the sampler, reconnect the transfer standard, and operate the sampler to verify that the controller maintains the same calibrated flow rate; this is particularly important at high altitudes where the flow control range may be reduced.

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TABLE 1. EXPRESSIONS FOR PLOTTING SAMPLER CALIBRATION CURVES

Type of sampler flow rate measuring device	Expression	
	For actual pressure and temperature corrections	For incorporation of geographic average pressure and seasonal average temperature
Mass flowmeter	I	I
Orifice and pressure indicator	$I \sqrt{\left(\frac{P_2}{P_{std}}\right) \left(\frac{298}{T_2}\right)}$	$I \sqrt{\left(\frac{P_2}{P_a}\right) \left(\frac{T_a}{T_2}\right)}$
Rotameter, or orifice and pressure recorder having square root scale*	$I \sqrt{\left(\frac{P_2}{P_{std}}\right) \left(\frac{298}{T_2}\right)}$	$I \sqrt{\left(\frac{P_2}{P_a}\right) \left(\frac{T_a}{T_2}\right)}$

*This scale is recognizable by its nonuniform divisions and is the most commonly available for high-volume samplers.

TABLE 2. EXPRESSIONS FOR DETERMINING FLOW RATE DURING SAMPLER OPERATION

Type of sampler flow rate measuring device	Expression	
	For actual pressure and temperature corrections	For use when geographic average pressure and seasonal average temperature have been incorporated into the sampler calibration
Mass flowmeter	I	I
Orifice and pressure indicator	$I \sqrt{\left(\frac{P_3}{P_{std}}\right) \left(\frac{298}{T_3}\right)}$	\sqrt{I}
Rotameter, or orifice and pressure recorder having square root scale*	$I \sqrt{\left(\frac{P_3}{P_{std}}\right) \left(\frac{298}{T_3}\right)}$	I

*This scale is recognizable by its nonuniform divisions and is the most commonly available for high-volume samplers.

10.0 Calculations of TSP Concentration.

10.1 Determine the average sampler flow rate during the sampling period according to either 10.1.1 or 10.1.2 below.

10.1.1 For a sampler without a continuous flow recorder, determine the appropriate expression to be used from table 2 corresponding to the one from table 1 used in step 9.3.9. Using this appropriate expression, determine Q_{std} for the initial flow rate from

the sampler calibration curve, either graphically or from the transposed regression equation:

$$Q_{std} = 1/m \left(\text{Appropriate expression from table 2} - b \right)$$

Similarly, determine Q_{std} from the final flow reading, and calculate the average flow Q_{std} as one-half the sum of the initial and final flow rates.

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10.1.2 For a sampler with a continuous flow recorder, determine the average flow rate device reading, I , for the period. Determine the appropriate expression from table 2 corresponding to the one from table 1 used in step 9.3.9. Then using this expression and the average flow rate reading, determine Q_{std} from the sampler calibration curve, either graphically or from the transposed regression equation:

$$Q_{std} = \frac{1}{m} ([\text{Appropriate expression from table 2}] - b)$$

If the trace shows substantial flow change during the sampling period, greater accuracy may be achieved by dividing the sampling period into intervals and calculating an average reading before determining Q_{std} .

10.2 Calculate the total air volume sampled as:

$$V = Q_{std} \times t$$

where:

V = total air volume sampled, in standard volume units, std m³;

Q_{std} = average standard flow rate, std m³/min;

t = sampling time, min.

10.3 Calculate and report the particulate matter concentration as:

$$TSP = \frac{(W_f - W_i) \times 10^6}{V}$$

where:

TSP = mass concentration of total suspended particulate matter, $\mu\text{g}/\text{std m}^3$;

W_i = initial weight of clean filter, g;

W_f = final weight of exposed filter, g;

V = air volume sampled, converted to standard conditions, std m³;

10^6 = conversion of g to μg .

10.4 If desired, the actual particulate matter concentration (see Section 2.2) can be calculated as follows:

$$(TSP)_a = TSP (P_3/P_{std})(298/T_3)$$

where:

$(TSP)_a$ = actual concentration at field conditions, $\mu\text{g}/\text{m}^3$;

TSP = concentration at standard conditions, $\mu\text{g}/\text{std m}^3$;

P_3 = average barometric pressure during sampling period, mm Hg;

P_{std} = 760 mm Hg (or 101 kPa);

T_3 = average ambient temperature during sampling period, K.

11.0 References.

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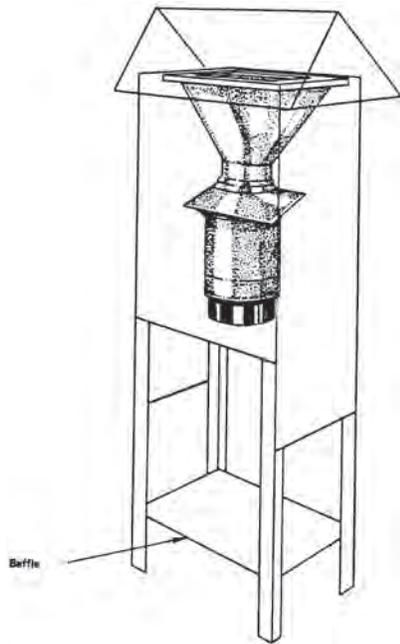


Figure 1. High-volume sampler in shelter.

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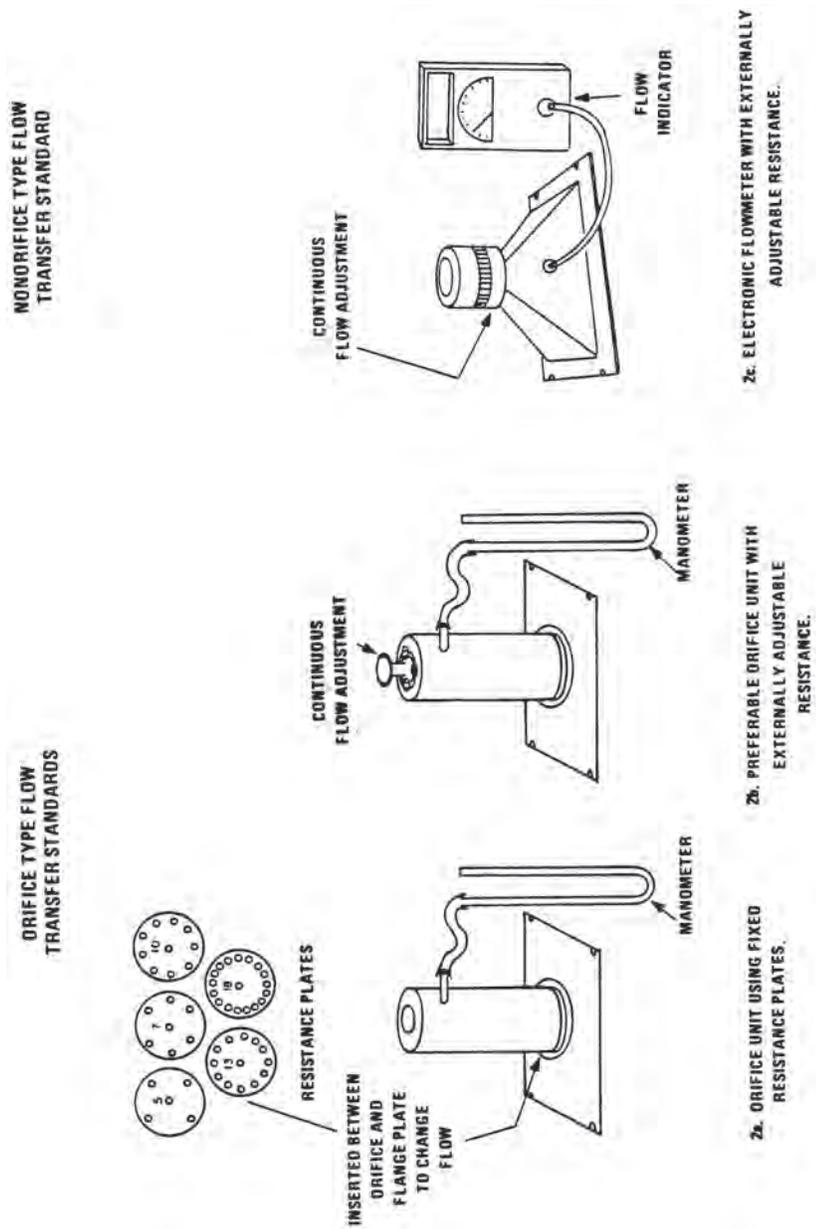


Figure 2. Various types of flow transfer standards. Note that all devices are designed to mount to the filter inlet area of the sampler.

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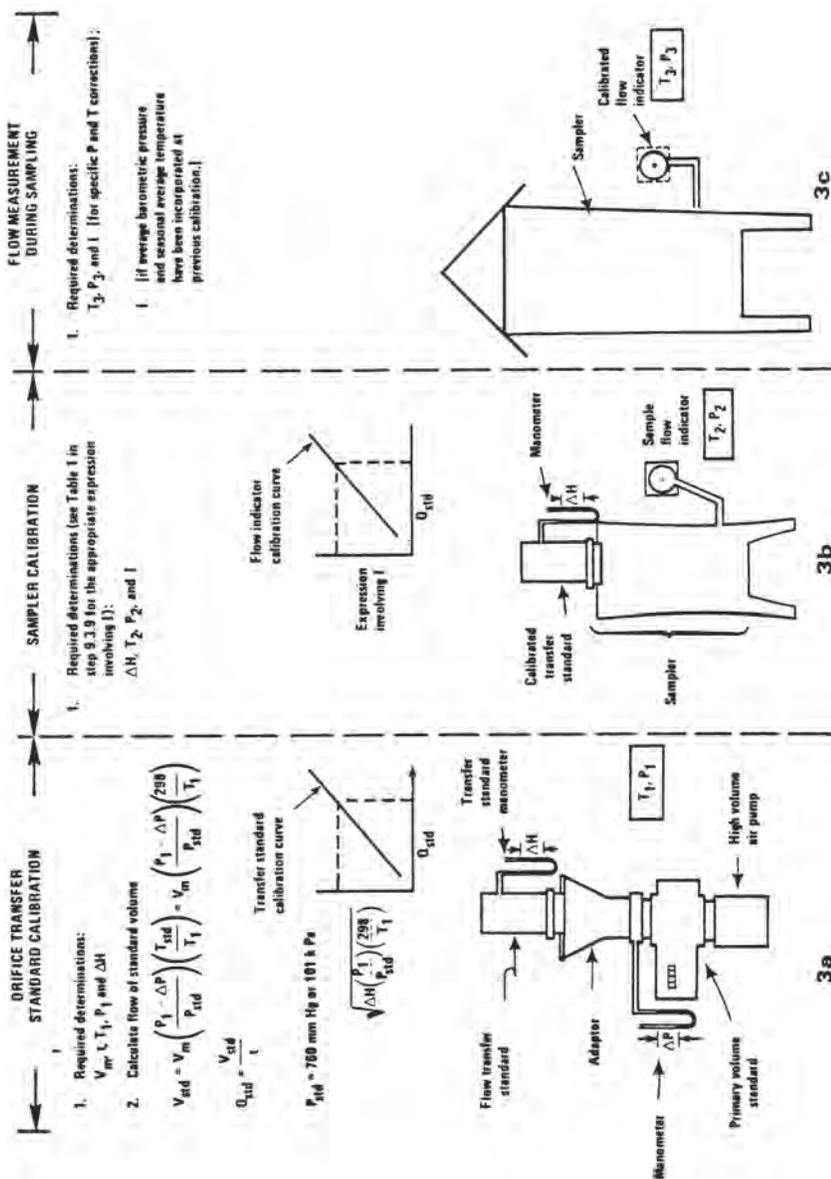


Figure 3. Illustration of the 3 steps in the flow measurement process.

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ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET

Run No.	(1) Meter reading start V_i (m ³)	(2) Meter reading stop V_f (m ³)	(3) Sampling time t (min)	(4) Volume measured V_m (m ³)	(5) Differential pressure (at inlet to volume meter) ΔP (mm Hg or kPa)	(6) Flow rate Q_{std} (std m ³ /min)	(7) Pressure drop across orifice ΔH (in) or ΔH (cm) of water	(7a) $\sqrt{\Delta H \left(\frac{P_i}{P_{std}} \right) \left(\frac{298}{T_i} \right)}$ (y)
1								
2								
3								
4								
5								
6								

RECORDED CALIBRATION DATA

Standard volume meter no. _____
 Transfer standard type: orifice other _____
 Model No. _____ Serial No. _____
 (8) P_i : _____ mm Hg (or kPa) (10) P_{std} : 760 mm Hg (or 101 kPa)
 (9) T_i : _____ K (11) T_{std} : 298 K
 Calibration performed by: _____
 Date: _____

CALCULATION EQUATIONS

(1) $V_m = V_f - V_i$
 (2) $V_{std} = V_m \left(\frac{P_i - \Delta P}{P_{std}} \right) \left(\frac{T_{std}}{T_i} \right)$
 (3) $Q_{std} = \frac{V_{std}}{t}$

LEAST SQUARES CALCULATIONS

Linear ($Y = mx + b$) regression equation of $Y = \sqrt{\Delta H(P_i/P_{std})} (298/T_i)$ on $X = Q_{std}$ for Orifice Calibration Unit (i.e., $\sqrt{\Delta H(P_i/P_{std})} (298/T_i) = mQ_{std} + b$)
 Slope (m) = _____ Intercept (b) = _____ Correlation coefficient (r) = _____
 To use for subsequent calibration: $X = \frac{1}{m}(Y-b)$: $Q_{std} = \frac{1}{m} \left(\sqrt{\Delta H \left(\frac{P_i}{P_{std}} \right) \left(\frac{298}{T_i} \right)} - b \right)$

Figure 4. Example of orifice transfer standard certification worksheet.

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HIGH-VOLUME AIR SAMPLER CALIBRATION WORKSHEET

Site Location: _____
 Date: _____ Barometric Pressure, P_2 mm Hg (or kPa) _____
 Calibrated By: _____ Temperature, T_2 (K) _____
 Sampler No. _____ Serial No. _____
 Transfer std. Type: _____ Serial No. _____

$P_{std} = 760$ mm Hg (or 101 kPa)
 Optional: Average barometric pressure: $P_a =$ _____
 Seasonal average temperature: $T_a =$ _____

No.	Δh Pressure drop across orifice (inches of water)	Q_{std} (from orifice calibration) std m ³ /min	Sampler flow rate indication (arbitrary)	(Y)	
				For specific pressure and temperature cor- rections (see Table 1)	For incorporation of average pressure and seasonal average tem- perature (see Table 1)
1				<input type="checkbox"/> 1 <input type="checkbox"/> $\sqrt{\frac{P_2}{P_a} \left(\frac{T_a}{T_2} \right)}$ or <input type="checkbox"/> $\sqrt{\frac{P_2}{P_{std}} \left(\frac{T_a}{T_2} \right)}$	<input type="checkbox"/> 1 <input type="checkbox"/> $\sqrt{\frac{P_2}{P_a} \left(\frac{T_a}{T_2} \right)}$ or <input type="checkbox"/> $\sqrt{\frac{P_2}{P_{std}} \left(\frac{T_a}{T_2} \right)}$
2					
3					
4					
5					
6					

LEAST SQUARES CALCULATIONS

Linear regression of Y on X: $Y = mX + b$; Y = appropriate expression from Table 1; $X = Q_{std}$
 Slope (a) = _____ Intercept (b) = _____ Correlation Coeff. (r) = _____

To determine subsequent flow rate during use: $X = \frac{1}{m}(Y-b)$;
 $Q_{std} = \frac{1}{m}$ (Appropriate expression from Table 2) - b)

Figure 5. Example of high-volume air sampler calibration worksheet.

[47 FR 54912, Dec. 6, 1982; 48 FR 17355, Apr. 22, 1983]

APPENDIX C TO PART 50—MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF CARBON MONOXIDE IN THE ATMOSPHERE (NON-DISPERSIVE INFRARED PHOTOMETRY)

1.0 APPLICABILITY

1.1 This non-dispersive infrared photometry (NDIR) Federal Reference Method (FRM) provides measurements of the concentration of carbon monoxide (CO) in ambi-

ent air for determining compliance with the primary and secondary National Ambient Air Quality Standards (NAAQS) for CO as specified in §50.8 of this chapter. The method is applicable to continuous sampling and measurement of ambient CO concentrations suitable for determining 1-hour or longer average measurements. The method may also provide measurements of shorter averaging times, subject to specific analyzer performance limitations. Additional CO monitoring quality assurance procedures and guidance

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are provided in part 58, appendix A, of this chapter and in reference 1 of this appendix C.

2.0 MEASUREMENT PRINCIPLE

2.1 Measurements of CO in ambient air are based on automated measurement of the absorption of infrared radiation by CO in an ambient air sample drawn into an analyzer employing non-wavelength-dispersive, infrared photometry (NDIR method). Infrared energy from a source in the photometer is passed through a cell containing the air sample to be analyzed, and the quantitative absorption of energy by CO in the sample cell is measured by a suitable detector. The photometer is sensitized specifically to CO by employing CO gas in a filter cell in the optical path, which, when compared to a differential optical path without a CO filter cell, limits the measured absorption to one or more of the characteristic wavelengths at which CO strongly absorbs. However, to meet measurement performance requirements, various optical filters, reference cells, rotating gas filter cells, dual-beam configurations, moisture traps, or other means may also be used to further enhance sensitivity and stability of the photometer and to minimize potential measurement interference from water vapor, carbon dioxide (CO₂), or other species. Also, various schemes may be used to provide a suitable zero reference for the photometer, and optional automatic compensation may be provided for the actual pressure and temperature of the air sample in the measurement cell. The measured infrared absorption, converted to a digital reading or an electrical output signal, indicates the measured CO concentration.

2.2 The measurement system is calibrated by referencing the analyzer's CO measurements to CO concentration standards traceable to a National Institute of Standards and Technology (NIST) primary standard for CO, as described in the associated calibration procedure specified in section 4 of this reference method.

2.3 An analyzer implementing this measurement principle will be considered a reference method only if it has been designated as a reference method in accordance with part 53 of this chapter.

2.4 Sampling *considerations*. The use of a particle filter in the sample inlet line of a CO FRM analyzer is optional and left to the discretion of the user unless such a filter is specified or recommended by the analyzer manufacturer in the analyzer's associated operation or instruction manual.

3.0 INTERFERENCES

3.1 The NDIR measurement principle is potentially susceptible to interference from water vapor and CO₂, which have some infrared absorption at wavelengths in common with CO and normally exist in the atmos-

phere. Various instrumental techniques can be used to effectively minimize these interferences.

4.0 CALIBRATION PROCEDURES

4.1 *Principle*. Either of two methods may be selected for dynamic multipoint calibration of FRM CO analyzers, using test gases of accurately known CO concentrations obtained from one or more compressed gas cylinders certified as CO transfer standards:

4.1.1 *Dilution method*: A single certified standard cylinder of CO is quantitatively diluted as necessary with zero air to obtain the various calibration concentration standards needed.

4.1.2 *Multiple-cylinder method*: Multiple, individually certified standard cylinders of CO are used for each of the various calibration concentration standards needed.

4.1.3 Additional information on calibration may be found in Section 12 of reference 1.

4.2 *Apparatus*. The major components and typical configurations of the calibration systems for the two calibration methods are shown in Figures 1 and 2. Either system may be made up using common laboratory components, or it may be a commercially manufactured system. In either case, the principal components are as follows:

4.2.1 CO standard gas flow control and measurement devices (or a combined device) capable of regulating and maintaining the standard gas flow rate constant to within ± 2 percent and measuring the gas flow rate accurate to within ± 2 percent, properly calibrated to a NIST-traceable standard.

4.2.2 For the dilution method (Figure 1), dilution air flow control and measurement devices (or a combined device) capable of regulating and maintaining the air flow rate constant to within ± 2 percent and measuring the air flow rate accurate to within ± 2 percent, properly calibrated to a NIST-traceable standard.

4.2.3 Standard gas pressure regulator(s) for the standard CO cylinder(s), suitable for use with a high-pressure CO gas cylinder and having a non-reactive diaphragm and internal parts and a suitable delivery pressure.

4.2.4 Mixing chamber for the dilution method of an inert material and of proper design to provide thorough mixing of CO standard gas and diluent air streams.

4.2.5 Output sampling manifold, constructed of an inert material and of sufficient diameter to ensure an insignificant pressure drop at the analyzer connection. The system must have a vent designed to ensure nearly atmospheric pressure at the analyzer connection port and to prevent ambient air from entering the manifold.

4.3 Reagents

4.3.1 CO gas concentration transfer standard(s) of CO in air, containing an appropriate

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concentration of CO suitable for the selected operating range of the analyzer under calibration and traceable to a NIST standard reference material (SRM). If the CO analyzer has significant sensitivity to CO₂, the CO standard(s) should also contain 350 to 400 ppm CO₂ to replicate the typical CO₂ concentration in ambient air. However, if the zero air dilution ratio used for the dilution method is not less than 100:1 and the zero air contains ambient levels of CO₂, then the CO standard may be contained in nitrogen and need not contain CO₂.

4.3.2 For the dilution method, clean zero air, free of contaminants that could cause a detectable response on or a change in sensitivity of the CO analyzer. The zero air should contain <0.1 ppm CO.

4.4 Procedure Using the Dilution Method

4.4.1 Assemble or obtain a suitable dynamic dilution calibration system such as

the one shown schematically in Figure 1. Generally, all calibration gases including zero air must be introduced into the sample inlet of the analyzer. However, if the analyzer has special, approved zero and span inlets and automatic valves to specifically allow introduction of calibration standards at near atmospheric pressure, such inlets may be used for calibration in lieu of the sample inlet. For specific operating instructions, refer to the manufacturer's manual.

4.4.2 Ensure that there are no leaks in the calibration system and that all flowmeters are properly and accurately calibrated, under the conditions of use, if appropriate, against a reliable volume or flow rate standard such as a soap-bubble meter or wet-test meter traceable to a NIST standard. All volumetric flow rates should be corrected to the same temperature and pressure such as 298.15 K (25 °C) and 760 mm Hg (101 kPa), using a correction formula such as the following:

$$F_c = F_m \frac{298.15 \times P_m}{760(T_m + 273.15)} \quad (1)$$

Where:

F_c = corrected flow rate (L/min at 25 °C and 760 mm Hg),

F_m = measured flow rate (at temperature T_m and pressure P_m),

P_m = measured pressure in mm Hg (absolute), and

T_m = measured temperature in degrees Celsius.

4.4.3 Select the operating range of the CO analyzer to be calibrated. Connect the measurement signal output of the analyzer to an appropriate readout instrument to allow the analyzer's measurement output to be continuously monitored during the calibration. Where possible, this readout instrument should be the same one used to record routine monitoring data, or, at least, an instrument that is as closely representative of that system as feasible.

4.4.4 Connect the inlet of the CO analyzer to the output-sampling manifold of the calibration system.

4.4.5 Adjust the calibration system to deliver zero air to the output manifold. The total air flow must exceed the total demand of the analyzer(s) connected to the output manifold to ensure that no ambient air is pulled into the manifold vent. Allow the analyzer to sample zero air until a stable response is obtained. After the response has stabilized, adjust the analyzer zero reading.

4.4.6 Adjust the zero air flow rate and the CO gas flow rate from the standard CO cylinder to provide a diluted CO concentration of approximately 80 percent of the measurement upper range limit (URL) of the operating range of the analyzer. The total air flow rate must exceed the total demand of the analyzer(s) connected to the output manifold to ensure that no ambient air is pulled into the manifold vent. The exact CO concentration is calculated from:

$$[CO]_{OUT} = \frac{[CO]_{STD} \times F_{CO}}{F_D + F_{CO}} \quad (2)$$

Where:

$[CO]_{OUT}$ = diluted CO concentration at the output manifold (ppm),

$[CO]_{STD}$ = concentration of the undiluted CO standard (ppm),

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F_{CO} = flow rate of the CO standard (L/min),
and

F_D = flow rate of the dilution air (L/min).

Sample this CO concentration until a stable response is obtained. Adjust the analyzer span control to obtain the desired analyzer response reading equivalent to the calculated standard concentration. If substantial adjustment of the analyzer span control is required, it may be necessary to recheck the zero and span adjustments by repeating steps 4.4.5 and 4.4.6. Record the CO concentration and the analyzer's final response.

4.4.7 Generate several additional concentrations (at least three evenly spaced points across the remaining scale are suggested to verify linearity) by decreasing F_{CO} or increasing F_D . Be sure the total flow exceeds the analyzer's total flow demand. For each concentration generated, calculate the exact CO concentration using equation (2). Record the concentration and the analyzer's stable response for each concentration. Plot the analyzer responses (vertical or y-axis) versus the corresponding CO concentrations (horizontal or x-axis). Calculate the linear regression slope and intercept of the calibration curve and verify that no point deviates from this line by more than 2 percent of the highest concentration tested.

4.5 Procedure Using the Multiple-Cylinder Method. Use the procedure for the dilution method with the following changes:

4.5.1 Use a multi-cylinder, dynamic calibration system such as the typical one shown in Figure 2.

4.5.2 The flowmeter need not be accurately calibrated, provided the flow in the output manifold can be verified to exceed the analyzer's flow demand.

4.5.3 The various CO calibration concentrations required in Steps 4.4.5, 4.4.6, and 4.4.7 are obtained without dilution by selecting zero air or the appropriate certified standard cylinder.

4.6 Frequency of Calibration. The frequency of calibration, as well as the number of points necessary to establish the calibration curve and the frequency of other performance checking, will vary by analyzer. However, the minimum frequency, acceptance criteria, and subsequent actions are specified in reference 1, appendix D, "Measurement Quality Objectives and Validation Template for CO" (page 5 of 30). The user's quality control program should provide guidelines for initial establishment of these variables and for subsequent alteration as operational experience is accumulated. Manufacturers of CO analyzers should include in their instruction/operation manuals information and guidance as to these variables and on other matters of operation, calibration, routine maintenance, and quality control.

5.0 REFERENCE

1. *QA Handbook for Air Pollution Measurement Systems—Volume II. Ambient Air Quality Monitoring Program.* U.S. EPA. EPA-454/B-08-003 (2008).

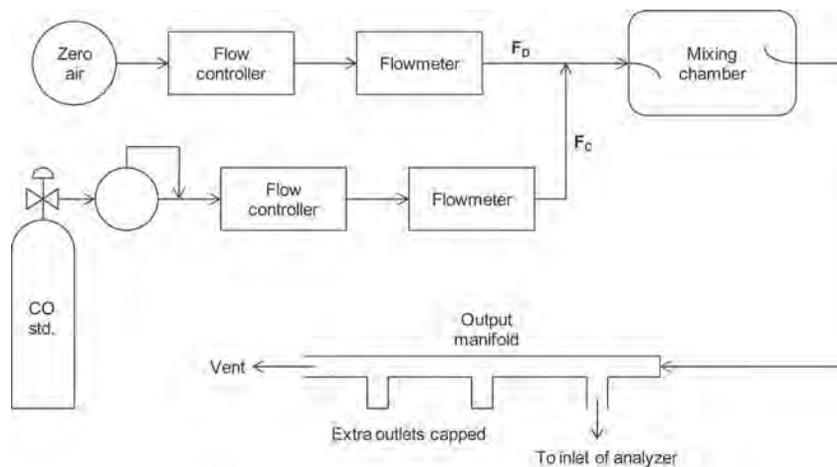


Figure 1. Dilution method for calibration of CO analyzers.

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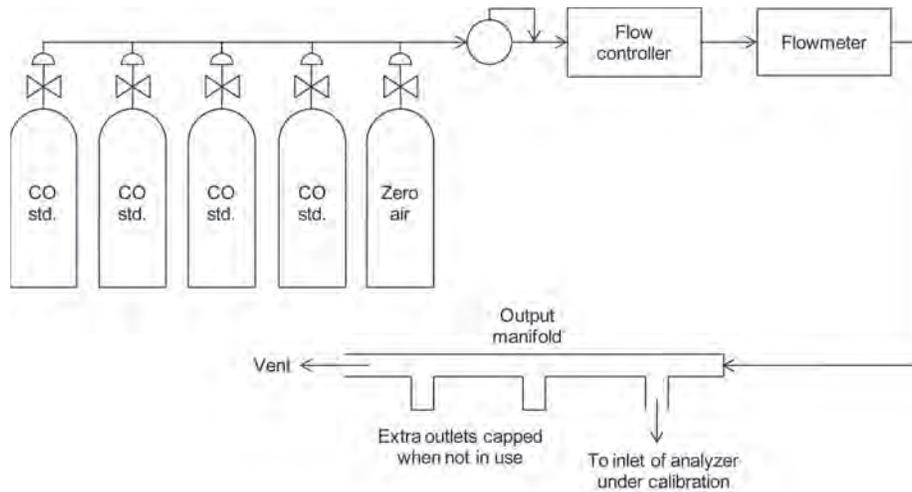


Figure 2. Multiple cylinder method for calibration of CO analyzers.

[76 FR 54323, Aug. 31, 2011]

APPENDIX D TO PART 50—REFERENCE MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF OZONE IN THE ATMOSPHERE (CHEMILUMINESCENCE METHOD)

1.0 *Applicability.*

1.1 This chemiluminescence method provides reference measurements of the concentration of ozone (O_3) in ambient air for determining compliance with the national primary and secondary ambient air quality standards for O_3 as specified in 40 CFR part 50. This automated method is applicable to the measurement of ambient O_3 concentrations using continuous (real-time) sampling and analysis. Additional quality assurance procedures and guidance are provided in 40 CFR part 58, appendix A, and in Reference 14.

2.0 *Measurement Principle.*

2.1 This reference method is based on continuous automated measurement of the intensity of the characteristic chemiluminescence released by the gas phase reaction of O_3 in sampled air with either ethylene (C_2H_4) or nitric oxide (NO) gas. An ambient air sample stream and a specific flowing concentration of either C_2H_4 (ET-CL method) or NO (NO-CL method) are mixed in a measurement cell, where the resulting chemiluminescence is quantitatively measured by a sensitive photo-detector. References 8-11 describe the chemiluminescence measurement principle.

2.2 The measurement system is calibrated by referencing the instrumental chemiluminescence measurements to certified O_3 standard concentrations generated in a dynamic flow system and assayed by photometry to be traceable to a National Institute of Standards and Technology (NIST) standard reference photometer for O_3 (see Section 4, Calibration Procedure, below).

2.3 An analyzer implementing this measurement principle is shown schematically in Figure 1. Designs implementing this measurement principle must include: an appropriately designed mixing and measurement cell; a suitable quantitative photometric measurement system with adequate sensitivity and wavelength specificity for O_3 ; a pump, flow control, and sample conditioning system for sampling the ambient air and moving it into and through the measurement cell; a sample air dryer as necessary to meet the water vapor interference limit requirement specified in subpart B of part 53 of this chapter; a means to supply, meter, and mix a constant, flowing stream of either C_2H_4 or NO gas of fixed concentration with the sample air flow in the measurement cell; suitable electronic control and measurement processing capability; and other associated apparatus as may be necessary. The analyzer must be designed and constructed to provide accurate, repeatable, and continuous measurements of O_3 concentrations in ambient air, with measurement performance that meets the requirements specified in subpart B of part 53 of this chapter.

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2.4 An analyzer implementing this measurement principle and calibration procedure will be considered a federal reference method (FRM) only if it has been designated as a reference method in accordance with part 53 of this chapter.

2.5 *Sampling considerations.* The use of a particle filter on the sample inlet line of a chemiluminescence O₃ FRM analyzer is required to prevent buildup of particulate matter in the measurement cell and inlet components. This filter must be changed weekly (or at least often as specified in the manufacturer's operation/instruction manual), and the sample inlet system used with the analyzer must be kept clean, to avoid loss of O₃ in the O₃ sample air prior to the concentration measurement.

3.0 *Interferences.*

3.1 Except as described in 3.2 below, the chemiluminescence measurement system is inherently free of significant interferences from other pollutant substances that may be present in ambient air.

3.2 A small sensitivity to variations in the humidity of the sample air is minimized by a sample air dryer. Potential loss of O₃ in the inlet air filter and in the air sample handling components of the analyzer and associated exterior air sampling components due to

buildup of airborne particulate matter is minimized by filter replacement and cleaning of the other inlet components.

4.0 *Calibration Procedure.*

4.1 *Principle.* The calibration procedure is based on the photometric assay of O₃ concentrations in a dynamic flow system. The concentration of O₃ in an absorption cell is determined from a measurement of the amount of 254 nm light absorbed by the sample. This determination requires knowledge of (1) the absorption coefficient (α) of O₃ at 254 nm, (2) the optical path length (l) through the sample, (3) the transmittance of the sample at a nominal wavelength of 254 nm, and (4) the temperature (T) and pressure (P) of the sample. The transmittance is defined as the ratio I/I₀, where I is the intensity of light which passes through the cell and is sensed by the detector when the cell contains an O₃ sample, and I₀ is the intensity of light which passes through the cell and is sensed by the detector when the cell contains zero air. It is assumed that all conditions of the system, except for the contents of the absorption cell, are identical during measurement of I and I₀. The quantities defined above are related by the Beer-Lambert absorption law,

$$\text{Transmittance} = \frac{I}{I_0} = e^{-\alpha cl} \tag{1}$$

Where:

α = absorption coefficient of O₃ at 254 nm = 308 ± 4 atm⁻¹ cm⁻¹ at 0 °C and 760 torr.^{1 2 3 4 5 6 7}

c = O₃ concentration in atmospheres, and
l = optical path length in cm.

A stable O₃ generator is used to produce O₃ concentrations over the required calibration concentration range. Each O₃ concentration is determined from the measurement of the transmittance (I/I₀) of the sample at 254 nm with a photometer of path length l and calculated from the equation,

$$c(\text{atm}) = -\frac{1}{\alpha l} \left(\ln \frac{I}{I_0} \right) \tag{2a}$$

or

$$c(\text{ppm}) = -\frac{10^6}{\alpha l} \left(\ln \frac{I}{I_0} \right). \tag{2b}$$

The calculated O₃ concentrations must be corrected for O₃ losses, which may occur in the photometer, and for the temperature and pressure of the sample.

4.2 *Applicability.* This procedure is applicable to the calibration of ambient air O₃ ana-

lyzers, either directly or by means of a transfer standard certified by this procedure. Transfer standards must meet the requirements and specifications set forth in Reference 12.

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4.3 *Apparatus.* A complete UV calibration system consists of an O₃ generator, an output port or manifold, a photometer, an appropriate source of zero air, and other components as necessary. The configuration must provide a stable O₃ concentration at the system output and allow the photometer to accurately assay the output concentration to the precision specified for the photometer (4.3.1). Figure 2 shows a commonly used configuration and serves to illustrate the calibration procedure, which follows. Other configurations may require appropriate variations in the procedural steps. All connections between components in the calibration system downstream of the O₃ generator must be of glass, Teflon, or other relatively inert materials. Additional information regarding the assembly of a UV photometric calibration apparatus is given in Reference 13. For certification of transfer standards which provide their own source of O₃, the transfer standard may replace the O₃ generator and possibly other components shown in Figure 2; see Reference 12 for guidance.

4.3.1 *UV photometer.* The photometer consists of a low-pressure mercury discharge lamp, (optional) collimation optics, an absorption cell, a detector, and signal-processing electronics, as illustrated in Figure 2. It must be capable of measuring the transmittance, I/I_0 , at a wavelength of 254 nm with sufficient precision such that the standard deviation of the concentration measurements does not exceed the greater of 0.005 ppm or 3% of the concentration. Because the low-pressure mercury lamp radiates at several wavelengths, the photometer must incorporate suitable means to assure that no O₃ is generated in the cell by the lamp, and that at least 99.5% of the radiation sensed by the detector is 254 nm radiation. (This can be readily achieved by prudent selection of optical filter and detector response characteristics.) The length of the light path through the absorption cell must be known with an accuracy of at least 99.5%. In addition, the cell and associated plumbing must be designed to minimize loss of O₃ from contact with cell walls and gas handling components. See Reference 13 for additional information.

4.3.2 *Air flow controllers.* Air flow controllers are devices capable of regulating air flows as necessary to meet the output stability and photometer precision requirements.

4.3.3 *Ozone generator.* The ozone generator used must be capable of generating stable levels of O₃ over the required concentration range.

4.3.4 *Output manifold.* The output manifold must be constructed of glass, Teflon, or other relatively inert material, and should be of sufficient diameter to insure a negligible pressure drop at the photometer connection and other output ports. The system

must have a vent designed to insure atmospheric pressure in the manifold and to prevent ambient air from entering the manifold.

4.3.5 *Two-way valve.* A manual or automatic two-way valve, or other means is used to switch the photometer flow between zero air and the O₃ concentration.

4.3.6 *Temperature indicator.* A device to indicate temperature must be used that is accurate to ± 1 °C.

4.3.7 *Barometer or pressure indicator.* A device to indicate barometric pressure must be used that is accurate to ± 2 torr.

4.4 *Reagents.*

4.4.1 *Zero air.* The zero air must be free of contaminants which would cause a detectable response from the O₃ analyzer, and it must be free of NO, C₂H₄, and other species which react with O₃. A procedure for generating suitable zero air is given in Reference 13. As shown in Figure 2, the zero air supplied to the photometer cell for the I₀ reference measurement must be derived from the same source as the zero air used for generation of the O₃ concentration to be assayed (I measurement). When using the photometer to certify a transfer standard having its own source of O₃, see Reference 12 for guidance on meeting this requirement.

4.5 *Procedure.*

4.5.1 *General operation.* The calibration photometer must be dedicated exclusively to use as a calibration standard. It must always be used with clean, filtered calibration gases, and never used for ambient air sampling. A number of advantages are realized by locating the calibration photometer in a clean laboratory where it can be stationary, protected from the physical shock of transportation, operated by a responsible analyst, and used as a common standard for all field calibrations via transfer standards.

4.5.2 *Preparation.* Proper operation of the photometer is of critical importance to the accuracy of this procedure. Upon initial operation of the photometer, the following steps must be carried out with all quantitative results or indications recorded in a chronological record, either in tabular form or plotted on a graphical chart. As the performance and stability record of the photometer is established, the frequency of these steps may be reduced to be consistent with the documented stability of the photometer and the guidance provided in Reference 12.

4.5.2.1 *Instruction manual.* Carry out all set up and adjustment procedures or checks as described in the operation or instruction manual associated with the photometer.

4.5.2.2 *System check.* Check the photometer system for integrity, leaks, cleanliness, proper flow rates, etc. Service or replace filters and zero air scrubbers or other consumable materials, as necessary.

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4.5.2.3 *Linearity.* Verify that the photometer manufacturer has adequately established that the linearity error of the photometer is less than 3%, or test the linearity by dilution as follows: Generate and assay an O₃ concentration near the upper range limit of the system or appropriate calibration scale

for the instrument, then accurately dilute that concentration with zero air and re-assay it. Repeat at several different dilution ratios. Compare the assay of the original concentration with the assay of the diluted concentration divided by the dilution ratio, as follows

$$E = \frac{A_1 - A_2/R}{A_1} \times 100\% \tag{3}$$

Where:

- E = linearity error, percent
- A₁ = assay of the original concentration
- A₂ = assay of the diluted concentration
- R = dilution ratio = flow of original concentration divided by the total flow

The linearity error must be less than 5%. Since the accuracy of the measured flow-rates will affect the linearity error as measured this way, the test is not necessarily conclusive. Additional information on verifying linearity is contained in Reference 13.

4.5.2.4 *Inter-comparison.* The photometer must be inter-compared annually, either directly or via transfer standards, with a NIST standard reference photometer (SRP) or calibration photometers used by other agencies or laboratories.

4.5.2.5 *Ozone losses.* Some portion of the O₃ may be lost upon contact with the photometer cell walls and gas handling components. The magnitude of this loss must be determined and used to correct the calculated O₃ concentration. This loss must not exceed 5%. Some guidelines for quantitatively determining this loss are discussed in Reference 13.

4.5.3 *Assay of O₃ concentrations.* The operator must carry out the following steps to properly assay O₃ concentrations.

4.5.3.1 Allow the photometer system to warm up and stabilize.

4.5.3.2 Verify that the flow rate through the photometer absorption cell, F, allows the cell to be flushed in a reasonably short period of time (2 liter/min is a typical flow). The precision of the measurements is in-

versely related to the time required for flushing, since the photometer drift error increases with time.

4.5.3.3 Ensure that the flow rate into the output manifold is at least 1 liter/min greater than the total flow rate required by the photometer and any other flow demand connected to the manifold.

4.5.3.4 Ensure that the flow rate of zero air, Fz, is at least 1 liter/min greater than the flow rate required by the photometer.

4.5.3.5 With zero air flowing in the output manifold, actuate the two-way valve to allow the photometer to sample first the manifold zero air, then Fz. The two photometer readings must be equal (I = I₀).

NOTE: In some commercially available photometers, the operation of the two-way valve and various other operations in section 4.5.3 may be carried out automatically by the photometer.

4.5.3.6 Adjust the O₃ generator to produce an O₃ concentration as needed.

4.5.3.7 Actuate the two-way valve to allow the photometer to sample zero air until the absorption cell is thoroughly flushed and record the stable measured value of I₀.

4.5.3.8 Actuate the two-way valve to allow the photometer to sample the O₃ concentration until the absorption cell is thoroughly flushed and record the stable measured value of I.

4.5.3.9 Record the temperature and pressure of the sample in the photometer absorption cell. (See Reference 13 for guidance.)

4.5.3.10 Calculate the O₃ concentration from equation 4. An average of several determinations will provide better precision.

$$[O_3]_{OUT} = \left(\frac{-1}{\alpha l} \ln \frac{I}{I_0} \right) \left(\frac{T}{273} \right) \left(\frac{760}{P} \right) \times \frac{10^6}{L} \tag{4}$$

Where:

- [O₃]_{OUT} = O₃ concentration, ppm
- α = absorption coefficient of O₃ at 254 nm = 308 atm⁻¹ cm⁻¹ at 0 °C and 760 torr
- l = optical path length, cm

- T = sample temperature, K
- P = sample pressure, torr
- L = correction factor for O₃ losses from 4.5.2.5 = (1 - fraction of O₃ lost).

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NOTE: Some commercial photometers may automatically evaluate all or part of equation 4. It is the operator's responsibility to verify that all of the information required for equation 4 is obtained, either automatically by the photometer or manually. For "automatic" photometers which evaluate the first term of equation 4 based on a linear approximation, a manual correction may be required, particularly at higher O₃ levels. See the photometer instruction manual and Reference 13 for guidance.

4.5.3.11 Obtain additional O₃ concentration standards as necessary by repeating steps 4.5.3.6 to 4.5.3.10 or by Option 1.

4.5.4 *Certification of transfer standards.* A transfer standard is certified by relating the output of the transfer standard to one or more O₃ calibration standards as determined according to section 4.5.3. The exact procedure varies depending on the nature and design of the transfer standard. Consult Reference 12 for guidance.

4.5.5 *Calibration of ozone analyzers.* Ozone analyzers must be calibrated as follows, using O₃ standards obtained directly according to section 4.5.3 or by means of a certified transfer standard.

4.5.5.1 Allow sufficient time for the O₃ analyzer and the photometer or transfer standard to warm-up and stabilize.

4.5.5.2 Allow the O₃ analyzer to sample zero air until a stable response is obtained and then adjust the O₃ analyzer's zero control. Offsetting the analyzer's zero adjustment to +5% of scale is recommended to facilitate observing negative zero drift (if any). Record the stable zero air response as "Z".

4.5.5.3 Generate an O₃ concentration standard of approximately 80% of the desired upper range limit (URL) of the O₃ analyzer. Allow the O₃ analyzer to sample this O₃ con-

centration standard until a stable response is obtained.

4.5.5.4 Adjust the O₃ analyzer's span control to obtain the desired response equivalent to the calculated standard concentration. Record the O₃ concentration and the corresponding analyzer response. If substantial adjustment of the span control is necessary, recheck the zero and span adjustments by repeating steps 4.5.5.2 to 4.5.5.4.

4.5.5.5 Generate additional O₃ concentration standards (a minimum of 5 are recommended) over the calibration scale of the O₃ analyzer by adjusting the O₃ source or by Option 1. For each O₃ concentration standard, record the O₃ concentration and the corresponding analyzer response.

4.5.5.6 Plot the O₃ analyzer responses (vertical or Y-axis) versus the corresponding O₃ standard concentrations (horizontal or X-axis). Compute the linear regression slope and intercept and plot the regression line to verify that no point deviates from this line by more than 2 percent of the maximum concentration tested.

4.5.5.7 *Option 1:* The various O₃ concentrations required in steps 4.5.3.11 and 4.5.5.5 may be obtained by dilution of the O₃ concentration generated in steps 4.5.3.6 and 4.5.5.3. With this option, accurate flow measurements are required. The dynamic calibration system may be modified as shown in Figure 3 to allow for dilution air to be metered in downstream of the O₃ generator. A mixing chamber between the O₃ generator and the output manifold is also required. The flow rate through the O₃ generator (F_O) and the dilution air flow rate (F_D) are measured with a flow or volume standard that is traceable to a NIST flow or volume calibration standard. Each O₃ concentration generated by dilution is calculated from:

$$[O_3]'_{OUT} = [O_3]_{OUT} \left(\frac{F_O}{F_O + F_D} \right) \quad (5)$$

Where:

[O₃]_{OUT} = diluted O₃ concentration, ppm

F_O = flow rate through the O₃ generator, liter/min

F_D = diluent air flow rate, liter/min

NOTE: Additional information on calibration and pollutant standards is provided in Section 12 of Reference 14.

5.0 Frequency of Calibration.

5.1 The frequency of calibration, as well as the number of points necessary to establish the calibration curve, and the frequency of other performance checking will vary by analyzer; however, the minimum frequency, acceptance criteria, and subsequent actions are specified in Appendix D of Reference 14:

Measurement Quality Objectives and Validation Templates. The user's quality control program shall provide guidelines for initial establishment of these variables and for subsequent alteration as operational experience is accumulated. Manufacturers of analyzers should include in their instruction/operation manuals information and guidance as to these variables and on other matters of operation, calibration, routine maintenance, and quality control.

6.0 References.

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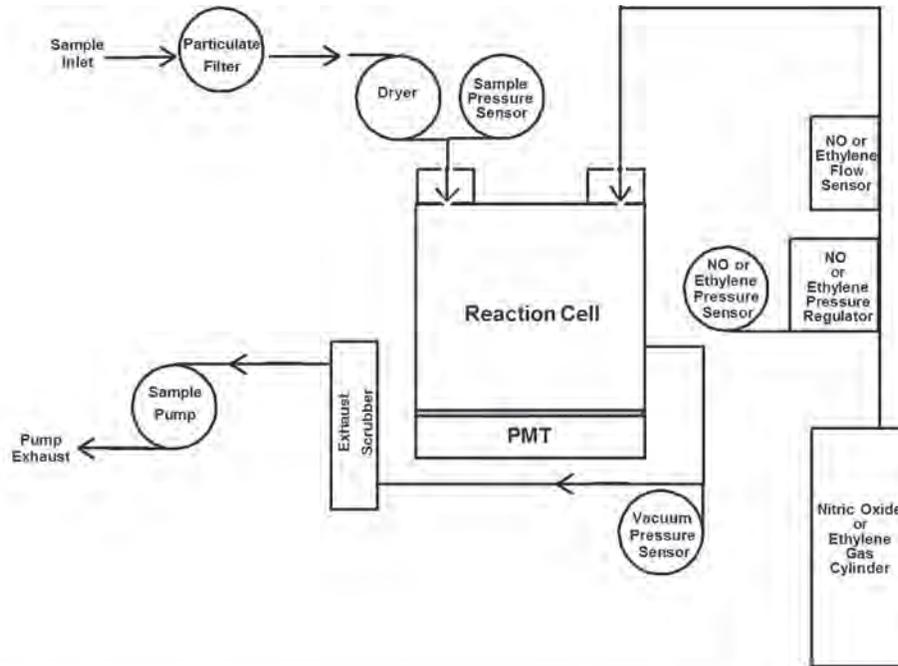


Figure 1. Gas-phase chemiluminescence analyzer schematic diagram, where PMT means photomultiplier tube.

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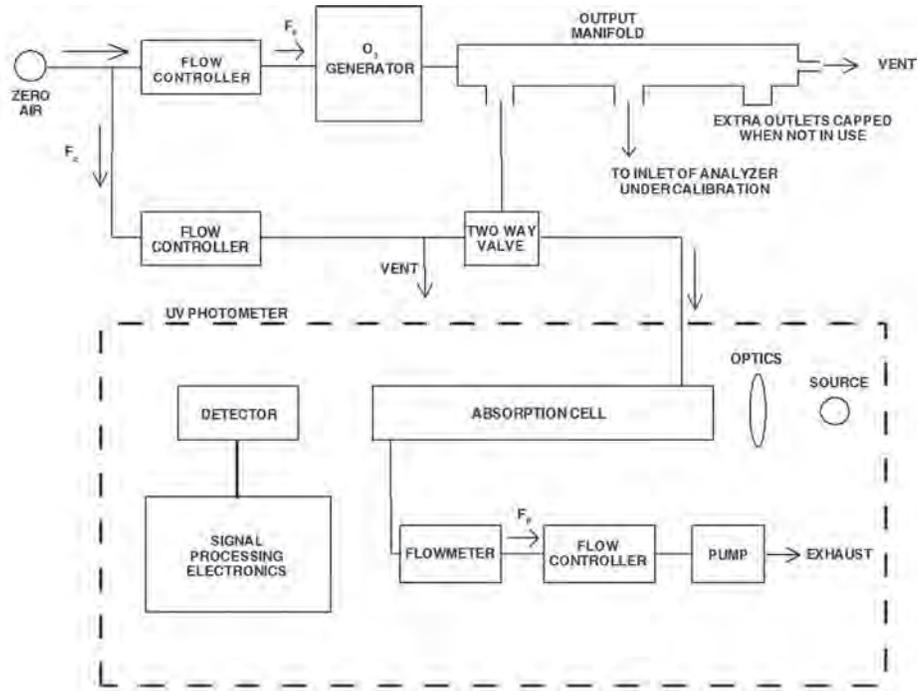


Figure 2. Schematic diagram of a typical UV photometric calibration system.

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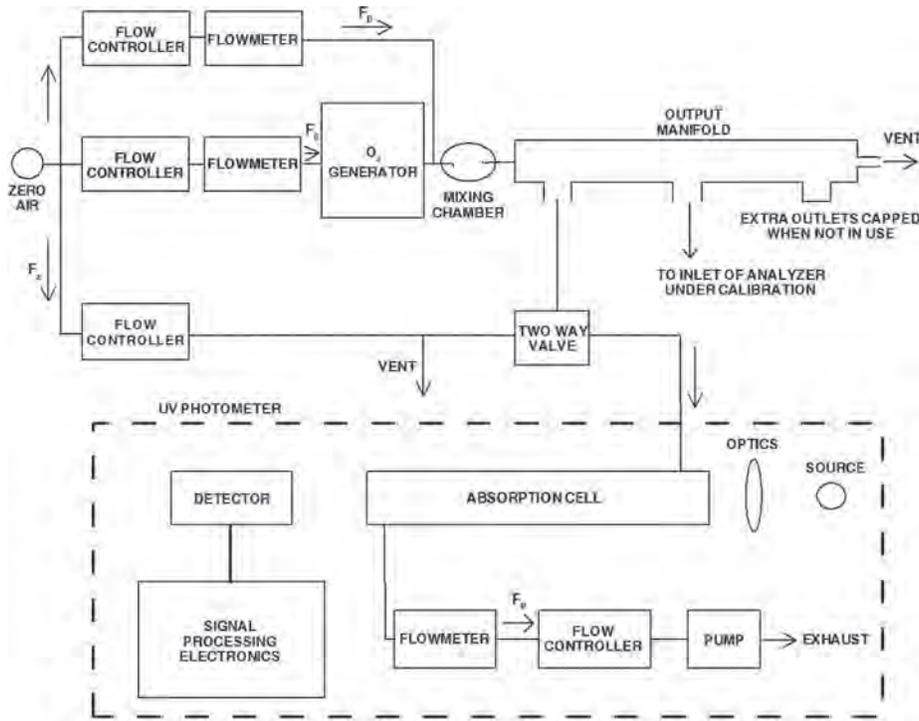


Figure 3. Schematic diagram of a typical UV photometric calibration system (Option 1).

[80 FR 65453, Oct. 26, 2015]

APPENDIX E TO PART 50 [RESERVED]

APPENDIX F TO PART 50—MEASUREMENT PRINCIPLE AND CALIBRATION PROCEDURE FOR THE MEASUREMENT OF NITROGEN DIOXIDE IN THE ATMOSPHERE (GAS PHASE CHEMILUMINESCENCE)

PRINCIPLE AND APPLICABILITY

1. Atmospheric concentrations of nitrogen dioxide (NO₂) are measured indirectly by photometrically measuring the light intensity, at wavelengths greater than 600 nanometers, resulting from the chemiluminescent reaction of nitric oxide (NO) with ozone (O₃). (1,2,3) NO₂ is first quantitatively reduced to NO(4,5,6) by means of a converter. NO, which commonly exists in ambient air together with NO₂, passes through the converter unchanged causing a resultant total NO_x concentration equal to NO + NO₂. A sample of the input air is also measured without having passed through the

converter. This latter NO measurement is subtracted from the former measurement (NO + NO₂) to yield the final NO₂ measurement. The NO and NO + NO₂ measurements may be made concurrently with dual systems, or cyclically with the same system provided the cycle time does not exceed 1 minute.

2. Sampling considerations.

2.1 Chemiluminescence NO/NO_x/NO₂ analyzers will respond to other nitrogen containing compounds, such as peroxyacetyl nitrate (PAN), which might be reduced to NO in the thermal converter. (7) Atmospheric concentrations of these potential interferences are generally low relative to NO₂ and valid NO₂ measurements may be obtained. In certain geographical areas, where the concentration of these potential interferences is known or suspected to be high relative to NO₂, the use of an equivalent method for the measurement of NO₂ is recommended.

2.2 The use of integrating flasks on the sample inlet line of chemiluminescence NO/

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NO_x/NO₂ analyzers is optional and left to the user. The sample residence time between the sampling point and the analyzer should be kept to a minimum to avoid erroneous NO₂ measurements resulting from the reaction of ambient levels of NO and O₃ in the sampling system.

2.3 The use of particulate filters on the sample inlet line of chemiluminescence NO/NO_x/NO₂ analyzers is optional and left to the discretion of the user or the manufacturer. Use of the filter should depend on the analyzer's susceptibility to interference, malfunction, or damage due to particulates. Users are cautioned that particulate matter concentrated on a filter may cause erroneous NO₂ measurements and therefore filters should be changed frequently.

3. An analyzer based on this principle will be considered a reference method only if it has been designated as a reference method in accordance with part 53 of this chapter.

CALIBRATION

1. *Alternative A*—Gas phase titration (GPT) of an NO standard with O₃.

Major equipment required: Stable O₃ generator. Chemiluminescence NO/NO_x/NO₂ analyzer with strip chart recorder(s). NO concentration standard.

1.1 *Principle.* This calibration technique is based upon the rapid gas phase reaction between NO and O₃ to produce stoichiometric quantities of NO₂ in accordance with the following equation: (8)



The quantitative nature of this reaction is such that when the NO concentration is known, the concentration of NO₂ can be determined. Ozone is added to excess NO in a dynamic calibration system, and the NO channel of the chemiluminescence NO/NO_x/NO₂ analyzer is used as an indicator of changes in NO concentration. Upon the addition of O₃, the decrease in NO concentration observed on the calibrated NO channel is equivalent to the concentration of NO₂ produced. The amount of NO₂ generated may be varied by adding variable amounts of O₃ from a stable uncalibrated O₃ generator. (9)

1.2 *Apparatus.* Figure 1, a schematic of a typical GPT apparatus, shows the suggested configuration of the components listed below. All connections between components in the calibration system downstream from the O₃ generator should be of glass, Teflon[®], or other non-reactive material.

1.2.1 *Air flow controllers.* Devices capable of maintaining constant air flows within ±2% of the required flowrate.

1.2.2 *NO flow controller.* A device capable of maintaining constant NO flows within ±2% of the required flowrate. Component parts in contact with the NO should be of a non-reactive material.

1.2.3 *Air flowmeters.* Calibrated flowmeters capable of measuring and monitoring air flowrates with an accuracy of ±2% of the measured flowrate.

1.2.4 *NO flowmeter.* A calibrated flowmeter capable of measuring and monitoring NO flowrates with an accuracy of ±2% of the measured flowrate. (Rotameters have been reported to operate unreliably when measuring low NO flows and are not recommended.)

1.2.5 *Pressure regulator for standard NO cylinder.* This regulator must have a nonreactive diaphragm and internal parts and a suitable delivery pressure.

1.2.6 *Ozone generator.* The generator must be capable of generating sufficient and stable levels of O₃ for reaction with NO to generate NO₂ concentrations in the range required. Ozone generators of the electric discharge type may produce NO and NO₂ and are not recommended.

1.2.7 *Valve.* A valve may be used as shown in Figure 1 to divert the NO flow when zero air is required at the manifold. The valve should be constructed of glass, Teflon[®], or other nonreactive material.

1.2.8 *Reaction chamber.* A chamber, constructed of glass, Teflon[®], or other nonreactive material, for the quantitative reaction of O₃ with excess NO. The chamber should be of sufficient volume (*V_{RC}*) such that the residence time (*t_R*) meets the requirements specified in 1.4. For practical reasons, *t_R* should be less than 2 minutes.

1.2.9 *Mixing chamber.* A chamber constructed of glass, Teflon[®], or other nonreactive material and designed to provide thorough mixing of reaction products and diluent air. The residence time is not critical when the dynamic parameter specification given in 1.4 is met.

1.2.10 *Output manifold.* The output manifold should be constructed of glass, Teflon[®], or other non-reactive material and should be of sufficient diameter to insure an insignificant pressure drop at the analyzer connection. The system must have a vent designed to insure atmospheric pressure at the manifold and to prevent ambient air from entering the manifold.

1.3 *Reagents.*

1.3.1 *NO concentration standard.* Gas cylinder standard containing 50 to 100 ppm NO in N₂ with less than 1 ppm NO₂. This standard must be traceable to a National Bureau of Standards (NBS) NO in N₂ Standard Reference Material (SRM 1683 or SRM 1684), an NBS NO₂ Standard Reference Material (SRM 1629), or an NBS/EPA-approved commercially available Certified Reference Material (CRM). CRM's are described in Reference 14, and a list of CRM sources is available from the address shown for Reference 14. A recommended protocol for certifying NO gas cylinders against either an NO SRM or CRM

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is given in section 2.0.7 of Reference 15. Reference 13 gives procedures for certifying an NO gas cylinder against an NBS NO₂ SRM and for determining the amount of NO₂ impurity in an NO cylinder.

1.3.2 *Zero air.* Air, free of contaminants which will cause a detectable response on the NO/NO_x/NO₂ analyzer or which might react with either NO, O₃, or NO₂ in the gas phase titration. A procedure for generating zero air is given in reference 13.

1.4 *Dynamic parameter specification.*

1.4.1 The O₃ generator air flowrate (F_O) and NO flowrate (F_{NO}) (see Figure 1) must be adjusted such that the following relationship holds:

$$P_R = [\text{NO}]_{RC} \times t_R \text{ 2.75 ppm-minutes} \quad (2)$$

$$[\text{NO}]_{RC} = [\text{NO}]_{\text{STD}} \left(\frac{F_{\text{NO}}}{F_{\text{O}} + F_{\text{NO}}} \right) \quad (3)$$

$$t_R = \frac{V_{RC}}{F_{\text{O}} + F_{\text{NO}}} < 2 \text{ minutes} \quad (4)$$

where:

P_R = dynamic parameter specification, determined empirically, to insure complete reaction of the available O₃, ppm-minute
 $[\text{NO}]_{RC}$ = NO concentration in the reaction chamber, ppm

t_R = residence time of the reactant gases in the reaction chamber, minute

$[\text{NO}]_{\text{STD}}$ = concentration of the undiluted NO standard, ppm

F_{NO} = NO flowrate, scm³/min

F_{O} = O₃ generator air flowrate, scm³/min

V_{RC} = volume of the reaction chamber, scm³

1.4.2 The flow conditions to be used in the GPT system are determined by the following procedure:

(a) Determine F_T , the total flow required at the output manifold (F_T = analyzer demand plus 10 to 50% excess).

(b) Establish $[\text{NO}]_{\text{OUT}}$ as the highest NO concentration (ppm) which will be required at the output manifold. $[\text{NO}]_{\text{OUT}}$ should be approximately equivalent to 90% of the upper range limit (URL) of the NO₂ concentration range to be covered.

(c) Determine F_{NO} as

$$F_{\text{NO}} = \frac{[\text{NO}]_{\text{OUT}} \times F_T}{[\text{NO}]_{\text{STD}}} \quad (5)$$

(d) Select a convenient or available reaction chamber volume. Initially, a trial V_{RC} may be selected to be in the range of approximately 200 to 500 scm³.

(e) Compute F_{O} as

$$F_{\text{O}} = \sqrt{\frac{[\text{NO}]_{\text{STD}} \times F_{\text{NO}} \times V_{RC}}{2.75}} - F_{\text{NO}} \quad (6)$$

(f) Compute t_R as

$$t_R = \frac{V_{RC}}{F_{\text{O}} + F_{\text{NO}}} \quad (7)$$

Verify that $t_R < 2$ minutes. If not, select a reaction chamber with a smaller V_{RC} .

(g) Compute the diluent air flowrate as

$$F_D = F_T - F_{\text{O}} - F_{\text{NO}} \quad (8)$$

where:

F_D = diluent air flowrate, scm³/min

(h) If F_{O} turns out to be impractical for the desired system, select a reaction chamber having a different V_{RC} and recompute F_{O} and F_D .

NOTE: A dynamic parameter lower than 2.75 ppm-minutes may be used if it can be determined empirically that quantitative reaction of O₃ with NO occurs. A procedure for making this determination as well as a more detailed discussion of the above requirements and other related considerations is given in reference 13.

1.5 *Procedure.*

1.5.1 Assemble a dynamic calibration system such as the one shown in Figure 1.

1.5.2 Insure that all flowmeters are calibrated under the conditions of use against a reliable standard such as a soap-bubble meter or wet-test meter. All volumetric flowrates should be corrected to 25 °C and 760 mm Hg. A discussion on the calibration of flowmeters is given in reference 13.

1.5.3 Precautions must be taken to remove O₂ and other contaminants from the NO pressure regulator and delivery system prior to the start of calibration to avoid any conversion of the standard NO to NO₂. Failure to do so can cause significant errors in calibration. This problem may be minimized by (1) carefully evacuating the regulator, when possible, after the regulator has been connected to the cylinder and before opening the cylinder valve; (2) thoroughly flushing the regulator and delivery system with NO after opening the cylinder valve; (3) not removing the regulator from the cylinder between calibrations unless absolutely necessary. Further discussion of these procedures is given in reference 13.

1.5.4 Select the operating range of the NO/NO_x/NO₂ analyzer to be calibrated. In order to obtain maximum precision and accuracy for NO₂ calibration, all three channels of the analyzer should be set to the same range. If operation of the NO and NO_x channels on

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higher ranges is desired, subsequent recalibration of the NO and NO_x channels on the higher ranges is recommended.

NOTE: Some analyzer designs may require identical ranges for NO, NO_x, and NO₂ during operation of the analyzer.

1.5.5 Connect the recorder output cable(s) of the NO/NO_x/NO₂ analyzer to the input terminals of the strip chart recorder(s). All adjustments to the analyzer should be performed based on the appropriate strip chart readings. References to analyzer responses in the procedures given below refer to recorder responses.

1.5.6 Determine the GPT flow conditions required to meet the dynamic parameter specification as indicated in 1.4.

1.5.7 Adjust the diluent air and O₃ generator air flows to obtain the flows determined in section 1.4.2. The total air flow must exceed the total demand of the analyzer(s) connected to the output manifold to insure that no ambient air is pulled into the manifold vent. Allow the analyzer to sample zero air until stable NO, NO_x, and NO₂ responses are obtained. After the responses have stabilized, adjust the analyzer zero control(s).

NOTE: Some analyzers may have separate zero controls for NO, NO_x, and NO₂. Other analyzers may have separate zero controls only for NO and NO_x, while still others may have only one zero control common to all three channels.

Offsetting the analyzer zero adjustments to + 5 percent of scale is recommended to facilitate observing negative zero drift. Record the stable zero air responses as Z_{NO}, Z_{NO_x}, and Z_{NO₂}.

1.5.8 Preparation of NO and NO_x calibration curves.

1.5.8.1 Adjustment of NO span control. Adjust the NO flow from the standard NO cylinder to generate an NO concentration of approximately 80 percent of the upper range limit (URL) of the NO range. This exact NO concentration is calculated from:

$$[\text{NO}]_{\text{OUT}} = \frac{F_{\text{NO}} \times [\text{NO}]_{\text{STD}}}{F_{\text{NO}} + F_{\text{O}} + F_{\text{D}}} \quad (9)$$

where:

[NO]_{OUT} = diluted NO concentration at the output manifold, ppm

Sample this NO concentration until the NO and NO_x responses have stabilized. Adjust the NO span control to obtain a recorder response as indicated below:

recorder response (percent scale) =

$$\left(\frac{[\text{NO}]_{\text{OUT}}}{\text{URL}} \times 100 \right) + Z_{\text{NO}} \quad (10)$$

where:

URL = nominal upper range limit of the NO channel, ppm

NOTE: Some analyzers may have separate span controls for NO, NO_x, and NO₂. Other analyzers may have separate span controls only for NO and NO_x, while still others may have only one span control common to all three channels. When only one span control is available, the span adjustment is made on the NO channel of the analyzer.

If substantial adjustment of the NO span control is necessary, it may be necessary to recheck the zero and span adjustments by repeating steps 1.5.7 and 1.5.8.1. Record the NO concentration and the analyzer's NO response.

1.5.8.2 Adjustment of NO_x span control. When adjusting the analyzer's NO_x span control, the presence of any NO₂ impurity in the standard NO cylinder must be taken into account. Procedures for determining the amount of NO₂ impurity in the standard NO cylinder are given in reference 13. The exact NO_x concentration is calculated from:

$$[\text{NO}_x]_{\text{OUT}} = \frac{F_{\text{NO}} \times ([\text{NO}]_{\text{STD}} + [\text{NO}_2]_{\text{IMP}})}{F_{\text{NO}} + F_{\text{O}} + F_{\text{D}}} \quad (11)$$

where:

[NO_x]_{OUT} = diluted NO_x concentration at the output manifold, ppm

[NO₂]_{IMP} = concentration of NO₂ impurity in the standard NO cylinder, ppm

Adjust the NO_x span control to obtain a recorder response as indicated below:

recorder response (% scale) =

$$\left(\frac{[\text{NO}_x]_{\text{OUT}}}{\text{URL}} \times 100 \right) + Z_{\text{NO}_x} \quad (12)$$

NOTE: If the analyzer has only one span control, the span adjustment is made on the NO channel and no further adjustment is made here for NO_x.

If substantial adjustment of the NO_x span control is necessary, it may be necessary to recheck the zero and span adjustments by repeating steps 1.5.7 and 1.5.8.2. Record the NO_x concentration and the analyzer's NO_x response.

1.5.8.3 Generate several additional concentrations (at least five evenly spaced points across the remaining scale are suggested to verify linearity) by decreasing F_{NO} or increasing F_D. For each concentration generated, calculate the exact NO and NO_x concentrations using equations (9) and (11) respectively. Record the analyzer's NO and NO_x responses for each concentration. Plot the analyzer responses versus the respective calculated NO and NO_x concentrations and draw or calculate the NO and NO_x calibration curves. For subsequent calibrations

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where linearity can be assumed, these curves may be checked with a two-point calibration consisting of a zero air point and NO and NO_x concentrations of approximately 80% of the URL.

1.5.9 Preparation of NO₂ calibration curve.

1.5.9.1 Assuming the NO₂ zero has been properly adjusted while sampling zero air in step 1.5.7, adjust F_O and F_D as determined in section 1.4.2. Adjust F_{NO} to generate an NO concentration near 90% of the URL of the NO range. Sample this NO concentration until the NO and NO_x responses have stabilized. Using the NO calibration curve obtained in section 1.5.8, measure and record the NO con-

centration as [NO]_{orig}. Using the NO_x calibration curve obtained in section 1.5.8, measure and record the NO_x concentration as [NO_x]_{orig}.

1.5.9.2 Adjust the O₃ generator to generate sufficient O₃ to produce a decrease in the NO concentration equivalent to approximately 80% of the URL of the NO₂ range. The decrease must not exceed 90% of the NO concentration determined in step 1.5.9.1. After the analyzer responses have stabilized, record the resultant NO and NO_x concentrations as [NO]_{rem} and [NO_x]_{rem}.

1.5.9.3 Calculate the resulting NO₂ concentration from:

$$[\text{NO}_2]_{\text{OUT}} = [\text{NO}]_{\text{orig}} - [\text{NO}]_{\text{rem}} + \frac{F_{\text{NO}} \times [\text{NO}_2]_{\text{IMP}}}{F_{\text{NO}} + F_{\text{O}} + F_{\text{D}}} \quad (13)$$

where:

[NO₂]_{OUT} = diluted NO₂ concentration at the output manifold, ppm

[NO]_{orig} = original NO concentration, prior to addition of O₃, ppm

[NO]_{rem} = NO concentration remaining after addition of O₃, ppm

Adjust the NO₂ span control to obtain a recorder response as indicated below:

recorder response (% scale) =

$$\left(\frac{[\text{NO}_2]_{\text{OUT}} \times 100}{\text{URL}} \right) + Z_{\text{NO}_2} \quad (14)$$

NOTE: If the analyzer has only one or two span controls, the span adjustments are made on the NO channel or NO and NO_x channels and no further adjustment is made here for NO₂.

If substantial adjustment of the NO₂ span control is necessary, it may be necessary to

recheck the zero and span adjustments by repeating steps 1.5.7 and 1.5.9.3. Record the NO₂ concentration and the corresponding analyzer NO₂ and NO_x responses.

1.5.9.4 Maintaining the same F_{NO}, F_O, and F_D as in section 1.5.9.1, adjust the ozone generator to obtain several other concentrations of NO₂ over the NO₂ range (at least five evenly spaced points across the remaining scale are suggested). Calculate each NO₂ concentration using equation (13) and record the corresponding analyzer NO₂ and NO_x responses. Plot the analyzer's NO₂ responses versus the corresponding calculated NO₂ concentrations and draw or calculate the NO₂ calibration curve.

1.5.10 Determination of converter efficiency.

1.5.10.1 For each NO₂ concentration generated during the preparation of the NO₂ calibration curve (see section 1.5.9) calculate the concentration of NO₂ converted from:

$$[\text{NO}_2]_{\text{CONV}} = [\text{NO}_2]_{\text{OUT}} \left(\frac{[\text{NO}_x]_{\text{orig}}}{[\text{NO}_x]_{\text{rem}}} \right) \quad (15)$$

where:

[NO₂]_{CONV} = concentration of NO₂ converted, ppm

[NO_x]_{orig} = original NO_x concentration prior to addition of O₃, ppm

[NO_x]_{rem} = NO_x concentration remaining after addition of O₃, ppm

NOTE: Supplemental information on calibration and other procedures in this method are given in reference 13.

Plot [NO₂]_{CONV} (y-axis) versus [NO₂]_{OUT} (x-axis) and draw or calculate the converter ef-

iciency curve. The slope of the curve times 100 is the average converter efficiency, E_C. The average converter efficiency must be greater than 96%; if it is less than 96%, replace or service the converter.

2. Alternative B—NO₂ permeation device.

Major equipment required:

Stable O₃ generator.
Chemiluminescence NO/NO_x/NO₂ analyzer with strip chart recorder(s).

NO concentration standard.
NO₂ concentration standard.

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2.1 *Principle.* Atmospheres containing accurately known concentrations of nitrogen dioxide are generated by means of a permeation device. (10) The permeation device emits NO₂ at a known constant rate provided the temperature of the device is held constant (± 0.1 °C) and the device has been accurately calibrated at the temperature of use. The NO₂ emitted from the device is diluted with zero air to produce NO₂ concentrations suitable for calibration of the NO₂ channel of the NO/NO_x/NO₂ analyzer. An NO concentration standard is used for calibration of the NO and NO_x channels of the analyzer.

2.2 *Apparatus.* A typical system suitable for generating the required NO and NO₂ concentrations is shown in Figure 2. All connections between components downstream from the permeation device should be of glass, Teflon®, or other non-reactive material.

2.2.1 *Air flow controllers.* Devices capable of maintaining constant air flows within $\pm 2\%$ of the required flowrate.

2.2.2 *NO flow controller.* A device capable of maintaining constant NO flows within $\pm 2\%$ of the required flowrate. Component parts in contact with the NO must be of a non-reactive material.

2.2.3 *Air flowmeters.* Calibrated flowmeters capable of measuring and monitoring air flowrates with an accuracy of $\pm 2\%$ of the measured flowrate.

2.2.4 *NO flowmeter.* A calibrated flowmeter capable of measuring and monitoring NO flowrates with an accuracy of $\pm 2\%$ of the measured flowrate. (Rotameters have been reported to operate unreliably when measuring low NO flows and are not recommended.)

2.2.5 *Pressure regulator for standard NO cylinder.* This regulator must have a non-reactive diaphragm and internal parts and a suitable delivery pressure.

2.2.6 *Drier.* Scrubber to remove moisture from the permeation device air system. The use of the drier is optional with NO₂ permeation devices not sensitive to moisture. (Refer to the supplier's instructions for use of the permeation device.)

2.2.7 *Constant temperature chamber.* Chamber capable of housing the NO₂ permeation device and maintaining its temperature to within ± 0.1 °C.

2.2.8 *Temperature measuring device.* Device capable of measuring and monitoring the temperature of the NO₂ permeation device with an accuracy of ± 0.05 °C.

2.2.9 *Valves.* A valve may be used as shown in Figure 2 to divert the NO₂ from the permeation device when zero air or NO is required at the manifold. A second valve may be used to divert the NO flow when zero air or NO₂ is required at the manifold.

The valves should be constructed of glass, Teflon®, or other nonreactive material.

2.2.10 *Mixing chamber.* A chamber constructed of glass, Teflon®, or other nonreactive

material and designed to provide thorough mixing of pollutant gas streams and diluent air.

2.2.11 *Output manifold.* The output manifold should be constructed of glass, Teflon®, or other non-reactive material and should be of sufficient diameter to insure an insignificant pressure drop at the analyzer connection. The system must have a vent designed to insure atmospheric pressure at the manifold and to prevent ambient air from entering the manifold.

2.3 Reagents.

2.3.1 *Calibration standards.* Calibration standards are required for both NO and NO₂. The reference standard for the calibration may be either an NO or NO₂ standard, and must be traceable to a National Bureau of Standards (NBS) NO in N₂ Standard Reference Material (SRM 1683 or SRM 1684), and NBS NO₂ Standard Reference Material (SRM 1629), or an NBS/EPA-approved commercially available Certified Reference Material (CRM). CRM's are described in Reference 14, and a list of CRM sources is available from the address shown for Reference 14. Reference 15 gives recommended procedures for certifying an NO gas cylinder against an NO SRM or CRM and for certifying an NO₂ permeation device against an NO₂ SRM. Reference 13 contains procedures for certifying an NO gas cylinder against an NO₂ SRM and for certifying an NO₂ permeation device against an NO SRM or CRM. A procedure for determining the amount of NO₂ impurity in an NO cylinder is also contained in Reference 13. The NO or NO₂ standard selected as the reference standard must be used to certify the other standard to ensure consistency between the two standards.

2.3.1.1 *NO₂ Concentration standard.* A permeation device suitable for generating NO₂ concentrations at the required flow-rates over the required concentration range. If the permeation device is used as the reference standard, it must be traceable to an SRM or CRM as specified in 2.3.1. If an NO cylinder is used as the reference standard, the NO₂ permeation device must be certified against the NO standard according to the procedure given in Reference 13. The use of the permeation device should be in strict accordance with the instructions supplied with the device. Additional information regarding the use of permeation devices is given by Scaringelli et al. (11) and Rook et al. (12).

2.3.1.2 *NO Concentration standard.* Gas cylinder containing 50 to 100 ppm NO in N₂ with less than 1 ppm NO₂. If this cylinder is used as the reference standard, the cylinder must be traceable to an SRM or CRM as specified in 2.3.1. If an NO₂ permeation device is used as the reference standard, the NO cylinder must be certified against the NO₂ standard according to the procedure given in Reference 13. The cylinder should be recertified

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on a regular basis as determined by the local quality control program.

2.3.3 *Zero air.* Air, free of contaminants which might react with NO or NO₂ or cause a detectable response on the NO/NO_x/NO₂ analyzer. When using permeation devices that are sensitive to moisture, the zero air passing across the permeation device must be dry to avoid surface reactions on the device. (Refer to the supplier's instructions for use of the permeation device.) A procedure for generating zero air is given in reference 13.

2.4 *Procedure.*

2.4.1 Assemble the calibration apparatus such as the typical one shown in Figure 2.

2.4.2 Insure that all flowmeters are calibrated under the conditions of use against a reliable standard such as a soap bubble meter or wet-test meter. All volumetric flowrates should be corrected to 25 °C and 760 mm Hg. A discussion on the calibration of flowmeters is given in reference 13.

2.4.3 Install the permeation device in the constant temperature chamber. Provide a small fixed air flow (200–400 scm³/min) across the device. The permeation device should always have a continuous air flow across it to prevent large buildup of NO₂ in the system and a consequent restabilization period. Record the flowrate as FP. Allow the device to stabilize at the calibration temperature for at least 24 hours. The temperature must be adjusted and controlled to within ±0.1 °C or less of the calibration temperature as monitored with the temperature measuring device.

2.4.4 Precautions must be taken to remove O₂ and other contaminants from the NO pressure regulator and delivery system prior to the start of calibration to avoid any conversion of the standard NO to NO₂. Failure to do so can cause significant errors in calibration. This problem may be minimized by

- (1) Carefully evacuating the regulator, when possible, after the regulator has been connected to the cylinder and before opening the cylinder valve;
- (2) Thoroughly flushing the regulator and delivery system with NO after opening the cylinder valve;
- (3) Not removing the regulator from the cylinder between calibrations unless absolutely necessary. Further discussion of these procedures is given in reference 13.

2.4.5 Select the operating range of the NO/NO_x/NO₂ analyzer to be calibrated. In order to obtain maximum precision and accuracy for NO₂ calibration, all three channels of the analyzer should be set to the same range. If operation of the NO and NO_x channels on higher ranges is desired, subsequent recalibration of the NO and NO_x channels on the higher ranges is recommended.

NOTE: Some analyzer designs may require identical ranges for NO, NO_x, and NO₂ during operation of the analyzer.

2.4.6 Connect the recorder output cable(s) of the NO/NO_x/NO₂ analyzer to the input terminals of the strip chart recorder(s). All adjustments to the analyzer should be performed based on the appropriate strip chart readings. References to analyzer responses in the procedures given below refer to recorder responses.

2.4.7 Switch the valve to vent the flow from the permeation device and adjust the diluent air flowrate, F_D, to provide zero air at the output manifold. The total air flow must exceed the total demand of the analyzer(s) connected to the output manifold to insure that no ambient air is pulled into the manifold vent. Allow the analyzer to sample zero air until stable NO, NO_x, and NO₂ responses are obtained. After the responses have stabilized, adjust the analyzer zero control(s).

NOTE: Some analyzers may have separate zero controls for NO, NO_x, and NO₂. Other analyzers may have separate zero controls only for NO and NO_x, while still others may have only one zero common control to all three channels.

Offsetting the analyzer zero adjustments to + 5% of scale is recommended to facilitate observing negative zero drift. Record the stable zero air responses as Z_{NO}, Z_{NO_x}, and Z_{NO₂}.

2.4.8 *Preparation of NO and NO_x calibration curves.*

2.4.8.1 *Adjustment of NO span control.* Adjust the NO flow from the standard NO cylinder to generate an NO concentration of approximately 80% of the upper range limit (URL) of the NO range. The exact NO concentration is calculated from:

$$[\text{NO}]_{\text{OUT}} = \frac{F_{\text{NO}} \times [\text{NO}]_{\text{STD}}}{F_{\text{NO}} + F_{\text{D}}} \quad (16)$$

where:

[NO]_{OUT} = diluted NO concentration at the output manifold, ppm

F_{NO} = NO flowrate, scm³/min

[NO]_{STD} = concentration of the undiluted NO standard, ppm

F_D = diluent air flowrate, scm³/min

Sample this NO concentration until the NO and NO_x responses have stabilized. Adjust the NO span control to obtain a recorder response as indicated below:

recorder response (% scale) =

$$= \left(\frac{[\text{NO}]_{\text{OUT}}}{\text{URL}} \times 100 \right) + Z_{\text{NO}} \quad (17)$$

$$= \left(\frac{[\text{NO}_x]_{\text{OUT}}}{\text{URL}} \times 100 \right) + Z_{\text{NO}_x} \quad (19)$$

where:

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URL = nominal upper range limit of the NO channel, ppm

NOTE: Some analyzers may have separate span controls for NO, NO_x, and NO₂. Other analyzers may have separate span controls only for NO and NO_x, while still others may have only one span control common to all three channels. When only one span control is available, the span adjustment is made on the NO channel of the analyzer.

If substantial adjustment of the NO span control is necessary, it may be necessary to recheck the zero and span adjustments by repeating steps 2.4.7 and 2.4.8.1. Record the NO concentration and the analyzer's NO response.

2.4.8.2 *Adjustment of NO_x span control.* When adjusting the analyzer's NO_x span control, the presence of any NO₂ impurity in the standard NO cylinder must be taken into account. Procedures for determining the amount of NO₂ impurity in the standard NO cylinder are given in reference 13. The exact NO_x concentration is calculated from:

$$[\text{NO}_x]_{\text{OUT}} = \frac{F_{\text{NO}} \times ([\text{NO}]_{\text{STD}} + [\text{NO}_2]_{\text{IMP}})}{F_{\text{NO}} + F_{\text{D}}} \quad (18)$$

where:

[NO_x]_{OUT} = diluted NO_x concentration at the output manifold, ppm

[NO₂]_{IMP} = concentration of NO₂ impurity in the standard NO cylinder, ppm

Adjust the NO_x span control to obtain a convenient recorder response as indicated below:
recorder response (% scale)

$$= \left(\frac{[\text{NO}_x]_{\text{OUT}}}{\text{URL}} \times 100 \right) + Z_{\text{NO}_x} \quad (19)$$

NOTE: If the analyzer has only one span control, the span adjustment is made on the NO channel and no further adjustment is made here for NO_x.

If substantial adjustment of the NO_x span control is necessary, it may be necessary to recheck the zero and span adjustments by repeating steps 2.4.7 and 2.4.8.2. Record the NO_x concentration and the analyzer's NO_x response.

2.4.8.3 Generate several additional concentrations (at least five evenly spaced points across the remaining scale are suggested to verify linearity) by decreasing *F*_{NO} or increasing *F*_D. For each concentration generated, calculate the exact NO and NO_x concentrations using equations (16) and (18) respectively. Record the analyzer's NO and NO_x responses for each concentration. Plot the analyzer responses versus the respective calculated NO and NO_x concentrations and draw or calculate the NO and NO_x calibration curves. For subsequent calibrations where linearity can be assumed, these curves

may be checked with a two-point calibration consisting of a zero point and NO and NO_x concentrations of approximately 80 percent of the URL.

2.4.9 *Preparation of NO₂ calibration curve.*

2.4.9.1 Remove the NO flow. Assuming the NO₂ zero has been properly adjusted while sampling zero air in step 2.4.7, switch the valve to provide NO₂ at the output manifold.

2.4.9.2 Adjust *F*_D to generate an NO₂ concentration of approximately 80 percent of the URL of the NO₂ range. The total air flow must exceed the demand of the analyzer(s) under calibration. The actual concentration of NO₂ is calculated from:

$$[\text{NO}_2]_{\text{OUT}} = \frac{R \times K}{F_{\text{P}} + F_{\text{D}}} \quad (20)$$

where:

[NO₂]_{OUT} = diluted NO₂ concentration at the output manifold, ppm

R = permeation rate, µg/min

K = 0.532 µl NO₂/µg NO₂ (at 25 °C and 760 mm Hg)

*F*_p = air flowrate across permeation device, scm³/min

*F*_D = diluent air flowrate, scm³/min

Sample this NO₂ concentration until the NO_x and NO₂ responses have stabilized. Adjust the NO₂ span control to obtain a recorder response as indicated below:

recorder response (% scale)

$$= \left(\frac{[\text{NO}_2]_{\text{OUT}}}{\text{URL}} \times 100 \right) + Z_{\text{NO}_2} \quad (21)$$

NOTE: If the analyzer has only one or two span controls, the span adjustments are made on the NO channel or NO and NO_x channels and no further adjustment is made here for NO₂.

If substantial adjustment of the NO₂ span control is necessary it may be necessary to recheck the zero and span adjustments by repeating steps 2.4.7 and 2.4.9.2. Record the NO₂ concentration and the analyzer's NO₂ response. Using the NO_x calibration curve obtained in step 2.4.8, measure and record the NO_x concentration as [NO_x]_M.

2.4.9.3 Adjust *F*_D to obtain several other concentrations of NO₂ over the NO₂ range (at least five evenly spaced points across the remaining scale are suggested). Calculate each NO₂ concentration using equation (20) and record the corresponding analyzer NO₂ and NO_x responses. Plot the analyzer's NO₂ responses versus the corresponding calculated NO₂ concentrations and draw or calculate the NO₂ calibration curve.

2.4.10 *Determination of converter efficiency.*

2.4.10.1 Plot [NO_x]_M (y-axis) versus [NO₂]_{OUT} (x-axis) and draw or calculate the converter efficiency curve. The slope of the curve times 100 is the average converter efficiency,

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Ec. The average converter efficiency must be greater than 96 percent; if it is less than 96 percent, replace or service the converter.

NOTE: Supplemental information on calibration and other procedures in this method are given in reference 13.

3. *Frequency of calibration.* The frequency of calibration, as well as the number of points necessary to establish the calibration curve and the frequency of other performance checks, will vary from one analyzer to another. The user's quality control program should provide guidelines for initial establishment of these variables and for subsequent alteration as operational experience is accumulated. Manufacturers of analyzers should include in their instruction/operation manuals information and guidance as to these variables and on other matters of operation, calibration, and quality control.

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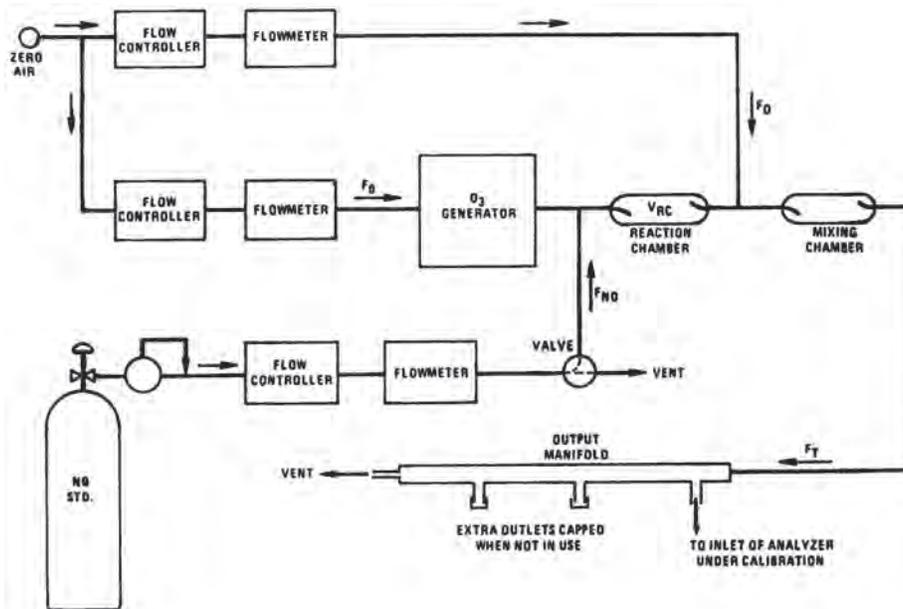


Figure 1. Schematic diagram of a typical GPT calibration system.

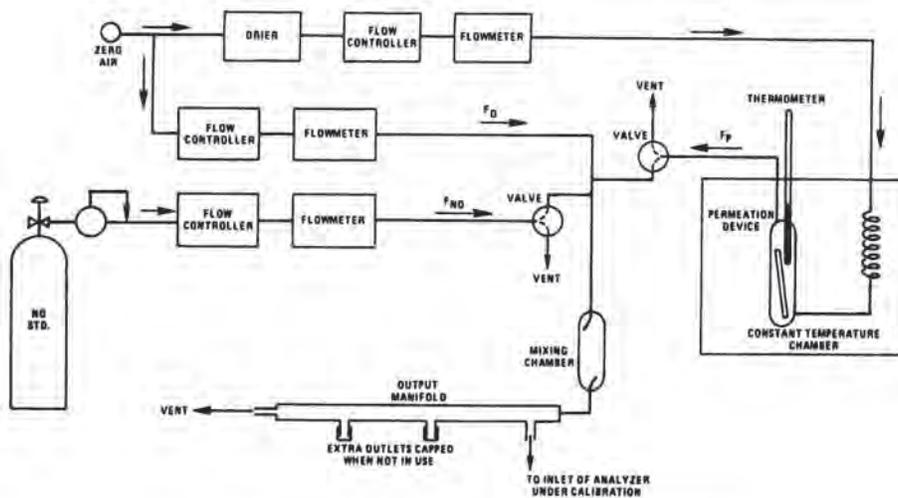


Figure 2. Schematic diagram of a typical calibration apparatus using an NO_2 permeation device.

[41 FR 52688, Dec. 1, 1976, as amended at 48 FR 2529, Jan. 20, 1983]

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APPENDIX G TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF LEAD IN TOTAL SUSPENDED PARTICULATE MATTER

1.0 Scope and Applicability

Based on review of the air quality criteria and national ambient air quality standard (NAAQS) for lead (Pb) completed in 2008, the EPA made revisions to the primary and secondary NAAQS for Pb to protect public health and welfare. The EPA revised the level from 1.5 $\mu\text{g}/\text{m}^3$ to 0.15 $\mu\text{g}/\text{m}^3$ while retaining the current indicator of Pb in total suspended particulate matter (Pb-TSP).

Pb-TSP is collected for 24 hours on a TSP filter as described in Appendix B of part 50, the Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method). This method is for the analysis of Pb from TSP filters by Inductively Coupled Plasma Mass Spectrometry (ICP-MS) using a heated ultrasonic bath with nitric acid (HNO_3) and hydrochloric acid (HCl) or a heated block (hot block) digester with HNO_3 for filter extraction.

This method is based on the EPA's Office of Solid Waste (SW-846) Method 6020A—Inductively Coupled Plasma Mass Spectrometry (U.S. EPA, 2007). Wording in certain sections of this method is paraphrased or taken directly from Method 6020A.

1.1 ICP-MS is applicable for the sub- $\mu\text{g}/\text{mL}$ (ppb) determination of Pb in a wide variety of matrices. Results reported for monitoring or compliance purposes are calculated in $\mu\text{g}/\text{m}^3$ at local conditions (LC). This procedure describes a method for the acid extraction of Pb in particulate matter collected on glass fiber, quartz, or PTFE filters and measurement of the extracted Pb using ICP-MS.

1.2 Due to variations in the isotopic abundance of Pb, the value for total Pb must be based on the sum of the signal intensities for isotopic masses, 206, 207, and 208. Most instrument software packages are able to sum the primary isotope signal intensities automatically.

1.3 ICP-MS requires the use of an internal standard. ^{115}In (Indium), ^{165}Ho (Holmium), and ^{209}Bi (Bismuth) are recommended internal standards for the determination of Pb.

1.4 Use of this method is restricted to use by, or under supervision of, properly trained and experienced laboratory personnel. Requirements include training and experience in inorganic sample preparation, including acid extraction, and also knowledge in the recognition and in the correction of spectral, chemical and physical interference in ICP-MS.

2.0 Summary of Method

2.1 This method describes the acid extraction of Pb in particulate matter collected on

glass fiber, quartz, or PTFE ambient air filters with subsequent measurement of Pb by ICP-MS. Estimates of the Method Detection Limit (MDL) or sensitivity of the method are provided in Tables 1, 3 and 5 and determined using Pb-spiked filters or filter strips analyzed in accordance with the guidance provided in 40 CFR 136, Appendix B—Determination and procedures for the Determination of the Method Detection Limit—Revision 1.1. The analytical range of the method is 0.00024 $\mu\text{g}/\text{m}^3$ to 0.60 $\mu\text{g}/\text{m}^3$, and based on the low and high calibration curve standards and a nominal filter sample volume of 2000 m^3 .

2.2 This method includes two extraction methods. In the first method, a solution of HNO_3 and HCl is added to the filters or filter strips in plastic digestion tubes and the tubes are placed in a heated ultrasonic bath for one hour to facilitate the extraction of Pb. Following ultrasonication, the samples are brought to a final volume of 40 mL (50 mL for PTFE filters), vortex mixed or shaken vigorously, and centrifuged prior to aliquots being taken for ICP-MS analysis. In the second method, a solution of dilute HNO_3 is added to the filter strips in plastic digestion tubes and the tubes placed into the hot block digester. The filter strip is completely covered by the solution. The tubes are covered with polypropylene watch glasses and refluxed. After reflux, the samples are diluted to a final volume of 50 mL with reagent water and mixed before analysis.

2.3 Calibration standards and check standards are prepared to matrix match the acid composition of the samples. ICP-MS analysis is then performed. With this method, the samples are first aspirated and the aerosol thus created is transported by a flow of argon gas into the plasma torch. The ions produced (*e.g.*, Pb^{+1}) in the plasma are extracted via a differentially-pumped vacuum interface and are separated on the basis of their mass-to-charge ratio. The ions are quantified by a channel electron multiplier or a Faraday detector and the signal collected is processed by the instrument's software. Interferences must be assessed and corrected for, if present.

3.0 Definitions

Pb—Elemental or ionic lead
 HNO_3 —Nitric acid
 HCl—Hydrochloric acid
 ICP-MS—Inductively Coupled Plasma Mass Spectrometer
 MDL—Method detection limit
 RSD—Relative standard deviation
 RPD—Relative percent difference
 CB—Calibration Blank
 CAL—Calibration Standard
 ICB—Initial calibration blank
 CCB—Continuing calibration blank
 ICV—Initial calibration verification
 CCV—Continuing calibration verification

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LLCV—Lower Level Calibration Verification, serves as the lower level ICV and lower level CCV
 RB—Reagent blank
 RBS—Reagent blank spike
 MSDS—Material Safety Data Sheet
 NIST—National Institute of Standards and Technology
 D.I. water—Deionized water
 SRM—NIST Standard Reference Material
 CRM—Certified Reference Material
 EPA—Environmental Protection Agency
 v/v—Volume to volume ratio

4.0 Interferences

4.1 Reagents, glassware, plasticware, and other sample processing hardware may yield artifacts and/or interferences to sample analysis. If reagent blanks, filter blanks, or quality control blanks yield results above the detection limit, the source of contamination must be identified. All containers and reagents used in the processing of the samples must be checked for contamination prior to sample extraction and analysis. Reagents shall be diluted to match the final concentration of the extracts and analyzed for Pb. Labware shall be rinsed with dilute acid solution and the solution analyzed. Once a reagent or labware article (such as extraction tubes) from a manufacturer has been successfully screened, additional screening is not required unless contamination is suspected.

4.2 Isobaric elemental interferences in ICP-MS are caused by isotopes of different elements forming atomic ions with the same nominal mass-to-charge ratio (m/z) as the species of interest. There are no species found in ambient air that will result in isobaric interference with the three Pb isotopes (206, 207, and 208) being measured. Polyatomic interferences occur when two or more elements combine to form an ion with the same mass-to-charge ratio as the isotope being measured. Pb is not subject to interference from common polyatomic ions and no correction is required.

4.3 The distribution of Pb isotopes is not constant. The analysis of total Pb should be based on the summation of signal intensities for the isotopic masses 206, 207, and 208. In most cases, the instrument software can perform the summation automatically.

4.4 Physical interferences are associated with the sample nebulization and transport processes as well as with ion-transmission efficiencies. Dissolved solids can deposit on the nebulizer tip of a pneumatic nebulizer and on the interface skimmers of the ICP-MS. Nebulization and transport processes can be affected if a matrix component causes a change in surface tension or viscosity. Changes in matrix composition can cause significant signal suppression or enhancement. These interferences are compensated for by use of internal standards. Sample dilu-

tion will reduce the effects of high levels of dissolved salts, but calibration standards must be prepared in the extraction medium and diluted accordingly.

4.5 Memory interferences are related to sample transport and result when there is carryover from one sample to the next. Sample carryover can result from sample deposition on the sample and skimmer cones and from incomplete rinsing of the sample solution from the plasma torch and the spray chamber between samples. These memory effects are dependent upon both the analyte being measured and sample matrix and can be minimized through the use of suitable rinse times.

5.0 Health and Safety Cautions

5.1 The toxicity or carcinogenicity of reagents used in this method has not been fully established. Each chemical should be regarded as a potential health hazard and exposure to these compounds should be as low as reasonably achievable. Each laboratory is responsible for maintaining a current file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material safety data sheets (MSDSs) should be available to all personnel involved in the chemical analysis. Specifically, concentrated HNO_3 presents various hazards and is moderately toxic and extremely irritating to skin and mucus membranes. Use this reagent in a fume hood whenever possible and if eye or skin contact occurs, flush with large volumes of water. Always wear safety glasses or a shield for eye protection, protective clothing, and observe proper mixing when working with these reagents.

5.2 Concentrated HNO_3 and HCl are moderately toxic and extremely irritating to the skin. Use these reagents in a fume hood, and if eye and skin contact occurs, flush with large volumes of water. Always wear safety glasses or a shield for eye protection when working with these reagents. The component of this procedure requiring the greatest care is HNO_3 . HNO_3 is a strong, corrosive, oxidizing agent that requires protection of the eyes, skin, and clothing. Items to be worn during use of this reagent include:

1. Safety goggles (or safety glasses with side shields),
2. Acid resistant rubber gloves, and
3. A protective garment such as a laboratory apron. HNO_3 spilled on clothing will destroy the fabric; contact with the skin underneath will result in a burn.

It is also essential that an eye wash fountain or eye wash bottle be available during performance of this method. An eye wash bottle has a spout that covers the eye. If acid or any other corrosive gets into the eye, the water in this bottle is squirted onto the eye to wash out the harmful material. Eye washing should be performed with large amounts

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of water immediately after exposure. Medical help should be sought immediately after washing. If either acid, but especially HNO_3 , is spilled onto the skin, wash immediately with large amounts of water. Medical attention is not required unless the burn appears to be significant. Even after washing and drying, HNO_3 may leave the skin slightly brown in color; this will heal and fade with time.

5.3 Pb salts and Pb solutions are toxic. Great care must be taken to ensure that samples and standards are handled properly; wash hands thoroughly after handling.

5.4 Care must be taken when using the ultrasonic bath and hot block digester as they are capable of causing mild burns. Users should refer to the safety guidance provided by the manufacturer of their specific equipment.

5.5 Analytical plasma sources emit radio frequency radiation in addition to intense ultra violet (UV) radiation. Suitable precautions should be taken to protect personnel from such hazards. The inductively coupled plasma should only be viewed with proper eye protection from UV emissions.

6.0 Equipment

6.1 Thermo Scientific X-Series ICP-MS or equivalent. The system must be capable of providing resolution better or equal to 1.0 atomic mass unit (amu) at 10 percent peak height. The system must have a mass range from at least 7 to 240 amu that allows for the application of the internal standard technique. For the measurement of Pb, an instrument with a collision or reaction cell is not required.

6.2 Ultrasonic Extraction Equipment

6.2.1 Heated ultrasonic bath capable of maintaining a temperature of 80 °C; VWR Model 750HT, 240W, or equivalent. Ultrasonic bath must meet the following performance criteria:

1. Cut a strip of aluminum foil almost the width of the tank and double the depth.

2. Turn the ultrasonic bath on and lower the foil into the bath vertically until almost touching the bottom of the tank and hold for 10 seconds.

3. Remove the foil from the tank and observe the distribution of perforations and small pin prick holes. The indentations should be fine and evenly distributed. The even distribution of indentations indicates the ultrasonic bath is acceptable for use.

6.2.2 Laboratory centrifuge, Beckman GS-6, or equivalent.

6.2.3 Vortex mixer, VWR Signature Digital Vortex Mixer, VWR Catalog No. 14005-824, or equivalent.

6.3 Hot block extraction equipment

6.3.1 Hot block digester, SCP Science DigiPrep Model MS, No. 010-500-205 block di-

gester capable of maintaining a temperature of 95 °C, or equivalent.

6.4 Materials and Supplies

- Argon gas supply, 99.99 percent purity or better. National Welders Microbulk, or equivalent.

- Plastic digestion tubes with threaded caps for extraction and storage, SCP Science DigiTUBE® Item No. 010-500-063, or equivalent.

- Disposable polypropylene ribbed watch glasses (for heated block extraction), SCP Science Item No. 010-500-081, or equivalent.

- Pipette, Rainin EDP2, 100 μL , ± 1 percent accuracy, ≤ 1 percent RSD (precision), with disposable tips, or equivalent.

- Pipette, Rainin EDP2, 1000 μL , ± 1 percent accuracy, ≤ 1 percent RSD (precision), with disposable tips, or equivalent.

- Pipette, Rainin EDP2, 1-10 mL, ± 1 percent accuracy, ≤ 1 percent RSD (precision), with disposable tips, or equivalent.

- Pipette, Thermo Lab Systems, 5 mL, ± 1 percent accuracy, ≤ 1 percent RSD (precision), with disposable tips, or equivalent.

- Plastic tweezer, VWR Catalog No. 89026-420, or equivalent.

- Laboratory marker.

- Ceramic knife, Kyocera LK-25, and non-metal ruler or other suitable cutting tools for making straight cuts for accurately measured strips.

- Blank labels or labeling tape, VWR Catalog No. 36425-045, or equivalent.

- Graduated cylinder, 1 L, VWR 89000-260, or equivalent.

- Volumetric flask, Class A, 1 L, VWR Catalog No. 89025-778, or equivalent.

- Millipore Element deionized water system, or equivalent, capable of generating water with a resistivity of $\geq 17.9 \text{ M}\Omega\text{-cm}$.

- Disposable syringes, 10-mL, with 0.45 micron filters (must be Pb-free).

- Plastic or PTFE wash bottles.

- Glassware, Class A—volumetric flasks, pipettes, and graduated cylinders.

- Glass fiber, quartz, or PTFE filters from the same filter manufacturer and lot used for sample collection for use in the determination of the MDL and for laboratory blanks.

7.0 Reagents and Standards

7.1 Reagent—or trace metals-grade chemicals must be used in all tests. Unless otherwise indicated, it is intended that all reagents conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available.

7.2 Concentrated nitric acid, 67-70 percent, SCP Science Catalog No. 250-037-177, or equivalent.

7.3 Concentrated hydrochloric acid (for the ultrasonic extraction method), 33-36 percent, SCP Science Catalog No. 250-037-175, or equivalent.

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7.4 Deionized water—All references to deionized water in the method refer to deionized water with a resistivity ≥ 17.9 M Ω -cm.

7.5 Standard stock solutions may be commercially purchased for each element or as a multi-element mix. Internal standards may be purchased as a mixed multi-element solution. The manufacturer's expiration date and storage conditions must be adhered to.

7.5.1 Lead standard, 1000 $\mu\text{g/mL}$, NIST traceable, commercially available with certificate of analysis. High Purity Standards Catalog No. 100028-1, or equivalent.

7.5.2 Indium (In) standard, 1000 $\mu\text{g/mL}$, NIST traceable, commercially available with certificate of analysis. High Purity Standards Catalog No. 100024-1, or equivalent.

7.5.3 Bismuth (Bi) standard, 1000 $\mu\text{g/mL}$, NIST traceable, commercially available with certificate of analysis. High Purity Standards Catalog No. 100006-1, or equivalent.

7.5.4 Holmium (Ho) standard, 1000 $\mu\text{g/mL}$, NIST traceable, commercially available with certificate of analysis. High Purity Standards Catalog No. 100023-1, or equivalent.

7.5.5 Second source lead standard, 1000 $\mu\text{g/mL}$, NIST traceable, commercially available with certificate of analysis. Must be from a different vendor or lot than the standard described in 7.5.1. Inorganic Ventures Catalog No. CGPB-1, or equivalent.

7.5.6 Standard Reference Materials, NIST SRM 2583, 2586, 2587 or 1648, or equivalent.⁵

Note: The In, Bi, and Ho internal standards may also be purchased as 10 $\mu\text{g/mL}$ standards. Calibration standards are prepared by diluting stock standards to the appropriate levels in the same acid concentrations as in the final sample volume. The typical range for calibration standards is 0.001 to 2.00 $\mu\text{g/mL}$. At a minimum, the curve must contain a blank and five Pb containing calibration standards. The calibration standards are stored at ambient laboratory temperature. Calibration standards must be prepared weekly and verified against a freshly prepared ICV using a NIST-traceable source different from the calibration standards.

7.6 Internal standards may be added to the test solution or by on-line addition. The nominal concentration for an internal standard is 0.010 $\mu\text{g/mL}$ (10 ppb). Bismuth (Bi) or holmium (Ho) are the preferred internal standards for Pb, but indium (In) may be used in the event the sample contains Bi and high recoveries are observed.

7.7 Three laboratory blank solutions are required for analysis: (1) The calibration blank is used in the construction of the calibration curve and as a periodic check of system cleanliness (ICB and CCB); (2) the reagent blank (RB) is carried through the ex-

traction process to assess possible contamination; and (3) the rinse blank is run between samples to clean the sample introduction system. If RBs or laboratory blanks yield results above the detection limit, the source of contamination must be identified. Screening of labware and reagents is addressed in Section 4.1.

7.7.1 The calibration blank is prepared in the same acid matrix as the calibration standards and samples and contains all internal standards used in the analysis.

7.7.2 The RB contains all reagents used in the extraction and is carried through the extraction procedure at the same time as the samples.

7.7.3 The rinse blank is a solution of 1 to 2 percent HNO_3 (v/v) in reagent grade water. A sufficient volume should be prepared to flush the system between all standards and samples analyzed.

7.7.4 The EPA currently provides glass fiber, quartz, and PTFE filters to air monitoring agencies as requested annually. As part of the procurement process, these filters are tested for acceptance by the EPA. The current acceptance criteria for glass fiber and quartz filters is 15 μg per filter or 0.0075 $\mu\text{g/m}^3$ using a nominal sample volume of 2000 m^3 and 4.8 ng/cm^2 or 0.0024 $\mu\text{g/m}^3$ for PTFE filters using a nominal sample volume of 24 m^3 . Acceptance test results for filters obtained by the EPA are typically well below the criterion specified and also below the recently revised Pb method performance detection limit of 0.0075 $\mu\text{g/m}^3$; therefore, blank subtraction should not be performed.

7.7.5 If filters are not provided by the EPA for sample collection and analysis, filter lot blanks should be analyzed for Pb content. For large filter lots (≤ 500 filters), randomly select 20 to 30 filters from the lot and analyze the filter or filter strips for Pb. For smaller filter lots, a lesser number of filters can be analyzed. Glass, quartz and PTFE filters must not have levels of Pb above the criteria specified in section 7.7.4 and, therefore, blank correction should not be performed. If acceptance testing shows levels of Pb above the criteria in Section 7.7.4, corrective action must be taken to reduce the levels before proceeding.

7.8 The Initial Calibration Verification (ICV), Lower Level Calibration Verification (LLCV), and Continuing Calibration Verification (CCV) solutions are prepared from a different Pb source than the calibration curve standards and at a concentration that is either at or below the midpoint on the calibration curve, but within the calibration range. Both are prepared in the same acid matrix as the calibration standards. Note that the same solution may be used for both the ICV and CCV. The ICV/CCV and LLCV solutions must be prepared fresh daily.

⁵Certificates of Analysis for these SRMs can be found at: <http://www.nist.gov/srm/index.cfm>.

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7.9 Tuning Solution. Prepare a tuning solution according to the instrument manufacturer's recommendations. This solution will be used to verify the mass calibration and resolution of the instrument.

8.0 Quality Control (QC)

8.1 Standard QC practices shall be employed to assess the validity of the data generated, including: MDL, RB, duplicate samples, spiked samples, serial dilutions, ICV, CCV, LLCV, ICB, CCB, and SRMs/CRMs.

8.2 MDLs must be calculated in accordance with 40 CFR part 136, Appendix B. RBs with low-level standard spikes are used to estimate the MDL. The low-level standard spike is added to at least 7 individual filter strips and then carried through the entire extraction procedure. This will result in at least 7 individual samples to be used for the MDL. The recommended range for spiking the strips is 1 to 5 times the estimated MDL.

8.3 For each batch of samples, one RB and one reagent blank spike (RBS) that is spiked at the same level as the sample spike (see Section 8.6) must be prepared and carried throughout the entire process. The results of the RB must be below 0.001 µg/mL. The recovery for the RBS must be within ±20 percent of the expected value. If the RB yields a result above 0.001 µg/mL, the source of contamination must be identified and the extraction and analysis repeated. Reagents and labware must be suspected as sources of contamination. Screening of reagents and labware is addressed in Section 4.1.

8.4 Any samples that exceed the highest calibration standard must be diluted and rerun so that the concentration falls within the curve. The minimum dilution will be 1 to 5 with matrix matched acid solution.

8.5 The internal standard response must be monitored during the analysis. If the internal standard response falls below 70 percent or rises above 120 percent of expected due to possible matrix effects, the sample must be diluted and reanalyzed. The minimum dilution will be 1 to 5 with matrix matched acid solution. If the first dilution does not correct the problem, additional dilutions must be run until the internal standard falls within the specified range.

8.6 For every batch of samples prepared, there must be one duplicate and one spike sample prepared. The spike added is to be at a level that falls within the calibration curve, normally the midpoint of the curve. The initial plus duplicate sample must yield a relative percent difference ≤20 percent. The spike must be within ±20 percent of the expected value.

8.7 For each batch of samples, one extract must be diluted five-fold and analyzed. The corrected dilution result must be within ±10 percent of the undiluted result. The sample chosen for the serial dilution shall have a concentration at or above 10X the lowest standard in the curve to ensure the diluted value falls within the curve. If the serial dilution fails, chemical or physical interference should be suspected.

8.8 ICB, ICV, LLCV, CCB and CCV samples are to be run as shown in the following table.

Sample	Frequency	Performance specification
ICB	Prior to first sample	Less than 0.001 µg/mL.
ICV	Prior to first sample	Within 90 to 110 percent of the expected value.
LLCV	Daily, before first sample and after last sample	±10 percent of the expected value.
CCB	After every 10 extracted samples	Less than 0.001 µg/mL.
CCV	After every 10 extracted samples	Within 90–110 percent of the expected value.

If any of these QC samples fails to meet specifications, the source of the unacceptable performance must be determined, the problem corrected, and any samples not bracketed by passing QC samples must be re-analyzed.

8.9 For each batch of samples, one certified reference material (CRM) must be combined with a blank filter strip and carried through the entire extraction procedure. The result must be within ±10 percent of the expected value.

8.10 For each run, a LLCV must be analyzed. The LLCV must be prepared at a concentration not more than three times the lowest calibration standard and at a concentration not used in the calibration curve. The LLCV is used to assess performance at the low end of the curve. If the LLCV fails (±10 percent of the expected value) the run

must be terminated, the problem corrected, the instrument recalibrated, and the analysis repeated.

8.11 Pipettes used for volumetric transfer must have the calibration checked at least once every 6 months and pass ±1 percent accuracy and ≤1 percent RSD (precision) based on five replicate readings. The pipettes must be checked weekly for accuracy with a single replicate. Any pipette that does not meet ±1 percent accuracy on the weekly check must be removed from service, repaired, and pass a full calibration check before use.

8.12 Samples with physical deformities are not quantitatively analyzable. The analyst should visually check filters prior to proceeding with preparation for holes, tears, or non-uniform deposit which would prevent

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representative sampling. Document any deformities and qualify the data with flags appropriately. Care must be taken to protect filters from contamination. Filters must be kept covered prior to sample preparation.

9.0 ICP MS Calibration

Follow the instrument manufacturer's instructions for the routine maintenance, cleaning, and ignition procedures for the specific ICP-MS instrument being used.

9.1 Ignite the plasma and wait for at least one half hour for the instrument to warm up before beginning any pre-analysis steps.

9.2 For the Thermo X-Series with Xt cones, aspirate a 10 ng/mL tuning solution containing In, Bi, and Ce (Cerium). Monitor the intensities of In, Bi, Ce, and CeO (Cerium oxide) and adjust the instrument settings to achieve the highest In and Bi counts while minimizing the CeO/Ce oxide ratio. For other instruments, follow the manufacturer's recommended practice. Tune to meet the instrument manufacturer's specifications. After tuning, place the sample aspiration probe into a 2 percent HNO₃ rinse solution for at least 5 minutes to flush the system.

9.3 Aspirate a 5 ng/mL solution containing Co, In, and Bi to perform a daily instrument stability check. Run 10 replicates of the solution. The percent RSD for the replicates must be less than 3 percent at all masses. If the percent RSD is greater than 3 percent, the sample introduction system, pump tubing, and tune should be examined, and the analysis repeated. Place the sample aspiration probe into a 2 percent HNO₃ rinse solution for at least 5 minutes to flush the system.

9.4 Load the calibration standards in the autosampler and analyze using the same method parameters that will be used to analyze samples. The curve must include one blank and at least 5 Pb-containing calibration standards. The correlation coefficient must be at least 0.998 for the curve to be accepted. The lowest standard must recover ± 15 percent of the expected value and the remaining standards must recover ± 10 percent of the expected value to be accepted.

9.5 Immediately after the calibration curve is completed, analyze an ICV and an ICB. The ICV must be prepared from a different source of Pb than the calibration standards. The ICV must recover 90–110 percent of the expected value for the run to continue. The ICB must be less than 0.001 $\mu\text{g/mL}$. If either the ICV or the ICB fails, the run must be terminated, the problem identified and corrected, and the analysis re-started.

9.6 A LLCV, CCV and a CCB must be run after the ICV and ICB. A CCV and CCB must be run at a frequency of not less than every 10 extracted samples. A typical analytical run sequence would be: Calibration blank, Calibration standards, ICV, ICB, LLCV, CCV, CCB, Extracts 1–10, CCV, CCB, Extracts 11–20, CCV, CCB, Extracts 21–30, CCV, CCB,

LLCV, CCV, CCB. Extracts are any field sample or QC samples that have been carried through the extraction process. The CCV solution is prepared from a different source than the calibration standards and may be the same as the ICV solution. The LLCV must be within ± 10 percent of expected value. The CCV value must be within ± 10 percent of expected for the run to continue. The CCB must be less than 0.001 $\mu\text{g/mL}$. If either the CCV, LLCV, or CCB fails, the run must be terminated, the problem identified and corrected, and the analysis re-started from the last passing CCV/LLCV/CCB set.

9.7 A LLCV, CCV, and CCB set must be run at the end of the analysis. The LLCV must be within ± 30 percent of expected value. If either the CCV, LLCV, or CCB fails, the run must be terminated, the problem identified and corrected, and the analysis re-started from the last passing CCV/LLCV/CCB set.

10.0 Heated Ultrasonic Filter Strip Extraction

All plasticware (*e.g.*, Nalgene) and glassware used in the extraction procedures is soaked in 1 percent HNO₃ (v/v) for at least 24 hours and rinsed with reagent water prior to use. All mechanical pipettes used must be calibrated to ± 1 percent accuracy and ≤ 1 percent RSD at a minimum of once every 6 months.

10.1 Sample Preparation—Heated Ultrasonic Bath

10.1.1 Extraction solution (1.03M HNO₃ + 2.23M HCl). Prepare by adding 500 mL of deionized water to a 1000 mL flask, adding 64.4 mL of concentrated HNO₃ and 182 mL of concentrated HCl, shaking to mix, allowing solution to cool, diluting to volume with reagent water, and inverting several times to mix. Extraction solution must be prepared at least weekly.

10.1.2 Use a ceramic knife and non-metal ruler, or other cutting device that will not contaminate the filter with Pb. Cut a $\frac{3}{4}$ inch \times 8 inch strip from the glass fiber or quartz filter by cutting a strip from the edge of the filter where it has been folded along the 10 inch side at least 1 inch from the right or left side to avoid the un-sampled area covered by the filter holder. The filters must be carefully handled to avoid dislodging deposits.

10.1.3 Using plastic tweezers, roll the filter strip up in a coil and place the rolled strip in the bottom of a labeled 50 mL extraction tube. In a fume hood, add 15.00 ± 0.15 mL of the extraction solution (see Section 10.1.1) using a calibrated mechanical pipette. Ensure that the extraction solution completely covers the filter strip.

10.1.4 Loosely cap the 50 mL extraction tube and place it upright in a plastic rack. When all samples have been prepared, place the racks in an uncovered heated ultrasonic water bath that has been preheated to 80 ± 5

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°C and ensure that the water level in the ultrasonic is above the level of the extraction solution in the tubes but well below the level of the extraction tube caps to avoid contamination. Start the ultrasonic bath and allow the unit to run for 1 hour ± 5 minutes at 80 ± 5 °C.

10.1.5 Remove the rack(s) from the ultrasonic bath and allow the racks to cool.

10.1.6 Add 25.00 ± 0.25 mL of D.I. water with a calibrated mechanical pipette to bring the sample to a final volume of 40.0 ± 0.4 mL. Tightly cap the tubes, and vortex mix or shake vigorously. Place the extraction tubes in an appropriate holder and centrifuge for 20 minutes at 2500 revolutions per minute (RPM).

CAUTION—Make sure that the centrifuge holder has a flat bottom to support the flat bottomed extraction tubes.

10.1.7 Pour an aliquot of the solution into an autosampler vial for ICP–MS analysis to avoid the potential for contamination. Do not pipette an aliquot of solution into the autosampler vial.

10.1.8 Decant the extract to a clean tube, cap tightly, and store the sample extract at ambient laboratory temperature. Extracts may be stored for up to 6 months from the date of extraction.

10.2 47 mm PTFE Filter Extraction—Heated Ultrasonic Bath

10.2.1 Extraction solution (1.03M HNO₃ + 2.23M HCl). Prepare by adding 500 mL of D.I. water to a 1000mL flask, adding 64.4 mL of concentrated HNO₃ and 182 mL of concentrated HCl, shaking to mix, allowing solution to cool, diluting to volume with reagent water, and inverting several times to mix. Extraction solution must be prepared at least weekly.

10.2.2 Using plastic tweezers, bend the PTFE filter into a U-shape and insert the filter into a labeled 50 mL extraction tube with the particle loaded side facing the center of the tube. Gently push the filter to the bottom of the extraction tube. In a fume hood, add 25.00 ± 0.15 mL of the extraction solution (see Section 10.2.1) using a calibrated mechanical pipette. Ensure that the extraction solution completely covers the filter.

10.2.3 Loosely cap the 50 mL extraction tube and place it upright in a plastic rack. When all samples have been prepared, place the racks in an uncovered heated ultrasonic water bath that has been preheated to 80 ± 5 °C and ensure that the water level in the ultrasonic is above the level of the extraction solution in the tubes, but well below the level of the extraction tube caps to avoid contamination. Start the ultrasonic bath and allow the unit to run for 1 hour ± 5 minutes at 80 ± 5 °C.

10.2.4 Remove the rack(s) from the ultrasonic bath and allow the racks to cool.

10.2.5 Add 25.00 ± 0.25 mL of D.I. water with a calibrated mechanical pipette to bring the

sample to a final volume of 50.0 ± 0.4 mL. Tightly cap the tubes, and vortex mix or shake vigorously. Allow samples to stand for one hour to allow complete diffusion of the extracted Pb. The sample is now ready for analysis.

Note: Although PTFE filters have only been extracted using the ultrasonic extraction procedure in the development of this FRM, PTFE filters are inert and have very low Pb content. No issues are expected with the extraction of PTFE filters using the heated block digestion method. However, prior to using PTFE filters in the heated block extraction method, extraction method performance test using CRMs must be done to confirm performance (see Section 8.9).

11.0 Hot Block Filter Strip Extraction

All plasticware (*e.g.*, Nalgene) and glassware used in the extraction procedures is soaked in 1 percent HNO₃ for at least 24 hours and rinsed with reagent water prior to use. All mechanical pipettes used must be calibrated to ± 1 percent accuracy and ≤ 1 percent RSD at a minimum of once every 6 months.

11.1 Sample Preparation—Hot Block Digestion

11.1.1 Extraction solution (1:19, v/v HNO₃). Prepare by adding 500 mL of D.I. water to a 1000 mL flask, adding 50 mL of concentrated HNO₃, shaking to mix, allowing solution to cool, diluting to volume with reagent water, and inverting several times to mix. The extraction solution must be prepared at least weekly.

11.1.2 Use a ceramic knife and non-metal ruler, or other cutting device that will not contaminate the filter with Pb. Cut a 1-inch \times 8-inch strip from the glass fiber or quartz filter. Cut a strip from the edge of the filter where it has been folded along the 10-inch side at least 1 inch from the right or left side to avoid the un-sampled area covered by the filter holder. The filters must be carefully handled to avoid dislodging particle deposits.

11.1.3 Using plastic tweezers, roll the filter strip up in a coil and place the rolled strip in the bottom of a labeled 50 mL extraction tube. In a fume hood, add 20.0 ± 0.15 mL of the extraction solution (see Section 11.1.1) using a calibrated mechanical pipette. Ensure that the extraction solution completely covers the filter strip.

11.1.4 Place the extraction tube in the heated block digester and cover with a disposable polyethylene ribbed watch glass. Heat at 95 ± 5 °C for 1 hour and ensure that the sample does not evaporate to dryness. For proper heating, adjust the temperature control of the hot block such that an uncovered vessel containing 50 mL of water placed in the center of the hot block can be maintained at a temperature approximately, but

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no higher than 85C. Once the vessel is covered with a ribbed watch glass, the temperature of the water will increase to approximately 95 °C.

11.1.5 Remove the rack(s) from the heated block digester and allow the samples to cool.

11.1.6 Bring the samples to a final volume of 50 mL with D.I. water. Tightly cap the tubes, and vortex mix or shake vigorously for at least 5 seconds. Set aside (with the filter strip in the tube) for at least 30 minutes to allow the HNO₃ trapped in the filter to diffuse into the extraction solution.

11.1.7 Shake thoroughly (with the filter strip in the digestion tube) and let settle for at least one hour. The sample is now ready for analysis.

12.0 Measurement Procedure

12.1 Follow the instrument manufacturer's startup procedures for the ICP-MS.

12.2 Set instrument parameters to the appropriate operating conditions as presented in the instrument manufacturer's operating manual and allow the instrument to warm up for at least 30 minutes.

12.3 Calibrate the instrument per Section 9.0 of this method.

12.4 Verify the instrument is suitable for analysis as defined in Sections 9.2 and 9.3.

12.5 As directed in Section 8.0 of this method, analyze an ICV and ICB immediately after the calibration curve followed by a LLCV, then CCV and CCB. The acceptance requirements for these parameters are presented in Section 8.8.

12.6 Analyze a CCV and a CCB after every 10 extracted samples.

12.7 Analyze a LLCV, CCV and CCB at the end of the analysis.

12.8 A typical sample run will include field samples, field sample duplicates, spiked field sample extracts, serially diluted samples, the set of QC samples listed in Section 8.8 above, and one or more CRMs or SRMs.

12.9 Any samples that exceed the highest standard in the calibration curve must be diluted and reanalyzed so that the diluted concentration falls within the calibration curve.

13.0 Results

13.1 The filter results must be initially reported in µg/mL as analyzed. Any additional dilutions must be accounted for. The internal standard recoveries must be included in the result calculation; this is done by the ICP-MS software for most commercially-available instruments. Final results should be reported in µg Pb/m³ to three significant figures as follows:

$$C = ((\mu\text{g Pb/mL} * V_f * A) * D) / V_s$$

Where:

C = Concentration, µg Pb/m³

µg Pb/mL = Lead concentration in solution

V_f = Total extraction solution volume

A = Area correction; ¾" × 8" strip = 5.25 in² analyzed, A = 12.0 or 1" × 8" strip = 7 in² analyzed, A = 9.0

D = dilution factor (if required)

V_s = Actual volume of air sampled

The calculation assumes the use of a standard 8-inch × 10-inch TSP filter which has a sampled area of 9-inch × 7-inch (63.0 in²) due to the ½-inch filter holder border around the outer edge. The ¾-inch × 8-inch strip has a sampled area of ¾-inch × 7-inch (5.25 in²). The 1-inch × 8-inch strip has a sampled area of 1-inch × 7-inch (7.0 in²). If filter lot blanks are provided for analysis, refer to Section 7.7.5 of this method for guidance on testing.

14.0 Method Performance

Information in this section is an example of typical performance results achieved by this method. Actual performance must be demonstrated by each individual laboratory and instrument.

14.1 Performance data have been collected to estimate MDLs for this method. MDLs were determined in accordance with 40 CFR 136, Appendix B. MDLs were estimated for glass fiber, quartz, and PTFE filters using seven reagent/filter blank solutions spiked with low level Pb at three times the estimated MDL of 0.001 µg/mL. Tables 1, 3, and 5 shows the MDLs estimated using both the ultrasonic and hot block extraction methods for glass fiber and quartz filters and the ultrasonic method for PTFE filters. The MDLs are well below the EPA requirement of five percent of the current Pb NAAQS or 0.0075 µg/m³. These MDLs are provided to demonstrate the adequacy of the method's performance for Pb in TSP. Each laboratory using this method should determine MDLs in their laboratory and verify them annually. It is recommended that laboratories also perform the optional iterative procedure in 40 CFR 136, Appendix B to verify the reasonableness of the estimated MDL and subsequent MDL determinations.

14.2 Extraction method recovery tests with glass fiber and quartz filter strips, and PTFE filters spiked with NIST SRMs were performed using the ultrasonic/HNO₃ and HCl filter extraction methods and measurement of the dissolved Pb with ICP-MS. Tables 2, 4, and 6 show recoveries obtained with these SRM. The recoveries for all SRMs were ≥90 percent at the 95 percent confidence level.

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TABLE 1—METHOD DETECTION LIMITS DETERMINED BY ANALYSIS OF REAGENT/GLASS FIBER FILTER BLANKS SPIKED WITH LOW-LEVEL Pb SOLUTION

	Ultrasonic extraction method	Hotblock extraction method
	µg/m ³	µg/m ³
n = 1	0.0000702	0.000533
n = 2	0.0000715	0.000482
n = 3	0.0000611	0.000509
n = 4	0.0000587	0.000427
n = 5	0.0000608	0.000449
n = 6	0.0000607	0.000539
n = 7	0.0000616	0.000481
Average	0.0000635	0.000489
Standard Deviation	0.0000051	0.000042
MDL**	0.0000161	0.000131

* Assumes 2000 m³ of air sampled.
 ** MDL is 3.143 times the standard deviation of the results for seven sample replicates analyzed.

TABLE 2—RECOVERIES OF LEAD FROM NIST SRMS SPIKED ONTO GLASS FIBER FILTERS

Extraction method	Recovery, ICP-MS, (percent)			
	NIST 1547 plant	NIST 2709 soil	NIST 2583 dust	NIST 2582 paint
Ultrasonic Bath	100 ±4	98 ±1	103 ±8	101 ±0
Block Digestion	92 ±7	98 ±3	103 ±4	94 ±4

TABLE 3—METHOD DETECTION LIMITS DETERMINED BY ANALYSIS OF REAGENT/QUARTZ FILTER BLANKS SPIKED WITH LOW-LEVEL Pb SOLUTION

	Ultrasonic extraction method	Hotblock extraction method
	µg/m ³ *	µg/m ³ *
n = 1	0.000533	0.000274
n = 2	0.000552	0.000271
n = 3	0.000534	0.000281
n = 4	0.000684	0.000269
n = 5	0.000532	0.000278
n = 6	0.000532	0.000272
n = 7	0.000552	0.000261
Average	0.000560	0.000272
Standard Deviation	0.000055	0.000007
MDL**	0.000174	0.000021

* Assumes 2000 m³ of air sampled.
 ** MDL is 3.143 times the standard deviation of the results for seven sample replicates analyzed.

TABLE 4—RECOVERIES OF LEAD FROM NIST SRMS SPIKED ONTO QUARTZ FIBER FILTERS

Extraction method	Recovery, ICP-MS, (percent)			
	NIST 1547 plant	NIST 2709 soil	NIST 2583 dust	NIST 2582 paint
Ultrasonic Bath	101 ±6	95 ±1	91 ±5	93 ±1
Block Digestion	106 ±3	104 ±3	92 ±6	95 ±2

TABLE 5—METHOD DETECTION LIMITS DETERMINED BY ANALYSIS OF REAGENT/PTEF FILTER BLANKS SPIKED WITH LOW-LEVEL Pb SOLUTION

	Ultrasonic extraction method
	µg/m ³ *
n = 1	0.001775
n = 2	0.001812

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TABLE 5—METHOD DETECTION LIMITS DETERMINED BY ANALYSIS OF REAGENT/PDTE FILTER BLANKS SPIKED WITH LOW-LEVEL PB SOLUTION—Continued

	Ultrasonic extraction method
	µg/m ³ *
n = 3	0.001773
n = 4	0.001792
n = 5	0.001712
n = 6	0.001767
n = 7	0.001778
Average	0.001773
Standard Deviation	0.000031
MDL**	0.000097

* Assumes 24 m³ of air sampled.
 ** MDL is 3.143 times the standard deviation of the results for seven sample replicates analyzed.

TABLE 6—RECOVERIES OF LEAD FROM NIST SRMS SPIKED ONTO PTFE FILTERS

Extraction method	Recovery, ICP-MS, (percent)			
	NIST 1547 plant	NIST 2709 soil	NIST 2583 dust	NIST 2582 paint
Ultrasonic Bath	104 ±5	93 ±1	108 ±11	96 ±3

15.0 Pollution Prevention

15.1 Pollution prevention encompasses any technique that reduces or eliminates the quantity and/or toxicity of waste at the point of generation. Numerous opportunities for pollution prevention exist in laboratory operations. Whenever feasible, laboratory personnel should use pollution prevention techniques to address their waste generation. The sources of pollution generated with this procedure are waste acid extracts and Pb-containing solutions.

15.2 For information about pollution prevention that may be applicable to laboratories and research institutions, consult *Less is Better: Laboratory Chemical Management for Waste Reduction*, available from the American Chemical Society's Department of Government Relations and Science Policy, 1155 16th St. NW., Washington, DC 20036, www.acs.org.

16.0 Waste Management

16.1 Laboratory waste management practices must be conducted consistent with all applicable rules and regulations. Laboratories are urged to protect air, water, and land by minimizing all releases from hood and bench operations, complying with the letter and spirit of any sewer and discharge permits and regulations, and by complying with all solid and hazardous waste regulation. For further information on waste management, consult *The Waste Management Manual for Laboratory Personnel* available from the American Chemical Society listed in Section 15.2 of this method.

16.2 Waste HNO₃, HCl, and solutions containing these reagents and/or Pb must be placed in labeled bottles and delivered to a commercial firm that specializes in removal of hazardous waste.

17.0 References

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[78 FR 40004, July 3, 2013]

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APPENDIX H TO PART 50—INTERPRETATION OF THE 1-HOUR PRIMARY AND SECONDARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE

1. GENERAL

This appendix explains how to determine when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm (235 µg/m³) is equal to or less than 1. An expanded discussion of these procedures and associated examples are contained in the "Guideline for Interpretation of Ozone Air Quality Standards." For purposes of clarity in the following discussion, it is convenient to use the term "exceedance" to describe a daily maximum hourly average ozone measurement that is greater than the level of the standard. Therefore, the phrase "expected number of days with maximum hourly average ozone concentrations above the level of the standard" may be simply stated as the "expected number of exceedances."

The basic principle in making this determination is relatively straightforward. Most of the complications that arise in determining the expected number of annual exceedances relate to accounting for incomplete sampling. In general, the average number of exceedances per calendar year must be less than or equal to 1. In its simplest form, the number of exceedances at a monitoring site would be recorded for each calendar year and then averaged over the past 3 calendar years to determine if this average is less than or equal to 1.

2. INTERPRETATION OF EXPECTED EXCEEDANCES

The ozone standard states that the expected number of exceedances per year must be less than or equal to 1. The statistical term "expected number" is basically an arithmetic average. The following example explains what it would mean for an area to be in compliance with this type of standard. Suppose a monitoring station records a valid daily maximum hourly average ozone value for every day of the year during the past 3 years. At the end of each year, the number of days with maximum hourly concentrations above 0.12 ppm is determined and this number is averaged with the results of previous years. As long as this average remains "less than or equal to 1," the area is in compliance.

3. ESTIMATING THE NUMBER OF EXCEEDANCES FOR A YEAR

In general, a valid daily maximum hourly average value may not be available for each day of the year, and it will be necessary to account for these missing values when estimating the number of exceedances for a par-

ticular calendar year. The purpose of these computations is to determine if the expected number of exceedances per year is less than or equal to 1. Thus, if a site has two or more observed exceedances each year, the standard is not met and it is not necessary to use the procedures of this section to account for incomplete sampling.

The term "missing value" is used here in the general sense to describe all days that do not have an associated ozone measurement. In some cases, a measurement might actually have been missed but in other cases no measurement may have been scheduled for that day. A daily maximum ozone value is defined to be the highest hourly ozone value recorded for the day. This daily maximum value is considered to be valid if 75 percent of the hours from 9:01 a.m. to 9:00 p.m. (LST) were measured or if the highest hour is greater than the level of the standard.

In some areas, the seasonal pattern of ozone is so pronounced that entire months need not be sampled because it is extremely unlikely that the standard would be exceeded. Any such waiver of the ozone monitoring requirement would be handled under provisions of 40 CFR, part 58. Some allowance should also be made for days for which valid daily maximum hourly values were not obtained but which would quite likely have been below the standard. Such an allowance introduces a complication in that it becomes necessary to define under what conditions a missing value may be assumed to have been less than the level of the standard. The following criterion may be used for ozone:

A missing daily maximum ozone value may be assumed to be less than the level of the standard if the valid daily maxima on both the preceding day and the following day do not exceed 75 percent of the level of the standard.

Let *z* denote the number of missing daily maximum values that may be assumed to be less than the standard. Then the following formula shall be used to estimate the expected number of exceedances for the year:

$$e = v + [(v/n) * (N-n-z)] \quad (1)$$

(*Indicates multiplication.)

where:

e = the estimated number of exceedances for the year,

N = the number of required monitoring days in the year,

n = the number of valid daily maxima,

v = the number of daily values above the level of the standard, and

z = the number of days assumed to be less than the standard level.

This estimated number of exceedances shall be rounded to one decimal place (fractional parts equal to 0.05 round up).

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It should be noted that N will be the total number of days in the year unless the appropriate Regional Administrator has granted a waiver under the provisions of 40 CFR part 58.

The above equation may be interpreted intuitively in the following manner. The estimated number of exceedances is equal to the observed number of exceedances (v) plus an increment that accounts for incomplete sampling. There were (N-n) missing values for the year but a certain number of these, namely z, were assumed to be less than the standard. Therefore, (N-n-z) missing values are considered to include possible exceedances. The fraction of measured values that are above the level of the standard is v/n. It is assumed that this same fraction applies to the (N-n-z) missing values and that (v/n)*(N-n-z) of these values would also have exceeded the level of the standard.

[44 FR 8220, Feb. 8, 1979, as amended at 62 FR 38895, July 18, 1997]

APPENDIX I TO PART 50—INTERPRETATION OF THE 8-HOUR PRIMARY AND SECONDARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE

1. *General.*

This appendix explains the data handling conventions and computations necessary for determining whether the national 8-hour primary and secondary ambient air quality standards for ozone specified in §50.10 are met at an ambient ozone air quality monitoring site. Ozone is measured in the ambient air by a reference method based on appendix D of this part. Data reporting, data handling, and computation procedures to be used in making comparisons between reported ozone concentrations and the level of the ozone standard are specified in the following sections. Whether to exclude, retain, or make adjustments to the data affected by stratospheric ozone intrusion or other natural events is subject to the approval of the appropriate Regional Administrator.

2. *Primary and Secondary Ambient Air Quality Standards for Ozone.*

2.1 *Data Reporting and Handling Conventions.*

2.1.1 *Computing 8-hour averages.* Hourly average concentrations shall be reported in parts per million (ppm) to the third decimal place, with additional digits to the right being truncated. Running 8-hour averages shall be computed from the hourly ozone concentration data for each hour of the year and the result shall be stored in the first, or start, hour of the 8-hour period. An 8-hour average shall be considered valid if at least 75% of the hourly averages for the 8-hour period are available. In the event that only 6 (or 7) hourly averages are available, the 8-hour average shall be computed on the basis

of the hours available using 6 (or 7) as the divisor. (8-hour periods with three or more missing hours shall not be ignored if, after substituting one-half the minimum detectable limit for the missing hourly concentrations, the 8-hour average concentration is greater than the level of the standard.) The computed 8-hour average ozone concentrations shall be reported to three decimal places (the insignificant digits to the right of the third decimal place are truncated, consistent with the data handling procedures for the reported data.)

2.1.2 *Daily maximum 8-hour average concentrations.* (a) There are 24 possible running 8-hour average ozone concentrations for each calendar day during the ozone monitoring season. (Ozone monitoring seasons vary by geographic location as designated in part 58, appendix D to this chapter.) The daily maximum 8-hour concentration for a given calendar day is the highest of the 24 possible 8-hour average concentrations computed for that day. This process is repeated, yielding a daily maximum 8-hour average ozone concentration for each calendar day with ambient ozone monitoring data. Because the 8-hour averages are recorded in the start hour, the daily maximum 8-hour concentrations from two consecutive days may have some hourly concentrations in common. Generally, overlapping daily maximum 8-hour averages are not likely, except in those non-urban monitoring locations with less pronounced diurnal variation in hourly concentrations.

(b) An ozone monitoring day shall be counted as a valid day if valid 8-hour averages are available for at least 75% of possible hours in the day (*i.e.*, at least 18 of the 24 averages). In the event that less than 75% of the 8-hour averages are available, a day shall also be counted as a valid day if the daily maximum 8-hour average concentration for that day is greater than the level of the ambient standard.

2.2 *Primary and Secondary Standard-related Summary Statistic.* The standard-related summary statistic is the annual fourth-highest daily maximum 8-hour ozone concentration, expressed in parts per million, averaged over three years. The 3-year average shall be computed using the three most recent, consecutive calendar years of monitoring data meeting the data completeness requirements described in this appendix. The computed 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentrations shall be expressed to three decimal places (the remaining digits to the right are truncated.)

2.3 *Comparisons with the Primary and Secondary Ozone Standards.* (a) The primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour

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average ozone concentration is less than or equal to 0.08 ppm. The number of significant figures in the level of the standard dictates the rounding convention for comparing the computed 3-year average annual fourth-highest daily maximum 8-hour average ozone concentration with the level of the standard. The third decimal place of the computed value is rounded, with values equal to or greater than 5 rounding up. Thus, a computed 3-year average ozone concentration of 0.085 ppm is the smallest value that is greater than 0.08 ppm.

(b) This comparison shall be based on three consecutive, complete calendar years of air quality monitoring data. This requirement is met for the three year period at a monitoring site if daily maximum 8-hour average concentrations are available for at least 90%, on average, of the days during the designated ozone monitoring season, with a minimum data completeness in any one year of at least 75% of the designated sampling days. When computing whether the minimum data completeness requirements have been met, meteorological or ambient data may be sufficient to demonstrate that meteorological conditions on missing days were not conducive to concentrations above the level of the standard. Missing days assumed less than the level

of the standard are counted for the purpose of meeting the data completeness requirement, subject to the approval of the appropriate Regional Administrator.

(c) Years with concentrations greater than the level of the standard shall not be ignored on the ground that they have less than complete data. Thus, in computing the 3-year average fourth maximum concentration, calendar years with less than 75% data completeness shall be included in the computation if the average annual fourth maximum 8-hour concentration is greater than the level of the standard.

(d) Comparisons with the primary and secondary ozone standards are demonstrated by examples 1 and 2 in paragraphs (d)(1) and (d)(2) respectively as follows:

(1) As shown in example 1, the primary and secondary standards are met at this monitoring site because the 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentrations (*i.e.*, 0.084 ppm) is less than or equal to 0.08 ppm. The data completeness requirement is also met because the average percent of days with valid ambient monitoring data is greater than 90%, and no single year has less than 75% data completeness.

EXAMPLE 1. AMBIENT MONITORING SITE ATTAINING THE PRIMARY AND SECONDARY OZONE STANDARDS

Year	Percent Valid Days	1st Highest Daily Max 8-hour Conc. (ppm)	2nd Highest Daily Max 8-hour Conc. (ppm)	3rd Highest Daily Max 8-hour Conc. (ppm)	4th Highest Daily Max 8-hour Conc. (ppm)	5th Highest Daily Max 8-hour Conc. (ppm)
1993	100%	0.092	0.091	0.090	0.088	0.085
1994	96%	0.090	0.089	0.086	0.084	0.080
1995	98%	0.087	0.085	0.083	0.080	0.075
Average	98%					

(2) As shown in example 2, the primary and secondary standards are not met at this monitoring site because the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations (*i.e.*, 0.093 ppm) is greater than 0.08 ppm. Note that the ozone

concentration data for 1994 is used in these computations, even though the data capture is less than 75%, because the average fourth-highest daily maximum 8-hour average concentration is greater than 0.08 ppm.

EXAMPLE 2. AMBIENT MONITORING SITE FAILING TO MEET THE PRIMARY AND SECONDARY OZONE STANDARDS

Year	Percent Valid Days	1st Highest Daily Max 8-hour Conc. (ppm)	2nd Highest Daily Max 8-hour Conc. (ppm)	3rd Highest Daily Max 8-hour Conc. (ppm)	4th Highest Daily Max 8-hour Conc. (ppm)	5th Highest Daily Max 8-hour Conc. (ppm)
1993	96%	0.105	0.103	0.103	0.102	0.102
1994	74%	0.090	0.085	0.082	0.080	0.078
1995	98%	0.103	0.101	0.101	0.097	0.095
Average	89%					

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3. *Design Values for Primary and Secondary Ambient Air Quality Standards for Ozone.* The air quality design value at a monitoring site is defined as that concentration that when reduced to the level of the standard ensures that the site meets the standard. For a concentration-based standard, the air quality design value is simply the standard-related test statistic. Thus, for the primary and secondary ozone standards, the 3-year average annual fourth-highest daily maximum 8-hour average ozone concentration is also the air quality design value for the site.

[62 FR 38895, July 18, 1997]

APPENDIX J TO PART 50—REFERENCE
METHOD FOR THE DETERMINATION OF
PARTICULATE MATTER AS PM₁₀ IN
THE ATMOSPHERE

1.0 *Applicability.*

1.1 This method provides for the measurement of the mass concentration of particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM₁₀) in ambient air over a 24-hour period for purposes of determining attainment and maintenance of the primary and secondary national ambient air quality standards for particulate matter specified in §50.6 of this chapter. The measurement process is nondestructive, and the PM₁₀ sample can be subjected to subsequent physical or chemical analyses. Quality assurance procedures and guidance are provided in part 58, appendices A and B, of this chapter and in References 1 and 2.

2.0 *Principle.*

2.1 An air sampler draws ambient air at a constant flow rate into a specially shaped inlet where the suspended particulate matter is inertially separated into one or more size fractions within the PM₁₀ size range. Each size fraction in the PM₁₀ size range is then collected on a separate filter over the specified sampling period. The particle size discrimination characteristics (sampling effectiveness and 50 percent cutpoint) of the sampler inlet are prescribed as performance specifications in part 53 of this chapter.

2.2 Each filter is weighed (after moisture equilibration) before and after use to determine the net weight (mass) gain due to collected PM₁₀. The total volume of air sampled, corrected to EPA reference conditions (25 C, 101.3 kPa), is determined from the measured flow rate and the sampling time. The mass concentration of PM₁₀ in the ambient air is computed as the total mass of collected particles in the PM₁₀ size range divided by the volume of air sampled, and is expressed in micrograms per standard cubic meter (µg/std m³). For PM₁₀ samples collected at temperatures and pressures significantly different from EPA reference conditions, these corrected concentrations some-

times differ substantially from actual concentrations (in micrograms per actual cubic meter), particularly at high elevations. Although not required, the actual PM₁₀ concentration can be calculated from the corrected concentration, using the average ambient temperature and barometric pressure during the sampling period.

2.3 A method based on this principle will be considered a reference method only if (a) the associated sampler meets the requirements specified in this appendix and the requirements in part 53 of this chapter, and (b) the method has been designated as a reference method in accordance with part 53 of this chapter.

3.0 *Range.*

3.1 The lower limit of the mass concentration range is determined by the repeatability of filter tare weights, assuming the nominal air sample volume for the sampler. For samplers having an automatic filter-changing mechanism, there may be no upper limit. For samplers that do not have an automatic filter-changing mechanism, the upper limit is determined by the filter mass loading beyond which the sampler no longer maintains the operating flow rate within specified limits due to increased pressure drop across the loaded filter. This upper limit cannot be specified precisely because it is a complex function of the ambient particle size distribution and type, humidity, filter type, and perhaps other factors. Nevertheless, all samplers should be capable of measuring 24-hour PM₁₀ mass concentrations of at least 300 µg/std m³ while maintaining the operating flow rate within the specified limits.

4.0 *Precision.*

4.1 The precision of PM₁₀ samplers must be 5 µg/m³ for PM₁₀ concentrations below 80 µg/m³ and 7 percent for PM₁₀ concentrations above 80 µg/m³, as required by part 53 of this chapter, which prescribes a test procedure that determines the variation in the PM₁₀ concentration measurements of identical samplers under typical sampling conditions. Continual assessment of precision via collocated samplers is required by part 58 of this chapter for PM₁₀ samplers used in certain monitoring networks.

5.0 *Accuracy.*

5.1 Because the size of the particles making up ambient particulate matter varies over a wide range and the concentration of particles varies with particle size, it is difficult to define the absolute accuracy of PM₁₀ samplers. Part 53 of this chapter provides a specification for the sampling effectiveness of PM₁₀ samplers. This specification requires that the expected mass concentration calculated for a candidate PM₁₀ sampler, when sampling a specified particle size distribution, be within ±10 percent of that calculated

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for an ideal sampler whose sampling effectiveness is explicitly specified. Also, the particle size for 50 percent sampling effectiveness is required to be 10 ± 0.5 micrometers. Other specifications related to accuracy apply to flow measurement and calibration, filter media, analytical (weighing) procedures, and artifact. The flow rate accuracy of PM_{10} samplers used in certain monitoring networks is required by part 58 of this chapter to be assessed periodically via flow rate audits.

6.0 *Potential Sources of Error.*

6.1 *Volatile Particles.* Volatile particles collected on filters are often lost during shipment and/or storage of the filters prior to the post-sampling weighing³. Although shipment or storage of loaded filters is sometimes unavoidable, filters should be reweighed as soon as practical to minimize these losses.

6.2 *Artifacts.* Positive errors in PM_{10} concentration measurements may result from retention of gaseous species on filters.^{4 5} Such errors include the retention of sulfur dioxide and nitric acid. Retention of sulfur dioxide on filters, followed by oxidation to sulfate, is referred to as artifact sulfate formation, a phenomenon which increases with increasing filter alkalinity.⁶ Little or no artifact sulfate formation should occur using filters that meet the alkalinity specification in section 7.2.4. Artifact nitrate formation, resulting primarily from retention of nitric acid, occurs to varying degrees on many filter types, including glass fiber, cellulose ester, and many quartz fiber filters.^{5 7 8 9 10} Loss of true atmospheric particulate nitrate during or following sampling may also occur due to dissociation or chemical reaction. This phenomenon has been observed on Teflon[®] filters⁸ and inferred for quartz fiber filters.^{11 12} The magnitude of nitrate artifact errors in PM_{10} mass concentration measurements will vary with location and ambient temperature; however, for most sampling locations, these errors are expected to be small.

6.3 *Humidity.* The effects of ambient humidity on the sample are unavoidable. The filter equilibration procedure in section 9.0 is designed to minimize the effects of moisture on the filter medium.

6.4 *Filter Handling.* Careful handling of filters between presampling and postsampling weighings is necessary to avoid errors due to damaged filters or loss of collected particles from the filters. Use of a filter cartridge or cassette may reduce the magnitude of these errors. Filters must also meet the integrity specification in section 7.2.3.

6.5 *Flow Rate Variation.* Variations in the sampler's operating flow rate may alter the particle size discrimination characteristics of the sampler inlet. The magnitude of this error will depend on the sensitivity of the inlet to variations in flow rate and on the

particle distribution in the atmosphere during the sampling period. The use of a flow control device (section 7.1.3) is required to minimize this error.

6.6 *Air Volume Determination.* Errors in the air volume determination may result from errors in the flow rate and/or sampling time measurements. The flow control device serves to minimize errors in the flow rate determination, and an elapsed time meter (section 7.1.5) is required to minimize the error in the sampling time measurement.

7.0 *Apparatus.*7.1 *PM_{10} Sampler.*

7.1.1 The sampler shall be designed to:

a. Draw the air sample into the sampler inlet and through the particle collection filter at a uniform face velocity.

b. Hold and seal the filter in a horizontal position so that sample air is drawn downward through the filter.

c. Allow the filter to be installed and removed conveniently.

d. Protect the filter and sampler from precipitation and prevent insects and other debris from being sampled.

e. Minimize air leaks that would cause error in the measurement of the air volume passing through the filter.

f. Discharge exhaust air at a sufficient distance from the sampler inlet to minimize the sampling of exhaust air.

g. Minimize the collection of dust from the supporting surface.

7.1.2 The sampler shall have a sample air inlet system that, when operated within a specified flow rate range, provides particle size discrimination characteristics meeting all of the applicable performance specifications prescribed in part 53 of this chapter. The sampler inlet shall show no significant wind direction dependence. The latter requirement can generally be satisfied by an inlet shape that is circularly symmetrical about a vertical axis.

7.1.3 The sampler shall have a flow control device capable of maintaining the sampler's operating flow rate within the flow rate limits specified for the sampler inlet over normal variations in line voltage and filter pressure drop.

7.1.4 The sampler shall provide a means to measure the total flow rate during the sampling period. A continuous flow recorder is recommended but not required. The flow measurement device shall be accurate to ± 2 percent.

7.1.5 A timing/control device capable of starting and stopping the sampler shall be used to obtain a sample collection period of 24 ± 1 hr ($1,440 \pm 60$ min). An elapsed time meter, accurate to within ± 15 minutes, shall be used to measure sampling time. This meter is optional for samplers with continuous flow recorders if the sampling time

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measurement obtained by means of the recorder meets the ± 15 minute accuracy specification.

7.1.6 The sampler shall have an associated operation or instruction manual as required by part 53 of this chapter which includes detailed instructions on the calibration, operation, and maintenance of the sampler.

7.2 Filters.

7.2.1 *Filter Medium.* No commercially available filter medium is ideal in all respects for all samplers. The user's goals in sampling determine the relative importance of various filter characteristics (e.g., cost, ease of handling, physical and chemical characteristics, etc.) and, consequently, determine the choice among acceptable filters. Furthermore, certain types of filters may not be suitable for use with some samplers, particularly under heavy loading conditions (high mass concentrations), because of high or rapid increase in the filter flow resistance that would exceed the capability of the sampler's flow control device. However, samplers equipped with automatic filter-changing mechanisms may allow use of these types of filters. The specifications given below are minimum requirements to ensure acceptability of the filter medium for measurement of PM_{10} mass concentrations. Other filter evaluation criteria should be considered to meet individual sampling and analysis objectives.

7.2.2 *Collection Efficiency.* ≥ 99 percent, as measured by the DOP test (ASTM-2986) with $0.3 \mu m$ particles at the sampler's operating face velocity.

7.2.3 *Integrity.* $\pm 5 \mu g/m^3$ (assuming sampler's nominal 24-hour air sample volume). Integrity is measured as the PM_{10} concentration equivalent corresponding to the average difference between the initial and the final weights of a random sample of test filters that are weighed and handled under actual or simulated sampling conditions, but have no air sample passed through them (i.e., filter blanks). As a minimum, the test procedure must include initial equilibration and weighing, installation on an inoperative sampler, removal from the sampler, and final equilibration and weighing.

7.2.4 *Alkalinity.* < 25 microequivalents/gram of filter, as measured by the procedure given in Reference 13 following at least two months storage in a clean environment (free from contamination by acidic gases) at room temperature and humidity.

7.3 *Flow Rate Transfer Standard.* The flow rate transfer standard must be suitable for the sampler's operating flow rate and must be calibrated against a primary flow or volume standard that is traceable to the National Bureau of Standards (NBS). The flow rate transfer standard must be capable of measuring the sampler's operating flow rate with an accuracy of ± 2 percent.

7.4 Filter Conditioning Environment.

7.4.1 Temperature range: 15 to 30 C.

7.4.2 Temperature control: ± 3 C.

7.4.3 Humidity range: 20% to 45% RH.

7.4.4 Humidity control: ± 5 % RH.

7.5 *Analytical Balance.* The analytical balance must be suitable for weighing the type and size of filters required by the sampler. The range and sensitivity required will depend on the filter tare weights and mass loadings. Typically, an analytical balance with a sensitivity of 0.1 mg is required for high volume samplers (flow rates $> 0.5 m^3/min$). Lower volume samplers (flow rates $< 0.5 m^3/min$) will require a more sensitive balance.

8.0 Calibration.

8.1 General Requirements.

8.1.1 Calibration of the sampler's flow measurement device is required to establish traceability of subsequent flow measurements to a primary standard. A flow rate transfer standard calibrated against a primary flow or volume standard shall be used to calibrate or verify the accuracy of the sampler's flow measurement device.

8.1.2 Particle size discrimination by inertial separation requires that specific air velocities be maintained in the sampler's air inlet system. Therefore, the flow rate through the sampler's inlet must be maintained throughout the sampling period within the design flow rate range specified by the manufacturer. Design flow rates are specified as actual volumetric flow rates, measured at existing conditions of temperature and pressure (Q_a). In contrast, mass concentrations of PM_{10} are computed using flow rates corrected to EPA reference conditions of temperature and pressure (Q_{std}).

8.2 Flow Rate Calibration Procedure.

8.2.1 PM_{10} samplers employ various types of flow control and flow measurement devices. The specific procedure used for flow rate calibration or verification will vary depending on the type of flow controller and flow indicator employed. Calibration in terms of actual volumetric flow rates (Q_a) is generally recommended, but other measures of flow rate (e.g., Q_{std}) may be used provided the requirements of section 8.1 are met. The general procedure given here is based on actual volumetric flow units (Q_a) and serves to illustrate the steps involved in the calibration of a PM_{10} sampler. Consult the sampler manufacturer's instruction manual and Reference 2 for specific guidance on calibration. Reference 14 provides additional information on the use of the commonly used measures of flow rate and their interrelationships.

8.2.2 Calibrate the flow rate transfer standard against a primary flow or volume standard traceable to NBS. Establish a calibration relationship (e.g., an equation or family of curves) such that traceability to the primary standard is accurate to within 2 percent over the expected range of ambient conditions (i.e., temperatures and pressures) under

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which the transfer standard will be used. Recalibrate the transfer standard periodically.

8.2.3 Following the sampler manufacturer's instruction manual, remove the sampler inlet and connect the flow rate transfer standard to the sampler such that the transfer standard accurately measures the sampler's flow rate. Make sure there are no leaks between the transfer standard and the sampler.

8.2.4 Choose a minimum of three flow rates (actual m^3/min), spaced over the acceptable flow rate range specified for the inlet (see 7.1.2) that can be obtained by suitable adjustment of the sampler flow rate. In accordance with the sampler manufacturer's instruction manual, obtain or verify the calibration relationship between the flow rate (actual m^3/min) as indicated by the transfer standard and the sampler's flow indicator response. Record the ambient temperature and barometric pressure. Temperature and pressure corrections to subsequent flow indicator readings may be required for certain types of flow measurement devices. When such corrections are necessary, correction on an individual or daily basis is preferable. However, seasonal average temperature and average barometric pressure for the sampling site may be incorporated into the sampler calibration to avoid daily corrections. Consult the sampler manufacturer's instruction manual and Reference 2 for additional guidance.

8.2.5 Following calibration, verify that the sampler is operating at its design flow rate (actual m^3/min) with a clean filter in place.

8.2.6 Replace the sampler inlet.

9.0 *Procedure.*

9.1 The sampler shall be operated in accordance with the specific guidance provided in the sampler manufacturer's instruction manual and in Reference 2. The general procedure given here assumes that the sampler's flow rate calibration is based on flow rates at ambient conditions (Q_a) and serves to illustrate the steps involved in the operation of a PM_{10} sampler.

9.2 Inspect each filter for pinholes, particles, and other imperfections. Establish a filter information record and assign an identification number to each filter.

9.3 Equilibrate each filter in the conditioning environment (see 7.4) for at least 24 hours.

9.4 Following equilibration, weigh each filter and record the presampling weight with the filter identification number.

9.5 Install a preweighed filter in the sampler following the instructions provided in the sampler manufacturer's instruction manual.

9.6 Turn on the sampler and allow it to establish run-temperature conditions. Record the flow indicator reading and, if needed, the ambient temperature and barometric pressure. Determine the sampler flow rate (actual m^3/min) in accordance with the instructions

provided in the sampler manufacturer's instruction manual. NOTE.—No onsite temperature or pressure measurements are necessary if the sampler's flow indicator does not require temperature or pressure corrections or if seasonal average temperature and average barometric pressure for the sampling site are incorporated into the sampler calibration (see step 8.2.4). If individual or daily temperature and pressure corrections are required, ambient temperature and barometric pressure can be obtained by on-site measurements or from a nearby weather station. Barometric pressure readings obtained from airports must be station pressure, not corrected to sea level, and may need to be corrected for differences in elevation between the sampling site and the airport.

9.7 If the flow rate is outside the acceptable range specified by the manufacturer, check for leaks, and if necessary, adjust the flow rate to the specified setpoint. Stop the sampler.

9.8 Set the timer to start and stop the sampler at appropriate times. Set the elapsed time meter to zero or record the initial meter reading.

9.9 Record the sample information (site location or identification number, sample date, filter identification number, and sampler model and serial number).

9.10 Sample for 24 ± 1 hours.

9.11 Determine and record the average flow rate (Q_a) in actual m^3/min for the sampling period in accordance with the instructions provided in the sampler manufacturer's instruction manual. Record the elapsed time meter final reading and, if needed, the average ambient temperature and barometric pressure for the sampling period (see note following step 9.6).

9.12 Carefully remove the filter from the sampler, following the sampler manufacturer's instruction manual. Touch only the outer edges of the filter.

9.13 Place the filter in a protective holder or container (e.g., petri dish, glassine envelope, or manila folder).

9.14 Record any factors such as meteorological conditions, construction activity, fires or dust storms, etc., that might be pertinent to the measurement on the filter information record.

9.15 Transport the exposed sample filter to the filter conditioning environment as soon as possible for equilibration and subsequent weighing.

9.16 Equilibrate the exposed filter in the conditioning environment for at least 24 hours under the same temperature and humidity conditions used for presampling filter equilibration (see 9.3).

9.17 Immediately after equilibration, reweigh the filter and record the postsampling weight with the filter identification number.

10.0 *Sampler Maintenance.*

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10.1 The PM₁₀ sampler shall be maintained in strict accordance with the maintenance procedures specified in the sampler manufacturer's instruction manual.

11.0 Calculations.

11.1 Calculate the average flow rate over the sampling period corrected to EPA reference conditions as \bar{Q}_{std} . When the sampler's flow indicator is calibrated in actual volumetric units (Q_a), \bar{Q}_{std} is calculated as:

$$\bar{Q}_{std} = \bar{Q}_a \times (P_{av}/T_{av})(T_{std}/P_{std})$$

where

\bar{Q}_{std} = average flow rate at EPA reference conditions, std m³/min;

\bar{Q}_a = average flow rate at ambient conditions, m³/min;

P_{av} = average barometric pressure during the sampling period or average barometric pressure for the sampling site, kPa (or mm Hg);

T_{av} = average ambient temperature during the sampling period or seasonal average ambient temperature for the sampling site, K;

T_{std} = standard temperature, defined as 298 K;

P_{std} = standard pressure, defined as 101.3 kPa (or 760 mm Hg).

11.2 Calculate the total volume of air sampled as:

$$V_{std} = \bar{Q}_{std} \times t$$

where

V_{std} = total air sampled in standard volume units, std m³;

t = sampling time, min.

11.3 Calculate the PM₁₀ concentration as:

$$PM_{10} = (W_f - W_i) \times 10^6 / V_{std}$$

where

PM_{10} = mass concentration of PM₁₀, µg/std m³;

W_f , W_i = final and initial weights of filter collecting PM₁₀ particles, g;

10^6 = conversion of g to µg.

NOTE: If more than one size fraction in the PM₁₀ size range is collected by the sampler, the sum of the net weight gain by each collection filter [$\Sigma(W_f - W_i)$] is used to calculate the PM₁₀ mass concentration.

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[52 FR 24664, July 1, 1987; 52 FR 29467, Aug. 7, 1987]

APPENDIX K TO PART 50—INTERPRETATION OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR PARTICULATE MATTER

1.0 General

(a) This appendix explains the computations necessary for analyzing particulate matter data to determine attainment of the 24-hour standards specified in 40 CFR 50.6. For the primary and secondary standards, particulate matter is measured in the ambient air as PM₁₀ (particles with an aerodynamic diameter less than or equal to a

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nominal 10 micrometers) by a reference method based on appendix J of this part and designated in accordance with part 53 of this chapter, or by an equivalent method designated in accordance with part 53 of this chapter. The required frequency of measurements is specified in part 58 of this chapter.

(b) The terms used in this appendix are defined as follows:

Average refers to the arithmetic mean of the estimated number of exceedances per year, as per Section 3.1.

Daily value for PM₁₀ refers to the 24-hour average concentration of PM₁₀ calculated or measured from midnight to midnight (local time).

Exceedance means a daily value that is above the level of the 24-hour standard after rounding to the nearest 10 µg/m³ (i.e., values ending in 5 or greater are to be rounded up).

Expected annual value is the number approached when the annual values from an increasing number of years are averaged, in the absence of long-term trends in emissions or meteorological conditions.

Year refers to a calendar year.

(c) Although the discussion in this appendix focuses on monitored data, the same principles apply to modeling data, subject to EPA modeling guidelines.

*2.0 Attainment Determinations**2.1 24-Hour Primary and Secondary Standards*

(a) Under 40 CFR 50.6(a) the 24-hour primary and secondary standards are attained when the expected number of exceedances per year at each monitoring site is less than or equal to one. In the simplest case, the number of expected exceedances at a site is determined by recording the number of exceedances in each calendar year and then averaging them over the past 3 calendar years. Situations in which 3 years of data are not available and possible adjustments for unusual events or trends are discussed in sections 2.3 and 2.4 of this appendix. Further, when data for a year are incomplete, it is necessary to compute an estimated number of exceedances for that year by adjusting the observed number of exceedances. This procedure, performed by calendar quarter, is described in section 3.0 of this appendix. The expected number of exceedances is then estimated by averaging the individual annual estimates for the past 3 years.

(b) The comparison with the allowable expected exceedance rate of one per year is made in terms of a number rounded to the nearest tenth (fractional values equal to or greater than 0.05 are to be rounded up; e.g., an exceedance rate of 1.05 would be rounded to 1.1, which is the lowest rate for nonattainment).

40 CFR Ch. I (7–1–22 Edition)*2.2 Reserved**2.3 Data Requirements*

(a) 40 CFR 58.12 specifies the required minimum frequency of sampling for PM₁₀. For the purposes of making comparisons with the particulate matter standards, all data produced by State and Local Air Monitoring Stations (SLAMS) and other sites submitted to EPA in accordance with the part 58 requirements must be used, and a minimum of 75 percent of the scheduled PM₁₀ samples per quarter are required.

(b) To demonstrate attainment of the 24-hour standards at a monitoring site, the monitor must provide sufficient data to perform the required calculations of sections 3.0 and 4.0 of this appendix. The amount of data required varies with the sampling frequency, data capture rate and the number of years of record. In all cases, 3 years of representative monitoring data that meet the 75 percent criterion of the previous paragraph should be utilized, if available, and would suffice. More than 3 years may be considered, if all additional representative years of data meeting the 75 percent criterion are utilized. Data not meeting these criteria may also suffice to show attainment; however, such exceptions will have to be approved by the appropriate Regional Administrator in accordance with EPA guidance.

(c) There are less stringent data requirements for showing that a monitor has failed an attainment test and thus has recorded a violation of the particulate matter standards. Although it is generally necessary to meet the minimum 75 percent data capture requirement per quarter to use the computational equations described in section 3.0 of this appendix, this criterion does not apply when less data is sufficient to unambiguously establish nonattainment. The following examples illustrate how nonattainment can be demonstrated when a site fails to meet the completeness criteria. Nonattainment of the 24-hour primary standards can be established by the observed annual number of exceedances (e.g., four observed exceedances in a single year), or by the estimated number of exceedances derived from the observed number of exceedances and the required number of scheduled samples (e.g., two observed exceedances with every other day sampling). In both cases, expected annual values must exceed the levels allowed by the standards.

2.4 Adjustment for Exceptional Events and Trends

(a) An exceptional event is an uncontrollable event caused by natural sources of particulate matter or an event that is not expected to recur at a given location. Inclusion of such a value in the computation of

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exceedances or averages could result in inappropriate estimates of their respective expected annual values. To reduce the effect of unusual events, more than 3 years of representative data may be used. Alternatively, other techniques, such as the use of statistical models or the use of historical data could be considered so that the event may be discounted or weighted according to the likelihood that it will recur. The use of such techniques is subject to the approval of the appropriate Regional Administrator in accordance with EPA guidance.

(b) In cases where long-term trends in emissions and air quality are evident, mathematical techniques should be applied to account for the trends to ensure that the expected annual values are not inappropriately biased by unrepresentative data. In the simplest case, if 3 years of data are available under stable emission conditions, this data should be used. In the event of a trend or shift in emission patterns, either the most recent representative year(s) could be used or statistical techniques or models could be used in conjunction with previous years of data to adjust for trends. The use of less than 3 years of data, and any adjustments are subject to the approval of the appropriate Regional Administrator in accordance with EPA guidance.

3.0 Computational Equations for the 24-Hour Standards

3.1 Estimating Exceedances for a Year

(a) If PM₁₀ sampling is scheduled less frequently than every day, or if some scheduled samples are missed, a PM₁₀ value will not be available for each day of the year. To account for the possible effect of incomplete data, an adjustment must be made to the data collected at each monitoring location to estimate the number of exceedances in a calendar year. In this adjustment, the assumption is made that the fraction of missing values that would have exceeded the standard level is identical to the fraction of measured values above this level. This computation is to be made for all sites that are scheduled to monitor throughout the entire year and meet the minimum data requirements of section 2.3 of this appendix. Because of possible seasonal imbalance, this adjustment shall be applied on a quarterly basis. The estimate of the expected number of exceedances for the quarter is equal to the observed number of exceedances plus an increment associated with the missing data. The following equation must be used for these computations:

Equation 1

$$e_q = v_q \times \left(\frac{N_q}{n_q} \right)$$

Where:

e_q = the estimated number of exceedances for calendar quarter q ;
 v_q = the observed number of exceedances for calendar quarter q ;
 N_q = the number of days in calendar quarter q ;
 n_q = the number of days in calendar quarter q with PM₁₀ data; and
 q = the index for calendar quarter, $q = 1, 2, 3$ or 4 .

(b) The estimated number of exceedances for a calendar quarter must be rounded to the nearest hundredth (fractional values equal to or greater than 0.005 must be rounded up).

(c) The estimated number of exceedances for the year, e , is the sum of the estimates for each calendar quarter.

Equation 2

$$e = \sum_{q=1}^4 e_q$$

(d) The estimated number of exceedances for a single year must be rounded to one decimal place (fractional values equal to or greater than 0.05 are to be rounded up). The expected number of exceedances is then estimated by averaging the individual annual estimates for the most recent 3 or more representative years of data. The expected number of exceedances must be rounded to one decimal place (fractional values equal to or greater than 0.05 are to be rounded up).

(e) The adjustment for incomplete data will not be necessary for monitoring or modeling data which constitutes a complete record, i.e., 365 days per year.

(f) To reduce the potential for overestimating the number of expected exceedances, the correction for missing data will not be required for a calendar quarter in which the first observed exceedance has occurred if:

(1) There was only one exceedance in the calendar quarter;

(2) Everyday sampling is subsequently initiated and maintained for 4 calendar quarters in accordance with 40 CFR 58.12; and

(3) Data capture of 75 percent is achieved during the required period of everyday sampling. In addition, if the first exceedance is observed in a calendar quarter in which the monitor is already sampling every day, no adjustment for missing data will be made to the first exceedance if a 75 percent data capture rate was achieved in the quarter in which it was observed.

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Example 1

a. During a particular calendar quarter, 39 out of a possible 92 samples were recorded, with one observed exceedance of the 24-hour standard. Using Equation 1, the estimated number of exceedances for the quarter is:

$$e_q = 1 \times 92/39 = 2.359 \text{ or } 2.36.$$

b. If the estimated exceedances for the other 3 calendar quarters in the year were 2.30, 0.0 and 0.0, then, using Equation 2, the estimated number of exceedances for the year is $2.36 + 2.30 + 0.0 + 0.0$ which equals 4.66 or 4.7. If no exceedances were observed for the 2 previous years, then the expected number of exceedances is estimated by: $(\frac{1}{3}) \times (4.7 + 0 + 0) = 1.57$ or 1.6. Since 1.6 exceeds the allowable number of expected exceedances, this monitoring site would fail the attainment test.

Example 2

In this example, everyday sampling was initiated following the first observed exceedance as required by 40 CFR 58.12. Accordingly, the first observed exceedance would not be adjusted for incomplete sampling. During the next three quarters, 1.2 exceedances were estimated. In this case, the estimated exceedances for the year would be $1.0 + 1.2 + 0.0 + 0.0$ which equals 2.2. If, as before, no exceedances were observed for the two previous years, then the estimated exceedances for the 3-year period would then be $(\frac{1}{3}) \times (2.2 + 0.0 + 0.0) = 0.7$, and the monitoring site would not fail the attainment test.

3.2 Adjustments for Non-Scheduled Sampling Days

(a) If a systematic sampling schedule is used and sampling is performed on days in addition to the days specified by the systematic sampling schedule, e.g., during episodes of high pollution, then an adjustment must be made in the equation for the estimation of exceedances. Such an adjustment is needed to eliminate the bias in the estimate of the quarterly and annual number of exceedances that would occur if the chance of an exceedance is different for scheduled than for non-scheduled days, as would be the case with episode sampling.

(b) The required adjustment treats the systematic sampling schedule as a stratified sampling plan. If the period from one scheduled sample until the day preceding the next scheduled sample is defined as a sampling stratum, then there is one stratum for each scheduled sampling day. An average number of observed exceedances is computed for each of these sampling strata. With nonscheduled sampling days, the estimated number of exceedances is defined as:

Equation 3

$$e_q = \left(\frac{N_q}{m_q} \right) \times \sum_{j=1}^{m_q} \left(\frac{v_j}{k_j} \right)$$

Where:

e_q = the estimated number of exceedances for the quarter;

N_q = the number of days in the quarter;

m_q = the number of strata with samples during the quarter;

v_j = the number of observed exceedances in stratum j ; and

k_j = the number of actual samples in stratum j .

(c) Note that if only one sample value is recorded in each stratum, then Equation 3 reduces to Equation 1.

Example 3

A monitoring site samples according to a systematic sampling schedule of one sample every 6 days, for a total of 15 scheduled samples in a quarter out of a total of 92 possible samples. During one 6-day period, potential episode levels of PM_{10} were suspected, so 5 additional samples were taken. One of the regular scheduled samples was missed, so a total of 19 samples in 14 sampling strata were measured. The one 6-day sampling stratum with 6 samples recorded 2 exceedances. The remainder of the quarter with one sample per stratum recorded zero exceedances. Using Equation 3, the estimated number of exceedances for the quarter is:

$$Eq = (92/14) \times (2/6 + 0 + \dots + 0) = 2.19.$$

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APPENDIX L TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF FINE PARTICULATE MATTER AS $PM_{2.5}$ IN THE ATMOSPHERE

1.0 Applicability.

1.1 This method provides for the measurement of the mass concentration of fine particulate matter having an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$) in ambient air over a 24-hour period for purposes of determining whether the primary and secondary national ambient air quality standards for fine particulate matter specified in §50.7 and §50.13 of this part are met. The measurement process is considered to be nondestructive, and the $PM_{2.5}$ sample obtained can be subjected to subsequent physical or chemical analyses. Quality assessment procedures are provided in part 58, appendix A of this chapter, and quality assurance guidance are provided in references 1, 2, and 3 in section 13.0 of this appendix.

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1.2 This method will be considered a reference method for purposes of part 58 of this chapter only if:

(a) The associated sampler meets the requirements specified in this appendix and the applicable requirements in part 53 of this chapter, and

(b) The method and associated sampler have been designated as a reference method in accordance with part 53 of this chapter.

1.3 PM_{2.5} samplers that meet nearly all specifications set forth in this method but have minor deviations and/or modifications of the reference method sampler will be designated as "Class I" equivalent methods for PM_{2.5} in accordance with part 53 of this chapter.

2.0 *Principle.*

2.1 An electrically powered air sampler draws ambient air at a constant volumetric flow rate into a specially shaped inlet and through an inertial particle size separator (impactor) where the suspended particulate matter in the PM_{2.5} size range is separated for collection on a polytetrafluoroethylene (PTFE) filter over the specified sampling period. The air sampler and other aspects of this reference method are specified either explicitly in this appendix or generally with reference to other applicable regulations or quality assurance guidance.

2.2 Each filter is weighed (after moisture and temperature conditioning) before and after sample collection to determine the net gain due to collected PM_{2.5}. The total volume of air sampled is determined by the sampler from the measured flow rate at actual ambient temperature and pressure and the sampling time. The mass concentration of PM_{2.5} in the ambient air is computed as the total mass of collected particles in the PM_{2.5} size range divided by the actual volume of air sampled, and is expressed in micrograms per cubic meter of air (µg/m³).

3.0 *PM_{2.5} Measurement Range.*

3.1 *Lower concentration limit.* The lower detection limit of the mass concentration measurement range is estimated to be approximately 2 µg/m³, based on noted mass changes in field blanks in conjunction with the 24 m³ nominal total air sample volume specified for the 24-hour sample.

3.2 *Upper concentration limit.* The upper limit of the mass concentration range is determined by the filter mass loading beyond which the sampler can no longer maintain the operating flow rate within specified limits due to increased pressure drop across the loaded filter. This upper limit cannot be specified precisely because it is a complex function of the ambient particle size distribution and type, humidity, the individual filter used, the capacity of the sampler flow rate control system, and perhaps other factors. Nevertheless, all samplers are estimated to be capable of measuring 24-hour PM_{2.5} mass concentrations of at least 200 µg/

m³ while maintaining the operating flow rate within the specified limits.

3.3 *Sample period.* The required sample period for PM_{2.5} concentration measurements by this method shall be 1,380 to 1500 minutes (23 to 25 hours). However, when a sample period is less than 1,380 minutes, the measured concentration (as determined by the collected PM_{2.5} mass divided by the actual sampled air volume), multiplied by the actual number of minutes in the sample period and divided by 1,440, may be used as if it were a valid concentration measurement for the specific purpose of determining a violation of the NAAQS. This value assumes that the PM_{2.5} concentration is zero for the remaining portion of the sample period and therefore represents the minimum concentration that could have been measured for the full 24-hour sample period. Accordingly, if the value thus calculated is high enough to be an exceedance, such an exceedance would be a valid exceedance for the sample period. When reported to AIRS, this data value should receive a special code to identify it as not to be commingled with normal concentration measurements or used for other purposes.

4.0 *Accuracy.*

4.1 Because the size and volatility of the particles making up ambient particulate matter vary over a wide range and the mass concentration of particles varies with particle size, it is difficult to define the accuracy of PM_{2.5} measurements in an absolute sense. The accuracy of PM_{2.5} measurements is therefore defined in a relative sense, referenced to measurements provided by this reference method. Accordingly, accuracy shall be defined as the degree of agreement between a subject field PM_{2.5} sampler and a collocated PM_{2.5} reference method audit sampler operating simultaneously at the monitoring site location of the subject sampler and includes both random (precision) and systematic (bias) errors. The requirements for this field sampler audit procedure are set forth in part 58, appendix A of this chapter.

4.2 *Measurement system bias.* Results of collocated measurements where the duplicate sampler is a reference method sampler are used to assess a portion of the measurement system bias according to the schedule and procedure specified in part 58, appendix A of this chapter.

4.3 *Audits with reference method samplers to determine system accuracy and bias.* According to the schedule and procedure specified in part 58, appendix A of this chapter, a reference method sampler is required to be located at each of selected PM_{2.5} SLAMS sites as a duplicate sampler. The results from the primary sampler and the duplicate reference method sampler are used to calculate accuracy of the primary sampler on a quarterly

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basis, bias of the primary sampler on an annual basis, and bias of a single reporting organization on an annual basis. Reference 2 in section 13.0 of this appendix provides additional information and guidance on these reference method audits.

4.4 *Flow rate accuracy and bias.* Part 58, appendix A of this chapter requires that the flow rate accuracy and bias of individual PM_{2.5} samplers used in SLAMS monitoring networks be assessed periodically via audits of each sampler's operational flow rate. In addition, part 58, appendix A of this chapter requires that flow rate bias for each reference and equivalent method operated by each reporting organization be assessed quarterly and annually. Reference 2 in section 13.0 of this appendix provides additional information and guidance on flow rate accuracy audits and calculations for accuracy and bias.

5.0 *Precision.* A data quality objective of 10 percent coefficient of variation or better has been established for the operational precision of PM_{2.5} monitoring data.

5.1 Tests to establish initial operational precision for each reference method sampler are specified as a part of the requirements for designation as a reference method under § 53.58 of this chapter.

5.2 *Measurement System Precision.* Collocated sampler results, where the duplicate sampler is not a reference method sampler but is a sampler of the same designated method as the primary sampler, are used to assess measurement system precision according to the schedule and procedure specified in part 58, appendix A of this chapter. Part 58, appendix A of this chapter requires that these collocated sampler measurements be used to calculate quarterly and annual precision estimates for each primary sampler and for each designated method employed by each reporting organization. Reference 2 in section 13.0 of this appendix provides additional information and guidance on this requirement.

6.0 *Filter for PM_{2.5} Sample Collection.* Any filter manufacturer or vendor who sells or offers to sell filters specifically identified for use with this PM_{2.5} reference method shall certify that the required number of filters from each lot of filters offered for sale as such have been tested as specified in this section 6.0 and meet all of the following design and performance specifications.

6.1 *Size.* Circular, 46.2 mm diameter ± 0.25 mm.

6.2 *Medium.* Polytetrafluoroethylene (PTFE Teflon), with integral support ring.

6.3 *Support ring.* Polymethylpentene (PMP) or equivalent inert material, 0.38 ± 0.04 mm thick, outer diameter 46.2 mm ± 0.25 mm, and width of 3.68 mm (± 0.00 , -0.51 mm).

6.4 *Pore size.* 2 μ m as measured by ASTM F 316–94.

6.5 *Filter thickness.* 30 to 50 μ m.

6.6 *Maximum pressure drop (clean filter).* 30 cm H₂O column @ 16.67 L/min clean air flow.

6.7 *Maximum moisture pickup.* Not more than 10 μ g weight increase after 24-hour exposure to air of 40 percent relative humidity, relative to weight after 24-hour exposure to air of 35 percent relative humidity.

6.8 *Collection efficiency.* Greater than 99.7 percent, as measured by the DOP test (ASTM D 2986–91) with 0.3 μ m particles at the sampler's operating face velocity.

6.9 *Filter weight stability.* Filter weight loss shall be less than 20 μ g, as measured in each of the following two tests specified in sections 6.9.1 and 6.9.2 of this appendix. The following conditions apply to both of these tests: Filter weight loss shall be the average difference between the initial and the final filter weights of a random sample of test filters selected from each lot prior to sale. The number of filters tested shall be not less than 0.1 percent of the filters of each manufacturing lot, or 10 filters, whichever is greater. The filters shall be weighed under laboratory conditions and shall have had no air sample passed through them, i.e., filter blanks. Each test procedure must include initial conditioning and weighing, the test, and final conditioning and weighing. Conditioning and weighing shall be in accordance with sections 8.0 through 8.2 of this appendix and general guidance provided in reference 2 of section 13.0 of this appendix.

6.9.1 *Test for loose, surface particle contamination.* After the initial weighing, install each test filter, in turn, in a filter cassette (Figures L–27, L–28, and L–29 of this appendix) and drop the cassette from a height of 25 cm to a flat hard surface, such as a particle-free wood bench. Repeat two times, for a total of three drop tests for each test filter. Remove the test filter from the cassette and weigh the filter. The average change in weight must be less than 20 μ g.

6.9.2 *Test for temperature stability.* After weighing each filter, place the test filters in a drying oven set at 40 °C ± 2 °C for not less than 48 hours. Remove, condition, and reweigh each test filter. The average change in weight must be less than 20 μ g.

6.10 *Alkalinity.* Less than 25 microequivalents/gram of filter, as measured by the guidance given in reference 2 in section 13.0 of this appendix.

6.11 *Supplemental requirements.* Although not required for determination of PM_{2.5} mass concentration under this reference method, additional specifications for the filter must be developed by users who intend to subject PM_{2.5} filter samples to subsequent chemical analysis. These supplemental specifications include background chemical contamination of the filter and any other filter parameters that may be required by the method of chemical analysis. All such supplemental filter specifications must be compatible with and

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secondary to the primary filter specifications given in this section 6.0 of this appendix.

7.0 *PM_{2.5} Sampler.*

7.1 *Configuration.* The sampler shall consist of a sample air inlet, downtube, particle size separator (impactor), filter holder assembly, air pump and flow rate control system, flow rate measurement device, ambient and filter temperature monitoring system, barometric pressure measurement system, timer, outdoor environmental enclosure, and suitable mechanical, electrical, or electronic control capability to meet or exceed the design and functional performance as specified in this section 7.0 of this appendix. The performance specifications require that the sampler:

(a) Provide automatic control of sample volumetric flow rate and other operational parameters.

(b) Monitor these operational parameters as well as ambient temperature and pressure.

(c) Provide this information to the sampler operator at the end of each sample period in digital form, as specified in table L-1 of section 7.4.19 of this appendix.

7.2 *Nature of specifications.* The PM_{2.5} sampler is specified by a combination of design and performance requirements. The sample inlet, downtube, particle size discriminator, filter cassette, and the internal configuration of the filter holder assembly are specified explicitly by design figures and associated mechanical dimensions, tolerances, materials, surface finishes, assembly instructions, and other necessary specifications. All other aspects of the sampler are specified by required operational function and performance, and the design of these other aspects (including the design of the lower portion of the filter holder assembly) is optional, subject to acceptable operational performance. Test procedures to demonstrate compliance with both the design and performance requirements are set forth in subpart E of part 53 of this chapter.

7.3 *Design specifications.* Except as indicated in this section 7.3 of this appendix, these components must be manufactured or reproduced exactly as specified, in an ISO 9001-registered facility, with registration initially approved and subsequently maintained during the period of manufacture. See §53.1(t) of this chapter for the definition of an ISO-registered facility. Minor modifications or variances to one or more components that clearly would not affect the aerodynamic performance of the inlet, downtube, impactor, or filter cassette will be considered for specific approval. Any such proposed modifications shall be described and submitted to the EPA for specific individual acceptability either as part of a reference or equivalent method application under part 53 of this chapter or in writing in advance of such an intended application under part 53 of this chapter.

7.3.1 *Sample inlet assembly.* The sample inlet assembly, consisting of the inlet, downtube, and impactor shall be configured and assembled as indicated in Figure L-1 of this appendix and shall meet all associated requirements. A portion of this assembly shall also be subject to the maximum overall sampler leak rate specification under section 7.4.6 of this appendix.

7.3.2 *Inlet.* The sample inlet shall be fabricated as indicated in Figures L-2 through L-18 of this appendix and shall meet all associated requirements.

7.3.3 *Downtube.* The downtube shall be fabricated as indicated in Figure L-19 of this appendix and shall meet all associated requirements.

7.3.4 *Particle size separator.* The sampler shall be configured with either one of the two alternative particle size separators described in this section 7.3.4. One separator is an impactor-type separator (WINS impactor) described in sections 7.3.4.1, 7.3.4.2, and 7.3.4.3 of this appendix. The alternative separator is a cyclone-type separator (VSCC™) described in section 7.3.4.4 of this appendix.

7.3.4.1 The impactor (particle size separator) shall be fabricated as indicated in Figures L-20 through L-24 of this appendix and shall meet all associated requirements. Following the manufacture and finishing of each upper impactor housing (Figure L-21 of this appendix), the dimension of the impaction jet must be verified by the manufacturer using Class ZZ go/no-go plug gauges that are traceable to NIST.

7.3.4.2 Impactor filter specifications:

(a) Size. Circular, 35 to 37 mm diameter.

(b) Medium. Borosilicate glass fiber, without binder.

(c) Pore size. 1 to 1.5 micrometer, as measured by ASTM F 316-80.

(d) Thickness. 300 to 500 micrometers.

7.3.4.3 Impactor oil specifications:

(a) Composition. Dioctyl sebacate (DOS), single-compound diffusion oil.

(b) Vapor pressure. Maximum 2×10^{-8} mm Hg at 25 °C.

(c) Viscosity. 36 to 40 centistokes at 25 °C.

(d) Density. 1.06 to 1.07 g/cm³ at 25 °C.

(e) Quantity. 1 mL ±0.1 mL.

7.3.4.4 The cyclone-type separator is identified as a BGI VSCC™ Very Sharp Cut Cyclone particle size separator specified as part of EPA-designated equivalent method EQPM-0202-142 (67 FR 15567, April 2, 2002) and as manufactured by BGI Incorporated, 58 Guinan Street, Waltham, Massachusetts 20451.

7.3.5 *Filter holder assembly.* The sampler shall have a sample filter holder assembly to adapt and seal to the down tube and to hold and seal the specified filter, under section 6.0 of this appendix, in the sample air stream in a horizontal position below the downtube such that the sample air passes downward through the filter at a uniform face velocity.

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The upper portion of this assembly shall be fabricated as indicated in Figures L-25 and L-26 of this appendix and shall accept and seal with the filter cassette, which shall be fabricated as indicated in Figures L-27 through L-29 of this appendix.

(a) The lower portion of the filter holder assembly shall be of a design and construction that:

(1) Mates with the upper portion of the assembly to complete the filter holder assembly.

(2) Completes both the external air seal and the internal filter cassette seal such that all seals are reliable over repeated filter changings, and

(3) Facilitates repeated changing of the filter cassette by the sampler operator.

(b) Leak-test performance requirements for the filter holder assembly are included in section 7.4.6 of this appendix.

(c) If additional or multiple filters are stored in the sampler as part of an automatic sequential sample capability, all such filters, unless they are currently and directly installed in a sampling channel or sampling configuration (either active or inactive), shall be covered or (preferably) sealed in such a way as to:

(1) Preclude significant exposure of the filter to possible contamination or accumulation of dust, insects, or other material that may be present in the ambient air, sampler, or sampler ventilation air during storage periods either before or after sampling; and

(2) To minimize loss of volatile or semi-volatile PM sample components during storage of the filter following the sample period.

7.3.6 *Flow rate measurement adapter.* A flow rate measurement adapter as specified in Figure L-30 of this appendix shall be furnished with each sampler.

7.3.7 *Surface finish.* All internal surfaces exposed to sample air prior to the filter shall be treated electrolytically in a sulfuric acid bath to produce a clear, uniform anodized surface finish of not less than 1000 mg/ft² (1.08 mg/cm²) in accordance with military standard specification (mil. spec.) 8625F, Type II, Class 1 in reference 4 of section 13.0 of this appendix. This anodic surface coating shall not be dyed or pigmented. Following anodization, the surfaces shall be sealed by immersion in boiling deionized water for not less than 15 minutes. Section 53.51(d)(2) of this chapter should also be consulted.

7.3.8 *Sampling height.* The sampler shall be equipped with legs, a stand, or other means to maintain the sampler in a stable, upright position and such that the center of the sample air entrance to the inlet, during sample collection, is maintained in a horizontal plane and is 2.0 ±0.2 meters above the floor or other horizontal supporting surface. Suitable bolt holes, brackets, tie-downs, or other means should be provided to facilitate mechanically securing the sample to the sup-

porting surface to prevent toppling of the sampler due to wind.

7.4 *Performance specifications.*

7.4.1 *Sample flow rate.* Proper operation of the impactor requires that specific air velocities be maintained through the device. Therefore, the design sample air flow rate through the inlet shall be 16.67 L/min (1,000 m³/hour) measured as actual volumetric flow rate at the temperature and pressure of the sample air entering the inlet.

7.4.2 *Sample air flow rate control system.* The sampler shall have a sample air flow rate control system which shall be capable of providing a sample air volumetric flow rate within the specified range, under section 7.4.1 of this appendix, for the specified filter, under section 6.0 of this appendix, at any atmospheric conditions specified, under section 7.4.7 of this appendix, at a filter pressure drop equal to that of a clean filter plus up to 75 cm water column (55 mm Hg), and over the specified range of supply line voltage, under section 7.4.15.1 of this appendix. This flow control system shall allow for operator adjustment of the operational flow rate of the sampler over a range of at least ±15 percent of the flow rate specified in section 7.4.1 of this appendix.

7.4.3 *Sample flow rate regulation.* The sample flow rate shall be regulated such that for the specified filter, under section 6.0 of this appendix, at any atmospheric conditions specified, under section 7.4.7 of this appendix, at a filter pressure drop equal to that of a clean filter plus up to 75 cm water column (55 mm Hg), and over the specified range of supply line voltage, under section 7.4.15.1 of this appendix, the flow rate is regulated as follows:

7.4.3.1 The volumetric flow rate, measured or averaged over intervals of not more than 5 minutes over a 24-hour period, shall not vary more than ±5 percent from the specified 16.67 L/min flow rate over the entire sample period.

7.4.3.2 The coefficient of variation (sample standard deviation divided by the mean) of the flow rate, measured over a 24-hour period, shall not be greater than 2 percent.

7.4.3.3 The amplitude of short-term flow rate pulsations, such as may originate from some types of vacuum pumps, shall be attenuated such that they do not cause significant flow measurement error or affect the collection of particles on the particle collection filter.

7.4.4 *Flow rate cut off.* The sampler's sample air flow rate control system shall terminate sample collection and stop all sample flow for the remainder of the sample period in the event that the sample flow rate deviates by more than 10 percent from the sampler design flow rate specified in section 7.4.1 of this appendix for more than 60 seconds. However, this sampler cut-off provision shall not apply during periods when the sampler is inoperative due to a temporary power interruption,

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and the elapsed time of the inoperative period shall not be included in the total sample time measured and reported by the sampler, under section 7.4.13 of this appendix.

7.4.5 Flow rate measurement.

7.4.5.1 The sampler shall provide a means to measure and indicate the instantaneous sample air flow rate, which shall be measured as volumetric flow rate at the temperature and pressure of the sample air entering the inlet, with an accuracy of ± 2 percent. The measured flow rate shall be available for display to the sampler operator at any time in either sampling or standby modes, and the measurement shall be updated at least every 30 seconds. The sampler shall also provide a simple means by which the sampler operator can manually start the sample flow temporarily during non-sampling modes of operation, for the purpose of checking the sample flow rate or the flow rate measurement system.

7.4.5.2 During each sample period, the sampler's flow rate measurement system shall automatically monitor the sample volumetric flow rate, obtaining flow rate measurements at intervals of not greater than 30 seconds.

(a) Using these interval flow rate measurements, the sampler shall determine or calculate the following flow-related parameters, scaled in the specified engineering units:

(1) The instantaneous or interval-average flow rate, in L/min.

(2) The value of the average sample flow rate for the sample period, in L/min.

(3) The value of the coefficient of variation (sample standard deviation divided by the average) of the sample flow rate for the sample period, in percent.

(4) The occurrence of any time interval during the sample period in which the measured sample flow rate exceeds a range of ± 5 percent of the average flow rate for the sample period for more than 5 minutes, in which case a warning flag indicator shall be set.

(5) The value of the integrated total sample volume for the sample period, in m^3 .

(b) Determination or calculation of these values shall properly exclude periods when the sampler is inoperative due to temporary interruption of electrical power, under section 7.4.13 of this appendix, or flow rate cut off, under section 7.4.4 of this appendix.

(c) These parameters shall be accessible to the sampler operator as specified in table L-1 of section 7.4.19 of this appendix. In addition, it is strongly encouraged that the flow rate for each 5-minute interval during the sample period be available to the operator following the end of the sample period.

7.4.6 Leak test capability.

7.4.6.1 *External leakage.* The sampler shall include an external air leak-test capability consisting of components, accessory hardware, operator interface controls, a written procedure in the associated Operation/In-

struction Manual, under section 7.4.18 of this appendix, and all other necessary functional capability to permit and facilitate the sampler operator to conveniently carry out a leak test of the sampler at a field monitoring site without additional equipment. The sampler components to be subjected to this leak test include all components and their interconnections in which external air leakage would or could cause an error in the sampler's measurement of the total volume of sample air that passes through the sample filter.

(a) The suggested technique for the operator to use for this leak test is as follows:

(1) Remove the sampler inlet and install the flow rate measurement adapter supplied with the sampler, under section 7.3.6 of this appendix.

(2) Close the valve on the flow rate measurement adapter and use the sampler air pump to draw a partial vacuum in the sampler, including (at least) the impactor, filter holder assembly (filter in place), flow measurement device, and interconnections between these devices, of at least 55 mm Hg (75 cm water column), measured at a location downstream of the filter holder assembly.

(3) Plug the flow system downstream of these components to isolate the components under vacuum from the pump, such as with a built-in valve.

(4) Stop the pump.

(5) Measure the trapped vacuum in the sampler with a built-in pressure measuring device.

(6) (i) Measure the vacuum in the sampler with the built-in pressure measuring device again at a later time at least 10 minutes after the first pressure measurement.

(ii) CAUTION: Following completion of the test, the adaptor valve should be opened slowly to limit the flow rate of air into the sampler. Excessive air flow rate may blow oil out of the impactor.

(7) Upon completion of the test, open the adaptor valve, remove the adaptor and plugs, and restore the sampler to the normal operating configuration.

(b) The associated leak test procedure shall require that for successful passage of this test, the difference between the two pressure measurements shall not be greater than the number of mm of Hg specified for the sampler by the manufacturer, based on the actual internal volume of the sampler, that indicates a leak of less than 80 mL/min.

(c) Variations of the suggested technique or an alternative external leak test technique may be required for samplers whose design or configuration would make the suggested technique impossible or impractical. The specific proposed external leak test procedure, or particularly an alternative leak

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test technique, proposed for a particular candidate sampler may be described and submitted to the EPA for specific individual acceptability either as part of a reference or equivalent method application under part 53 of this chapter or in writing in advance of such an intended application under part 53 of this chapter.

7.4.6.2 *Internal, filter bypass leakage.* The sampler shall include an internal, filter bypass leak-check capability consisting of components, accessory hardware, operator interface controls, a written procedure in the Operation/Instruction Manual, and all other necessary functional capability to permit and facilitate the sampler operator to conveniently carry out a test for internal filter bypass leakage in the sampler at a field monitoring site without additional equipment. The purpose of the test is to determine that any portion of the sample flow rate that leaks past the sample filter without passing through the filter is insignificant relative to the design flow rate for the sampler.

(a) The suggested technique for the operator to use for this leak test is as follows:

(1) Carry out an external leak test as provided under section 7.4.6.1 of this appendix which indicates successful passage of the prescribed external leak test.

(2) Install a flow-impervious membrane material in the filter cassette, either with or without a filter, as appropriate, which effectively prevents air flow through the filter.

(3) Use the sampler air pump to draw a partial vacuum in the sampler, downstream of the filter holder assembly, of at least 55 mm Hg (75 cm water column).

(4) Plug the flow system downstream of the filter holder to isolate the components under vacuum from the pump, such as with a built-in valve.

(5) Stop the pump.

(6) Measure the trapped vacuum in the sampler with a built-in pressure measuring device.

(7) Measure the vacuum in the sampler with the built-in pressure measuring device again at a later time at least 10 minutes after the first pressure measurement.

(8) Remove the flow plug and membrane and restore the sampler to the normal operating configuration.

(b) The associated leak test procedure shall require that for successful passage of this test, the difference between the two pressure measurements shall not be greater than the number of mm of Hg specified for the sampler by the manufacturer, based on the actual internal volume of the portion of the sampler under vacuum, that indicates a leak of less than 80 mL/min.

(c) Variations of the suggested technique or an alternative internal, filter bypass leak test technique may be required for samplers whose design or configuration would make the suggested technique impossible or im-

practical. The specific proposed internal leak test procedure, or particularly an alternative internal leak test technique proposed for a particular candidate sampler may be described and submitted to the EPA for specific individual acceptability either as part of a reference or equivalent method application under part 53 of this chapter or in writing in advance of such intended application under part 53 of this chapter.

7.4.7 *Range of operational conditions.* The sampler is required to operate properly and meet all requirements specified in this appendix over the following operational ranges.

7.4.7.1 *Ambient temperature.* -30 to $= 45$ °C (Note: Although for practical reasons, the temperature range over which samplers are required to be tested under part 53 of this chapter is -20 to $= 40$ °C, the sampler shall be designed to operate properly over this wider temperature range.)

7.4.7.2 *Ambient relative humidity.* 0 to 100 percent.

7.4.7.3 *Barometric pressure range.* 600 to 800 mm Hg.

7.4.8 *Ambient temperature sensor.* The sampler shall have capability to measure the temperature of the ambient air surrounding the sampler over the range of -30 to $= 45$ °C, with a resolution of 0.1 °C and accuracy of ± 2.0 °C, referenced as described in reference 3 in section 13.0 of this appendix, with and without maximum solar insolation.

7.4.8.1 The ambient temperature sensor shall be mounted external to the sampler enclosure and shall have a passive, naturally ventilated sun shield. The sensor shall be located such that the entire sun shield is at least 5 cm above the horizontal plane of the sampler case or enclosure (disregarding the inlet and downtube) and external to the vertical plane of the nearest side or protuberance of the sampler case or enclosure. The maximum temperature measurement error of the ambient temperature measurement system shall be less than 1.6 °C at 1 m/s wind speed and 1000 W/m² solar radiation intensity.

7.4.8.2 The ambient temperature sensor shall be of such a design and mounted in such a way as to facilitate its convenient dismounting and immersion in a liquid for calibration and comparison to the filter temperature sensor, under section 7.4.11 of this appendix.

7.4.8.3 This ambient temperature measurement shall be updated at least every 30 seconds during both sampling and standby (non-sampling) modes of operation. A visual indication of the current (most recent) value of the ambient temperature measurement, updated at least every 30 seconds, shall be available to the sampler operator during both sampling and standby (non-sampling) modes of operation, as specified in table L-1 of section 7.4.19 of this appendix.

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7.4.8.4 This ambient temperature measurement shall be used for the purpose of monitoring filter temperature deviation from ambient temperature, as required by section 7.4.11 of this appendix, and may be used for purposes of effecting filter temperature control, under section 7.4.10 of this appendix, or computation of volumetric flow rate, under sections 7.4.1 to 7.4.5 of this appendix, if appropriate.

7.4.8.5 Following the end of each sample period, the sampler shall report the maximum, minimum, and average temperature for the sample period, as specified in table L-1 of section 7.4.19 of this appendix.

7.4.9 *Ambient barometric sensor.* The sampler shall have capability to measure the barometric pressure of the air surrounding the sampler over a range of 600 to 800 mm Hg referenced as described in reference 3 in section 13.0 of this appendix; also see part 53, subpart E of this chapter. This barometric pressure measurement shall have a resolution of 5 mm Hg and an accuracy of ± 10 mm Hg and shall be updated at least every 30 seconds. A visual indication of the value of the current (most recent) barometric pressure measurement, updated at least every 30 seconds, shall be available to the sampler operator during both sampling and standby (non-sampling) modes of operation, as specified in table L-1 of section 7.4.19 of this appendix. This barometric pressure measurement may be used for purposes of computation of volumetric flow rate, under sections 7.4.1 to 7.4.5 of this appendix, if appropriate. Following the end of a sample period, the sampler shall report the maximum, minimum, and mean barometric pressures for the sample period, as specified in table L-1 of section 7.4.19 of this appendix.

7.4.10 *Filter temperature control (sampling and post-sampling).* The sampler shall provide a means to limit the temperature rise of the sample filter (all sample filters for sequential samplers), from insolation and other sources, to no more 5 °C above the temperature of the ambient air surrounding the sampler, during both sampling and post-sampling periods of operation. The post-sampling period is the non-sampling period between the end of the active sampling period and the time of retrieval of the sample filter by the sampler operator.

7.4.11 *Filter temperature sensor(s).*

7.4.11.1 The sampler shall have the capability to monitor the temperature of the sample filter (all sample filters for sequential samplers) over the range of -30 to $= 45$ °C during both sampling and non-sampling periods. While the exact location of this temperature sensor is not explicitly specified, the filter temperature measurement system must demonstrate agreement, within 1 °C, with a test temperature sensor located within 1 cm of the center of the filter downstream of the filter during both sampling

and non-sampling modes, as specified in the filter temperature measurement test described in part 53, subpart E of this chapter. This filter temperature measurement shall have a resolution of 0.1 °C and accuracy of ± 1.0 °C, referenced as described in reference 3 in section 13.0 of this appendix. This temperature sensor shall be of such a design and mounted in such a way as to facilitate its reasonably convenient dismounting and immersion in a liquid for calibration and comparison to the ambient temperature sensor under section 7.4.8 of this appendix.

7.4.11.2 The filter temperature measurement shall be updated at least every 30 seconds during both sampling and standby (non-sampling) modes of operation. A visual indication of the current (most recent) value of the filter temperature measurement, updated at least every 30 seconds, shall be available to the sampler operator during both sampling and standby (non-sampling) modes of operation, as specified in table L-1 of section 7.4.19 of this appendix.

7.4.11.3 For sequential samplers, the temperature of each filter shall be measured individually unless it can be shown, as specified in the filter temperature measurement test described in §53.57 of this chapter, that the temperature of each filter can be represented by fewer temperature sensors.

7.4.11.4 The sampler shall also provide a warning flag indicator following any occurrence in which the filter temperature (any filter temperature for sequential samplers) exceeds the ambient temperature by more than 5 °C for more than 30 consecutive minutes during either the sampling or post-sampling periods of operation, as specified in table L-1 of section 7.4.19 of this appendix, under section 10.12 of this appendix, regarding sample validity when a warning flag occurs. It is further recommended (not required) that the sampler be capable of recording the maximum differential between the measured filter temperature and the ambient temperature and its time and date of occurrence during both sampling and post-sampling (non-sampling) modes of operation and providing for those data to be accessible to the sampler operator following the end of the sample period, as suggested in table L-1 of section 7.4.19 of this appendix.

7.4.12 *Clock/timer system.*

(a) The sampler shall have a programmable real-time clock timing/control system that:

(1) Is capable of maintaining local time and date, including year, month, day-of-month, hour, minute, and second to an accuracy of ± 1.0 minute per month.

(2) Provides a visual indication of the current system time, including year, month, day-of-month, hour, and minute, updated at least each minute, for operator verification.

(3) Provides appropriate operator controls for setting the correct local time and date.

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(4) Is capable of starting the sample collection period and sample air flow at a specific, operator-settable time and date, and stopping the sample air flow and terminating the sampler collection period 24 hours (1440 minutes) later, or at a specific, operator-settable time and date.

(b) These start and stop times shall be readily settable by the sampler operator to within ± 1.0 minute. The system shall provide a visual indication of the current start and stop time settings, readable to ± 1.0 minute, for verification by the operator, and the start and stop times shall also be available via the data output port, as specified in table L-1 of section 7.4.19 of this appendix. Upon execution of a programmed sample period start, the sampler shall automatically reset all sample period information and warning flag indications pertaining to a previous sample period. Refer also to section 7.4.15.4 of this appendix regarding retention of current date and time and programmed start and stop times during a temporary electrical power interruption.

7.4.13 Sample time determination. The sampler shall be capable of determining the elapsed sample collection time for each PM_{2.5} sample, accurate to within ± 1.0 minute, measured as the time between the start of the sampling period, under section 7.4.12 of this appendix and the termination of the sample period, under section 7.4.12 of this appendix or section 7.4.4 of this appendix. This elapsed sample time shall not include periods when the sampler is inoperative due to a temporary interruption of electrical power, under section 7.4.15.4 of this appendix. In the event that the elapsed sample time determined for the sample period is not within the range specified for the required sample period in section 3.3 of this appendix, the sampler shall set a warning flag indicator. The date and time of the start of the sample period, the value of the elapsed sample time for the sample period, and the flag indicator status shall be available to the sampler operator following the end of the sample period, as specified in table L-1 of section 7.4.19 of this appendix.

7.4.14 Outdoor environmental enclosure. The sampler shall have an outdoor enclosure (or enclosures) suitable to protect the filter and other non-weatherproof components of the sampler from precipitation, wind, dust, extremes of temperature and humidity; to help maintain temperature control of the filter (or filters, for sequential samplers); and to provide reasonable security for sampler components and settings.

7.4.15 Electrical power supply.

7.4.15.1 The sampler shall be operable and function as specified herein when operated on an electrical power supply voltage of 105 to 125 volts AC (RMS) at a frequency of 59 to 61 Hz. Optional operation as specified at additional power supply voltages and/or fre-

quencies shall not be precluded by this requirement.

7.4.15.2 The design and construction of the sampler shall comply with all applicable National Electrical Code and Underwriters Laboratories electrical safety requirements.

7.4.15.3 The design of all electrical and electronic controls shall be such as to provide reasonable resistance to interference or malfunction from ordinary or typical levels of stray electromagnetic fields (EMF) as may be found at various monitoring sites and from typical levels of electrical transients or electronic noise as may often or occasionally be present on various electrical power lines.

7.4.15.4 In the event of temporary loss of electrical supply power to the sampler, the sampler shall not be required to sample or provide other specified functions during such loss of power, except that the internal clock/timer system shall maintain its local time and date setting within ± 1 minute per week, and the sampler shall retain all other time and programmable settings and all data required to be available to the sampler operator following each sample period for at least 7 days without electrical supply power. When electrical power is absent at the operator-set time for starting a sample period or is interrupted during a sample period, the sampler shall automatically start or resume sampling when electrical power is restored, if such restoration of power occurs before the operator-set stop time for the sample period.

7.4.15.5 The sampler shall have the capability to record and retain a record of the year, month, day-of-month, hour, and minute of the start of each power interruption of more than 1 minute duration, up to 10 such power interruptions per sample period. (More than 10 such power interruptions shall invalidate the sample, except where an exceedance is measured, under section 3.3 of this appendix.) The sampler shall provide for these power interruption data to be available to the sampler operator following the end of the sample period, as specified in table L-1 of section 7.4.19 of this appendix.

7.4.16 Control devices and operator interface.

The sampler shall have mechanical, electrical, or electronic controls, control devices, electrical or electronic circuits as necessary to provide the timing, flow rate measurement and control, temperature control, data storage and computation, operator interface, and other functions specified. Operator-accessible controls, data displays, and interface devices shall be designed to be simple, straightforward, reliable, and easy to learn, read, and operate under field conditions. The sampler shall have provision for operator input and storage of up to 64 characters of numeric (or alphanumeric) data for purposes of site, sampler, and sample identification. This information shall be available to the sampler operator for verification and

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change and for output via the data output port along with other data following the end of a sample period, as specified in table L-1 of section 7.4.19 of this appendix. All data required to be available to the operator following a sample collection period or obtained during standby mode in a post-sampling period shall be retained by the sampler until reset, either manually by the operator or automatically by the sampler upon initiation of a new sample collection period.

7.4.17 *Data output port requirement.* The sampler shall have a standard RS-232C data output connection through which digital data may be exported to an external data storage or transmission device. All information which is required to be available at the end of each sample period shall be accessible through this data output connection. The information that shall be accessible through this output port is summarized in table L-1 of section 7.4.19 of this appendix. Since no specific format for the output data is provided, the sampler manufacturer or vendor shall make available to sampler purchasers appropriate computer software capable of receiving exported sampler data and correctly translating the data into a standard spreadsheet format and optionally any other formats as may be useful to sampler users. This

requirement shall not preclude the sampler from offering other types of output connections in addition to the required RS-232C port.

7.4.18 *Operation/instruction manual.* The sampler shall include an associated comprehensive operation or instruction manual, as required by part 53 of this chapter, which includes detailed operating instructions on the setup, operation, calibration, and maintenance of the sampler. This manual shall provide complete and detailed descriptions of the operational and calibration procedures prescribed for field use of the sampler and all instruments utilized as part of this reference method. The manual shall include adequate warning of potential safety hazards that may result from normal use or malfunction of the method and a description of necessary safety precautions. The manual shall also include a clear description of all procedures pertaining to installation, operation, periodic and corrective maintenance, and troubleshooting, and shall include parts identification diagrams.

7.4.19 *Data reporting requirements.* The various information that the sampler is required to provide and how it is to be provided is summarized in the following table L-1.

TABLE L-1 TO APPENDIX L OF PART 50—SUMMARY OF INFORMATION TO BE PROVIDED BY THE SAMPLER

Information to be provided	Appendix L section reference	Availability			Format		
		Anytime ¹	End of period ²	Visual display ³	Data output ⁴	Digital reading ⁵	Units
Flow rate, 30-second maximum interval.	7.4.5.1	✓	.....	✓	*	XX.X	L/min
Flow rate, average for the sample period.	7.4.5.2	*	✓	*	✓	XX.X	L/min
Flow rate, CV, for sample period.	7.4.5.2	*	✓	*	✓	XX.X	%
Flow rate, 5-min. average out of spec. (FLAG ⁶).	7.4.5.2	✓	✓	✓	■	On/Off	
Sample volume, total.	7.4.5.2	*	✓	✓	✓	XX.X	m ³
Temperature, ambient, 30-second interval.	7.4.8 ....	✓	.....	✓	.....	XX.X	°C
Temperature, ambient, min., max., average for the sample period.	7.4.8	*	✓	✓	■	XX.X	°C
Baro. pressure, ambient, 30-second interval.	7.4.9 ....	✓	.....	✓	.....	XXX	mm Hg
Baro. pressure, ambient, min., max., average for the sample period.	7.4.9	*	✓	✓	■	XXX	mm Hg
Filter temperature, 30-second interval.	7.4.11 ..	✓	✓	XX.X	°C

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TABLE L-1 TO APPENDIX L OF PART 50—SUMMARY OF INFORMATION TO BE PROVIDED BY THE SAMPLER—Continued

Information to be provided	Appendix L section reference	Availability			Format		
		Anytime ¹	End of period ²	Visual display ³	Data output ⁴	Digital reading ⁵	Units
Filter temp. differential, 30-second interval, out of spec. (FLAG ⁶).	7.4.11 ..	*	✓	✓	■	On/Off	
Filter temp., maximum differential from ambient, date, time of occurrence.	7.4.11 ..	*	*	*	*	X.X, YY/MM/DD HH.mm.	°C, Yr/Mon/Day Hrs. min
Date and Time	7.4.12 ..	✓	.....	✓	.....	YY/MM/DD HH.mm.	Yr/Mon/Day Hrs. min
Sample start and stop time settings.	7.4.12 ..	✓	✓	✓	✓	YY/MM/DD HH.mm.	Yr/Mon/Day Hrs. min
Sample period start time.	7.4.12 ..	.....	✓	✓	✓	YY/MM/DD HH.mm.	Yr/Mon/Day Hrs. min
Elapsed sample time.	7.4.13 ..	*	✓	✓	✓	HH.mm	Hrs. min
Elapsed sample time, out of spec. (FLAG ⁶).	7.4.13 ..	.....	✓	✓	■	On/Off	
Power interruptions ≤1 min., start time of first 10.	7.4.15.5	*	✓	*	✓	1HH.mm, 2HH.mm, etc..	Hrs. min
User-entered information, such as sampler and site identification.	7.4.16 ..	✓	✓	✓	■	As entered.	

✓ Provision of this information is required.
 * Provision of this information is optional. If information related to the entire sample period is optionally provided prior to the end of the sample period, the value provided should be the value calculated for the portion of the sampler period completed up to the time the information is provided.
 ■ Indicates that this information is also required to be provided to the Air Quality System (AQS) data bank; see § 58.16 of this chapter. For ambient temperature and barometric pressure, only the average for the sample period must be reported.
 1. Information is required to be available to the operator at any time the sampler is operating, whether sampling or not.
 2. Information relates to the entire sampler period and must be provided following the end of the sample period until reset manually by the operator or automatically by the sampler upon the start of a new sample period.
 3. Information shall be available to the operator visually.
 4. Information is to be available as digital data at the sampler's data output port specified in section 7.4.16 of this appendix following the end of the sample period until reset manually by the operator or automatically by the sampler upon the start of a new sample period.
 5. Digital readings, both visual and data output, shall have not less than the number of significant digits and resolution specified.
 6. Flag warnings may be displayed to the operator by a single flag indicator or each flag may be displayed individually. Only a set (on) flag warning must be indicated; an off (unset) flag may be indicated by the absence of a flag warning. Sampler users should refer to section 10.12 of this appendix regarding the validity of samples for which the sampler provided an associated flag warning.

8.0 *Filter Weighing.* See reference 2 in section 13.0 of this appendix, for additional, more detailed guidance.

8.1 *Analytical balance.* The analytical balance used to weigh filters must be suitable for weighing the type and size of filters specified, under section 6.0 of this appendix, and have a readability of ±1 µg. The balance shall be calibrated as specified by the manufacturer at installation and recalibrated immediately prior to each weighing session. See reference 2 in section 13.0 of this appendix for additional guidance.

8.2 *Filter conditioning.* All sample filters used shall be conditioned immediately before both the pre- and post-sampling weighings as specified below. See reference 2 in section 13.0 of this appendix for additional guidance.

8.2.1 *Mean temperature.* 20 - 23 °C.
 8.2.2 *Temperature control.* ±2 °C over 24 hours.

8.2.3 *Mean humidity.* Generally, 30-40 percent relative humidity; however, where it can be shown that the mean ambient relative humidity during sampling is less than 30 percent, conditioning is permissible at a mean

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relative humidity within ± 5 relative humidity percent of the mean ambient relative humidity during sampling, but not less than 20 percent.

8.2.4 *Humidity control.* ± 5 relative humidity percent over 24 hours.

8.2.5 *Conditioning time.* Not less than 24 hours.

8.3 *Weighing procedure.*

8.3.1 New filters should be placed in the conditioning environment immediately upon arrival and stored there until the pre-sampling weighing. See reference 2 in section 13.0 of this appendix for additional guidance.

8.3.2 The analytical balance shall be located in the same controlled environment in which the filters are conditioned. The filters shall be weighed immediately following the conditioning period without intermediate or transient exposure to other conditions or environments.

8.3.3 Filters must be conditioned at the same conditions (humidity within ± 5 relative humidity percent) before both the pre- and post-sampling weighings.

8.3.4 Both the pre- and post-sampling weighings should be carried out on the same analytical balance, using an effective technique to neutralize static charges on the filter, under reference 2 in section 13.0 of this appendix. If possible, both weighings should be carried out by the same analyst.

8.3.5 The pre-sampling (tare) weighing shall be within 30 days of the sampling period.

8.3.6 The post-sampling conditioning and weighing shall be completed within 240 hours (10 days) after the end of the sample period, unless the filter sample is maintained at temperatures below the average ambient temperature during sampling (or 4 °C or below for average sampling temperatures less than 4 °C) during the time between retrieval from the sampler and the start of the conditioning, in which case the period shall not exceed 30 days. Reference 2 in section 13.0 of this appendix has additional guidance on transport of cooled filters.

8.3.7 *Filter blanks.*

8.3.7.1 New field blank filters shall be weighed along with the pre-sampling (tare) weighing of each lot of PM_{2.5} filters. These blank filters shall be transported to the sampling site, installed in the sampler, retrieved from the sampler without sampling, and reweighed as a quality control check.

8.3.7.2 New laboratory blank filters shall be weighed along with the pre-sampling (tare) weighing of each set of PM_{2.5} filters. These laboratory blank filters should remain in the laboratory in protective containers during the field sampling and should be reweighed as a quality control check.

8.3.8 Additional guidance for proper filter weighing and related quality assurance activities is provided in reference 2 in section 13.0 of this appendix.

9.0 *Calibration.* Reference 2 in section 13.0 of this appendix contains additional guidance.

9.1 *General requirements.*

9.1.1 Multipoint calibration and single-point verification of the sampler's flow rate measurement device must be performed periodically to establish and maintain traceability of subsequent flow measurements to a flow rate standard.

9.1.2 An authoritative flow rate standard shall be used for calibrating or verifying the sampler's flow rate measurement device with an accuracy of ± 2 percent. The flow rate standard shall be a separate, stand-alone device designed to connect to the flow rate measurement adapter, Figure L-30 of this appendix. This flow rate standard must have its own certification and be traceable to a National Institute of Standards and Technology (NIST) primary standard for volume or flow rate. If adjustments to the sampler's flow rate measurement system calibration are to be made in conjunction with an audit of the sampler's flow measurement system, such adjustments shall be made following the audit. Reference 2 in section 13.0 of this appendix contains additional guidance.

9.1.3 The sampler's flow rate measurement device shall be re-calibrated after electromechanical maintenance or transport of the sampler.

9.2 *Flow rate calibration/verification procedure.*

9.2.1 PM_{2.5} samplers may employ various types of flow control and flow measurement devices. The specific procedure used for calibration or verification of the flow rate measurement device will vary depending on the type of flow rate controller and flow rate measurement employed. Calibration shall be in terms of actual ambient volumetric flow rates (Q_a), measured at the sampler's inlet downtube. The generic procedure given here serves to illustrate the general steps involved in the calibration of a PM_{2.5} sampler. The sampler operation/instruction manual required under section 7.4.18 of this appendix and the Quality Assurance Handbook in reference 2 in section 13.0 of this appendix provide more specific and detailed guidance for calibration.

9.2.2 The flow rate standard used for flow rate calibration shall have its own certification and be traceable to a NIST primary standard for volume or flow rate. A calibration relationship for the flow rate standard, e.g., an equation, curve, or family of curves relating actual flow rate (Q_a) to the flow rate indicator reading, shall be established that is accurate to within 2 percent over the expected range of ambient temperatures and pressures at which the flow rate standard may be used. The flow rate standard must be re-calibrated or re-verified at least annually.

9.2.3 The sampler flow rate measurement device shall be calibrated or verified by removing the sampler inlet and connecting the

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flow rate standard to the sampler's downtube in accordance with the operation/instruction manual, such that the flow rate standard accurately measures the sampler's flow rate. The sampler operator shall first carry out a sampler leak check and confirm that the sampler passes the leak test and then verify that no leaks exist between the flow rate standard and the sampler.

9.2.4 The calibration relationship between the flow rate (in actual L/min) indicated by the flow rate standard and by the sampler's flow rate measurement device shall be established or verified in accordance with the sampler operation/instruction manual. Temperature and pressure corrections to the flow rate indicated by the flow rate standard may be required for certain types of flow rate standards. Calibration of the sampler's flow rate measurement device shall consist of at least three separate flow rate measurements (multipoint calibration) evenly spaced within the range of -10 percent to +10 percent of the sampler's operational flow rate, section 7.4.1 of this appendix. Verification of the sampler's flow rate shall consist of one flow rate measurement at the sampler's operational flow rate. The sampler operation/instruction manual and reference 2 in section 13.0 of this appendix provide additional guidance.

9.2.5 If during a flow rate verification the reading of the sampler's flow rate indicator or measurement device differs by ± 4 percent or more from the flow rate measured by the flow rate standard, a new multipoint calibration shall be performed and the flow rate verification must then be repeated.

9.2.6 Following the calibration or verification, the flow rate standard shall be removed from the sampler and the sampler inlet shall be reinstalled. Then the sampler's normal operating flow rate (in L/min) shall be determined with a clean filter in place. If the flow rate indicated by the sampler differs by ± 2 percent or more from the required sampler flow rate, the sampler flow rate must be adjusted to the required flow rate, under section 7.4.1 of this appendix.

9.3 Periodic calibration or verification of the calibration of the sampler's ambient temperature, filter temperature, and barometric pressure measurement systems is also required. Reference 3 of section 13.0 of this appendix contains additional guidance.

10.0 *PM_{2.5} Measurement Procedure*. The detailed procedure for obtaining valid PM_{2.5} measurements with each specific sampler designated as part of a reference method for PM_{2.5} under part 53 of this chapter shall be provided in the sampler-specific operation or instruction manual required by section 7.4.18 of this appendix. Supplemental guidance is provided in section 2.12 of the Quality Assurance Handbook listed in reference 2 in section 13.0 of this appendix. The generic procedure given here serves to illustrate the gen-

eral steps involved in the PM_{2.5} sample collection and measurement, using a PM_{2.5} reference method sampler.

10.1 The sampler shall be set up, calibrated, and operated in accordance with the specific, detailed guidance provided in the specific sampler's operation or instruction manual and in accordance with a specific quality assurance program developed and established by the user, based on applicable supplementary guidance provided in reference 2 in section 13.0 of this appendix.

10.2 Each new sample filter shall be inspected for correct type and size and for pinholes, particles, and other imperfections. Unacceptable filters should be discarded. A unique identification number shall be assigned to each filter, and an information record shall be established for each filter. If the filter identification number is not or cannot be marked directly on the filter, alternative means, such as a number-identified storage container, must be established to maintain positive filter identification.

10.3 Each filter shall be conditioned in the conditioning environment in accordance with the requirements specified in section 8.2 of this appendix.

10.4 Following conditioning, each filter shall be weighed in accordance with the requirements specified in section 8.0 of this appendix and the presampling weight recorded with the filter identification number.

10.5 A numbered and preweighed filter shall be installed in the sampler following the instructions provided in the sampler operation or instruction manual.

10.6 The sampler shall be checked and prepared for sample collection in accordance with instructions provided in the sampler operation or instruction manual and with the specific quality assurance program established for the sampler by the user.

10.7 The sampler's timer shall be set to start the sample collection at the beginning of the desired sample period and stop the sample collection 24 hours later.

10.8 Information related to the sample collection (site location or identification number, sample date, filter identification number, and sampler model and serial number) shall be recorded and, if appropriate, entered into the sampler.

10.9 The sampler shall be allowed to collect the PM_{2.5} sample during the set 24-hour time period.

10.10 Within 177 hours (7 days, 9 hours) of the end of the sample collection period, the filter, while still contained in the filter cassette, shall be carefully removed from the sampler, following the procedure provided in the sampler operation or instruction manual and the quality assurance program, and placed in a protective container. The protective container shall contain no loose material that could be transferred to the filter. The protective container shall hold the filter

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cassette securely such that the cover shall not come in contact with the filter's surfaces. Reference 2 in section 13.0 of this appendix contains additional information.

10.11 The total sample volume in actual m³ for the sampling period and the elapsed sample time shall be obtained from the sampler and recorded in accordance with the instructions provided in the sampler operation or instruction manual. All sampler warning flag indications and other information required by the local quality assurance program shall also be recorded.

10.12 All factors related to the validity or representativeness of the sample, such as sampler tampering or malfunctions, unusual meteorological conditions, construction activity, fires or dust storms, etc. shall be recorded as required by the local quality assurance program. The occurrence of a flag warning during a sample period shall not necessarily indicate an invalid sample but rather shall indicate the need for specific review of the QC data by a quality assurance officer to determine sample validity.

10.13 After retrieval from the sampler, the exposed filter containing the PM_{2.5} sample should be transported to the filter conditioning environment as soon as possible, ideally to arrive at the conditioning environment within 24 hours for conditioning and subsequent weighing. During the period between filter retrieval from the sampler and the start of the conditioning, the filter shall be maintained as cool as practical and continuously protected from exposure to temperatures over 25 °C to protect the integrity of the sample and minimize loss of volatile components during transport and storage. See section 8.3.6 of this appendix regarding time limits for completing the post-sampling weighing. See reference 2 in section 13.0 of this appendix for additional guidance on transporting filter samplers to the conditioning and weighing laboratory.

10.14. The exposed filter containing the PM_{2.5} sample shall be re-conditioned in the conditioning environment in accordance with the requirements specified in section 8.2 of this appendix.

10.15. The filter shall be reweighed immediately after conditioning in accordance with the requirements specified in section 8.0 of this appendix, and the postsampling weight shall be recorded with the filter identification number.

10.16 The PM_{2.5} concentration shall be calculated as specified in section 12.0 of this appendix.

11.0 *Sampler Maintenance.* The sampler shall be maintained as described by the sampler's manufacturer in the sampler-specific operation or instruction manual required under section 7.4.18 of this appendix and in accordance with the specific quality assurance program developed and established by the user based on applicable supplementary guidance provided in reference 2 in section 13.0 of this appendix.

12.0 *Calculations*

12.1 (a) The PM_{2.5} concentration is calculated as:

$$PM_{2.5} = (W_f - W_i)/V_a$$

where:

PM_{2.5} = mass concentration of PM_{2.5}, µg/m³;
 W_f, W_i = final and initial weights, respectively, of the filter used to collect the PM_{2.5} particle sample, µg;
 V_a = total air volume sampled in actual volume units, as provided by the sampler, m³.

NOTE: Total sample time must be between 1,380 and 1,500 minutes (23 and 25 hrs) for a fully valid PM_{2.5} sample; however, see also section 3.3 of this appendix.

13.0 *References.*

1. Quality Assurance Handbook for Air Pollution Measurement Systems, Volume I, Principles. EPA/600/R-94/038a, April 1994. Available from CERL, ORD Publications, U.S. Environmental Protection Agency, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268.

2. Quality Assurance Guidance Document 2.12. Monitoring PM_{2.5} in Ambient Air Using Designated Reference or Class I Equivalent Methods. U.S. EPA, National Exposure Research Laboratory. Research Triangle Park, NC, November 1988 or later edition. Currently available at: <http://www.epa.gov/atn/amtic/pmqaainf.html>.

3. Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, (Revised Edition) EPA/600/R-94/038d, March, 1995. Available from CERL, ORD Publications, U.S. Environmental Protection Agency, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268.

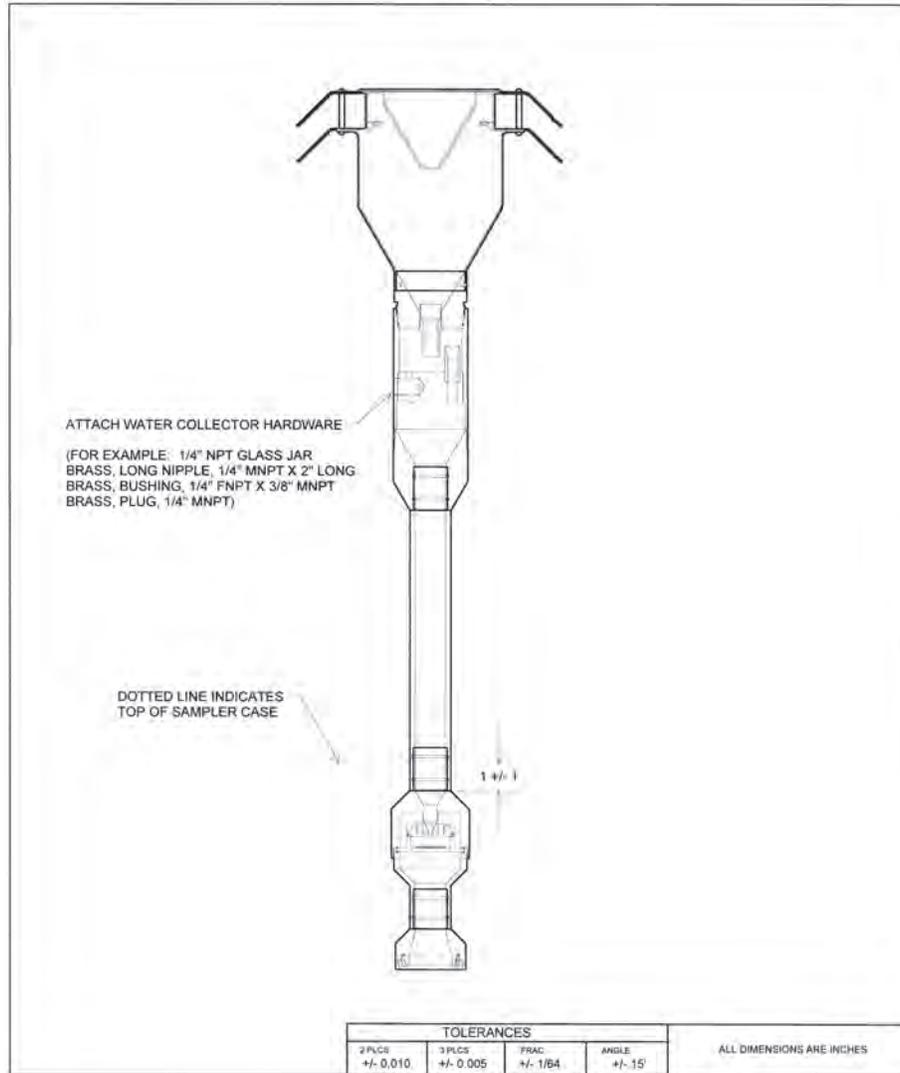
4. Military standard specification (mil. spec.) 8625F, Type II, Class 1 as listed in Department of Defense Index of Specifications and Standards (DODISS), available from DODSSP-Customer Service, Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 1911-5094.

14.0 *Figures L-1 through L-30 to Appendix L.*

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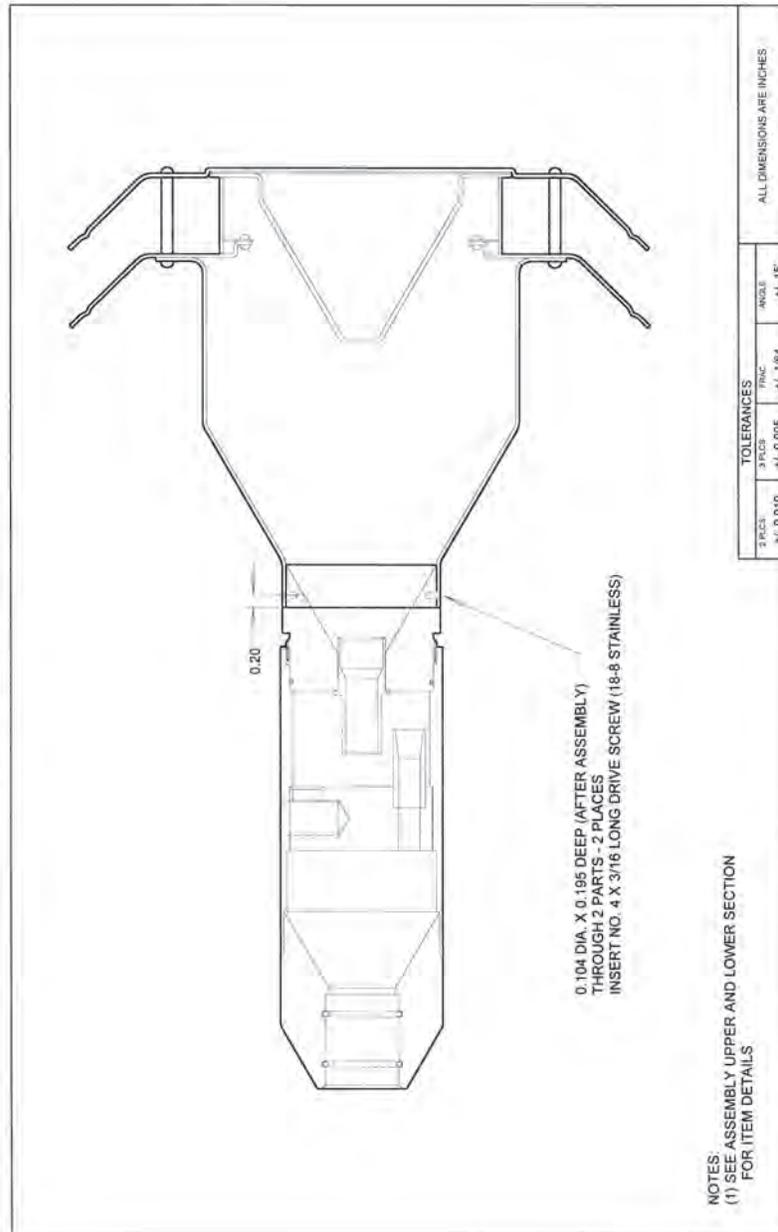
FIGURE L-1. PM2.5 SAMPLER, ASSEMBLY



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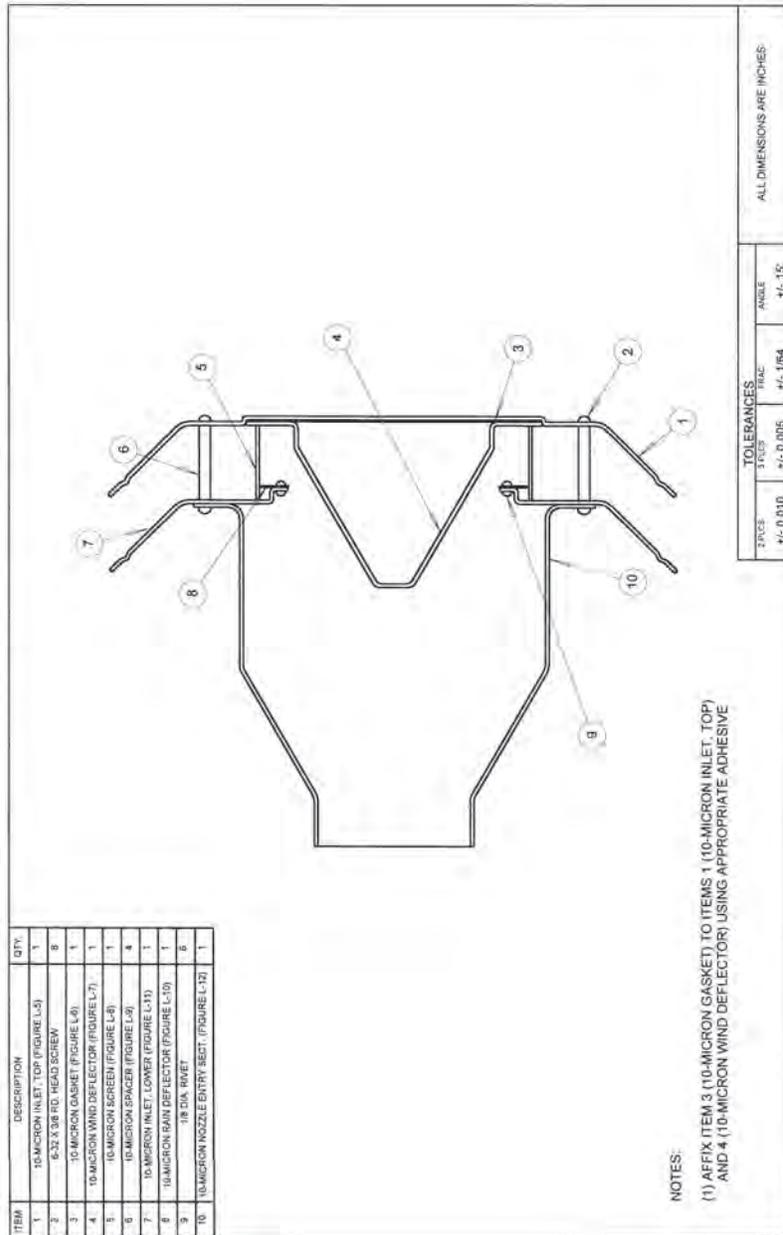
FIGURE L-2. 10-MICRON INLET, ASSEMBLY



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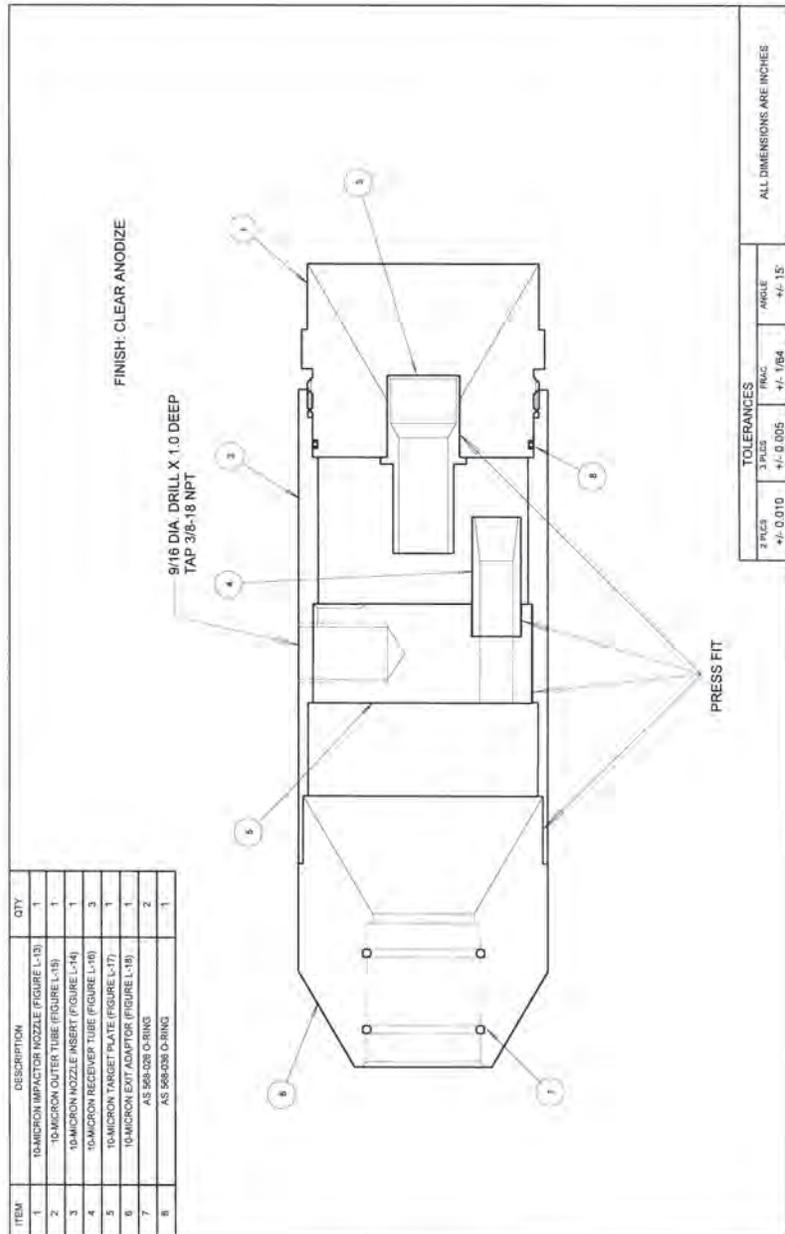
FIGURE L-3. 10-MICRON ASSEMBLY, UPPER SECTION



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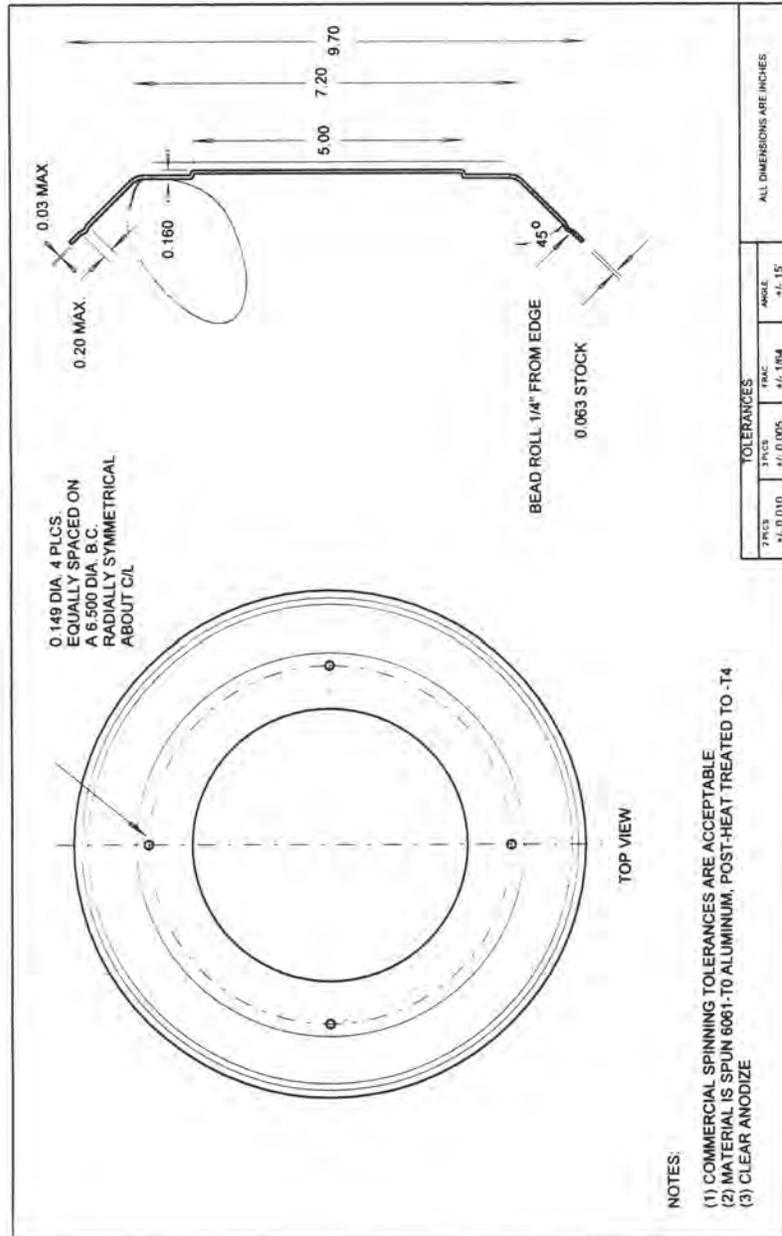
FIGURE L-4. 10-MICRON ASSEMBLY, LOWER SECTION



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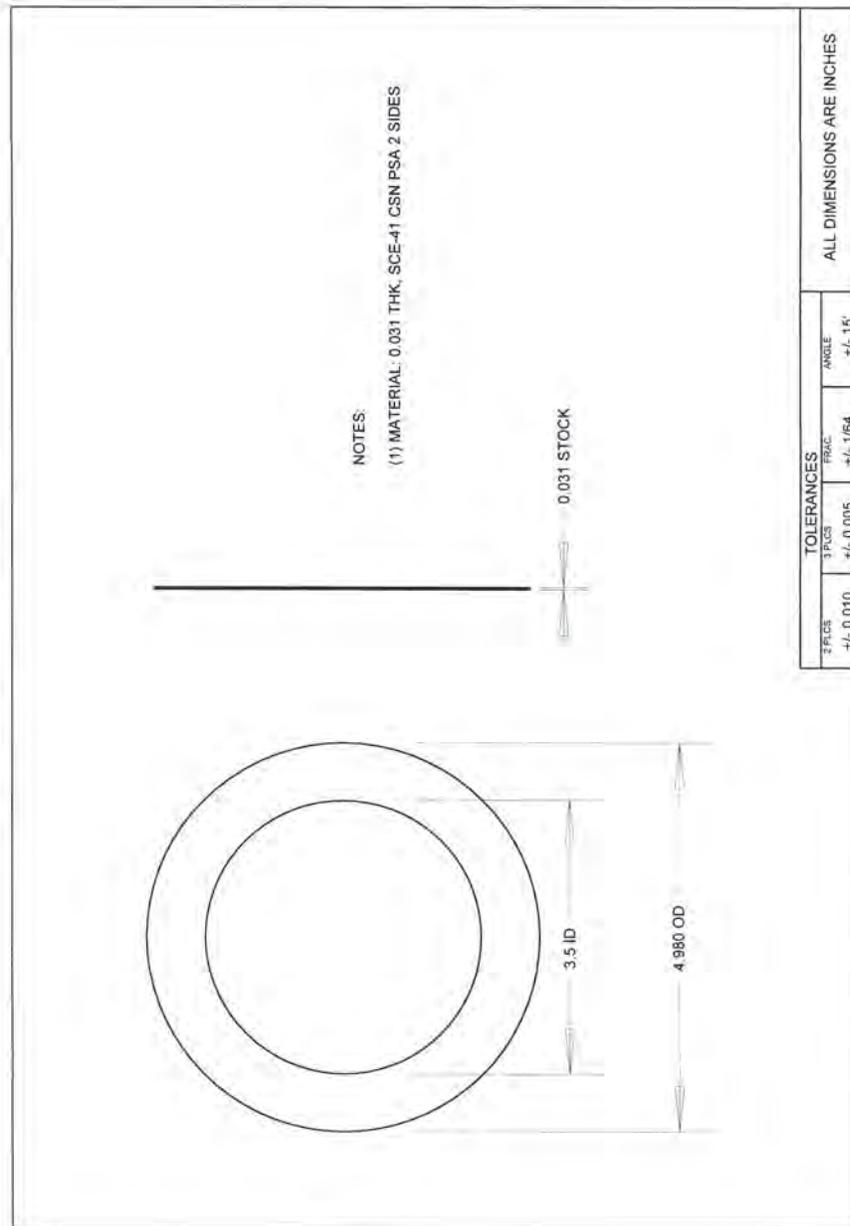
FIGURE L-5. 10-MICRON INLET, TOP



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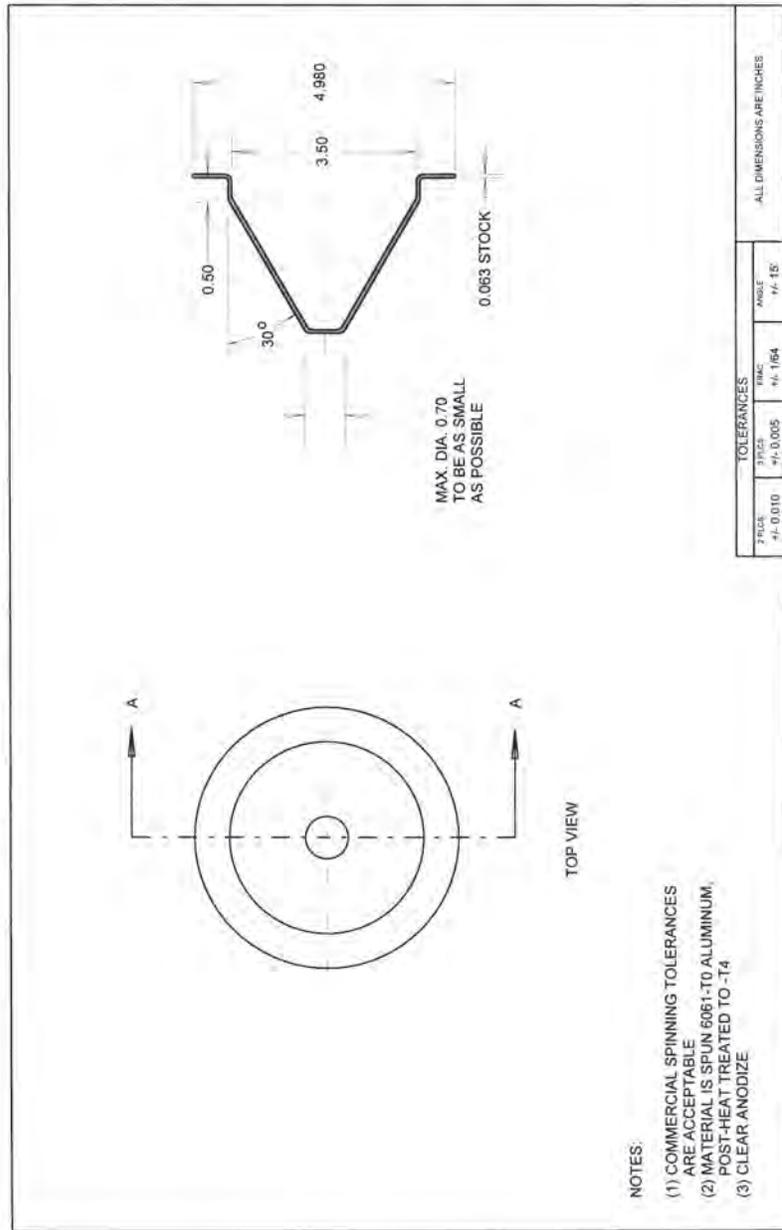
FIGURE L-6. 10-MICRON GASKET



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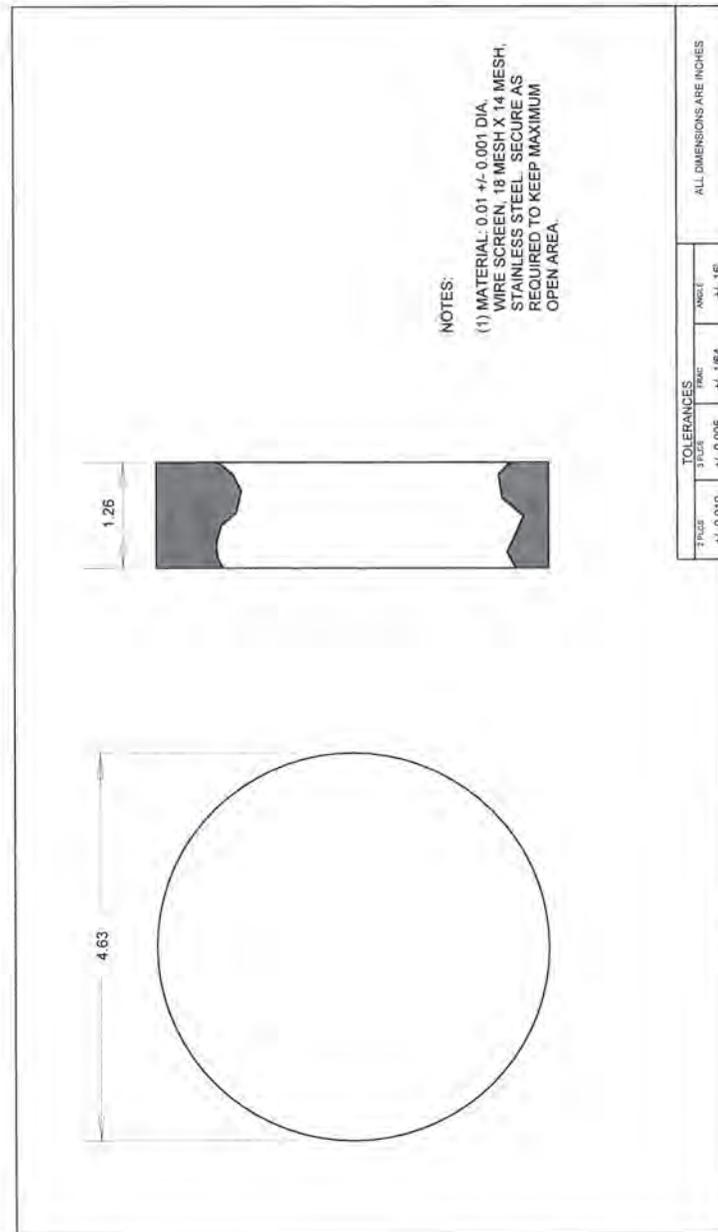
FIGURE L-7. 10-MICRON WIND DEFLECTOR



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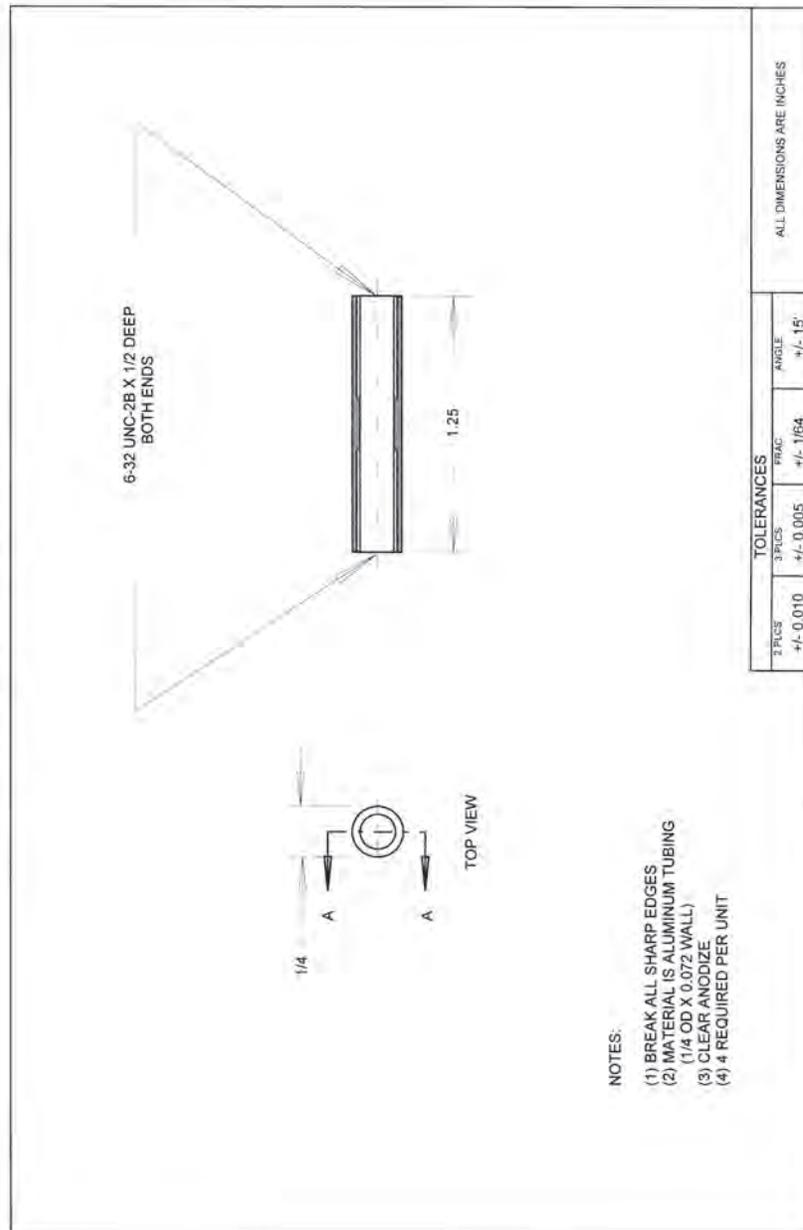
FIGURE L-8. 10-MICRON SCREEN



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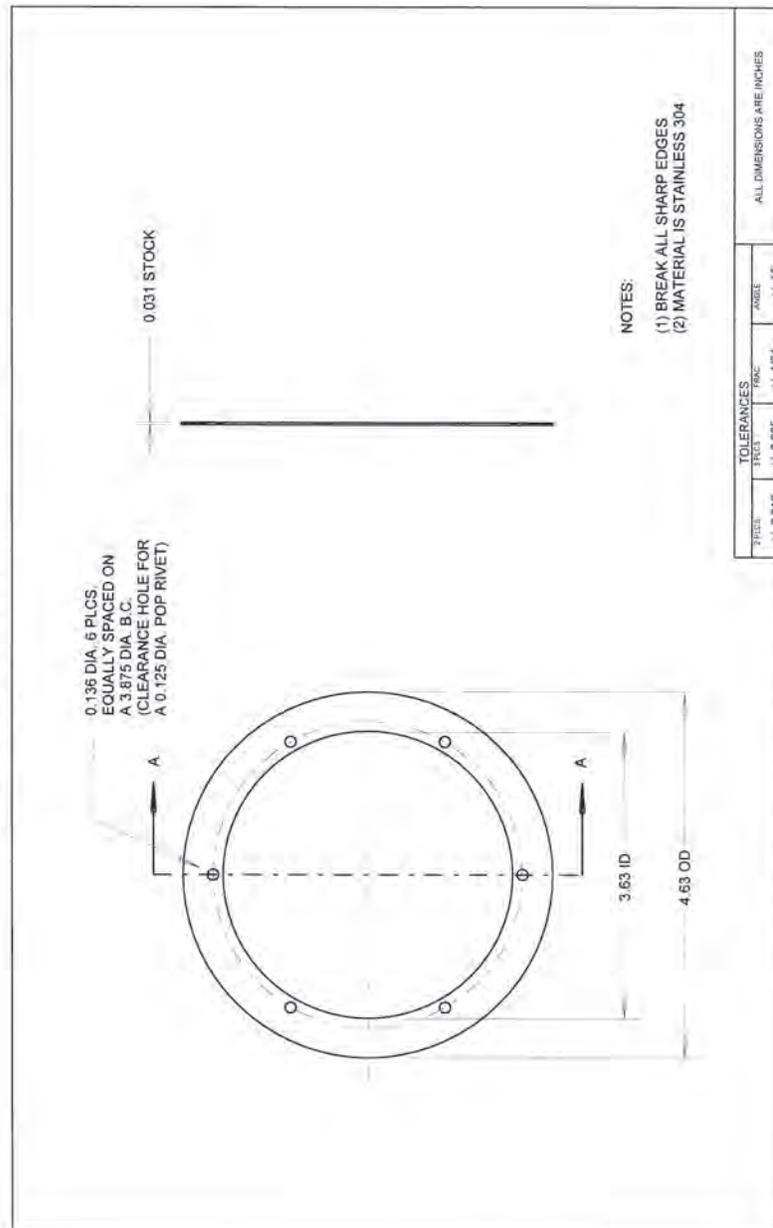
FIGURE L-9. 10-MICRON SPACER



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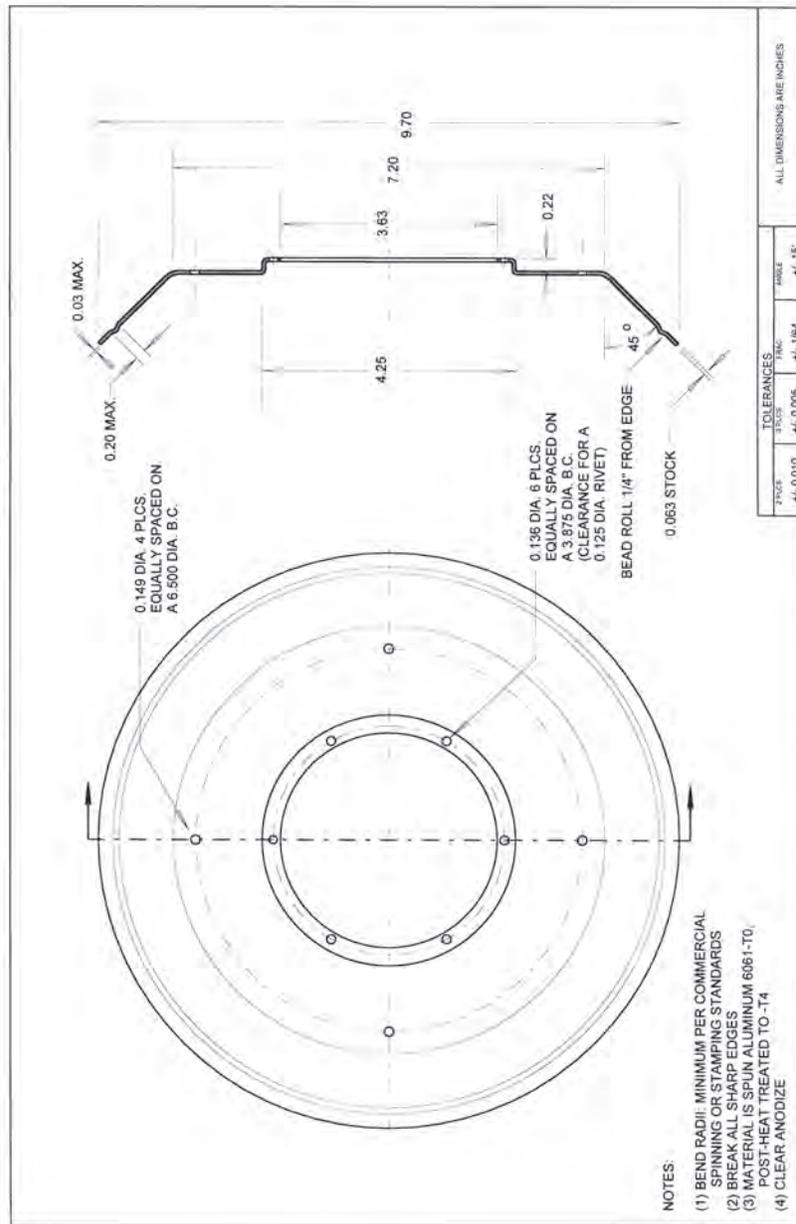
FIGURE L-10. 10-MICRON RAIN DEFLECTOR



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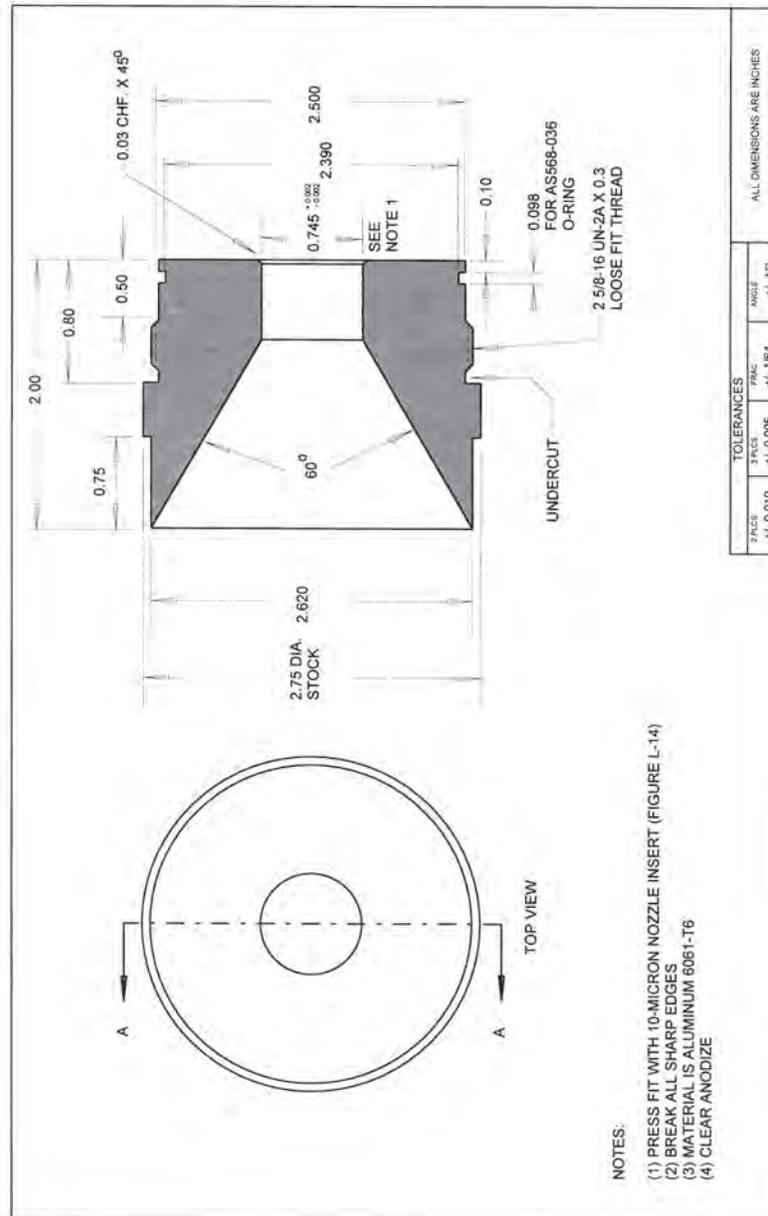
FIGURE L-11. 10-MICRON INLET, LOWER



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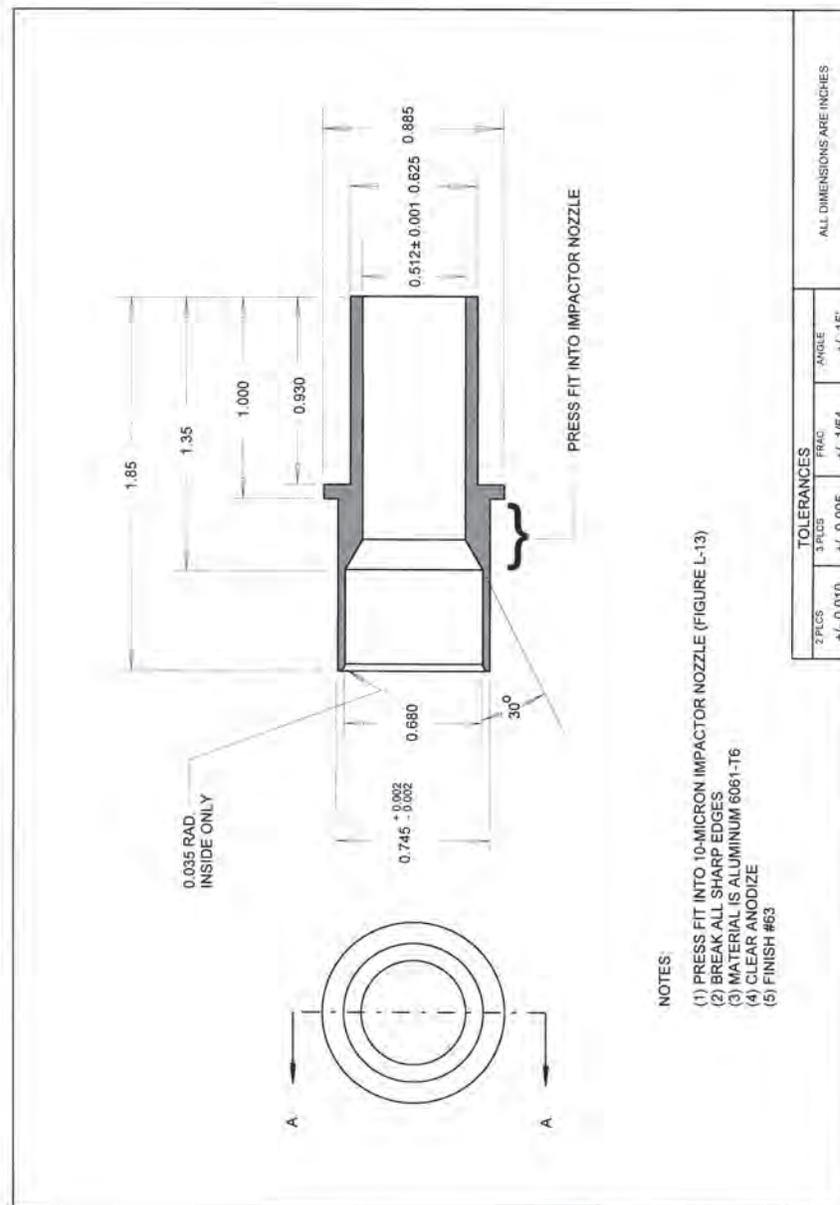
FIGURE L-13. 10-MICRON IMPACTOR NOZZLE



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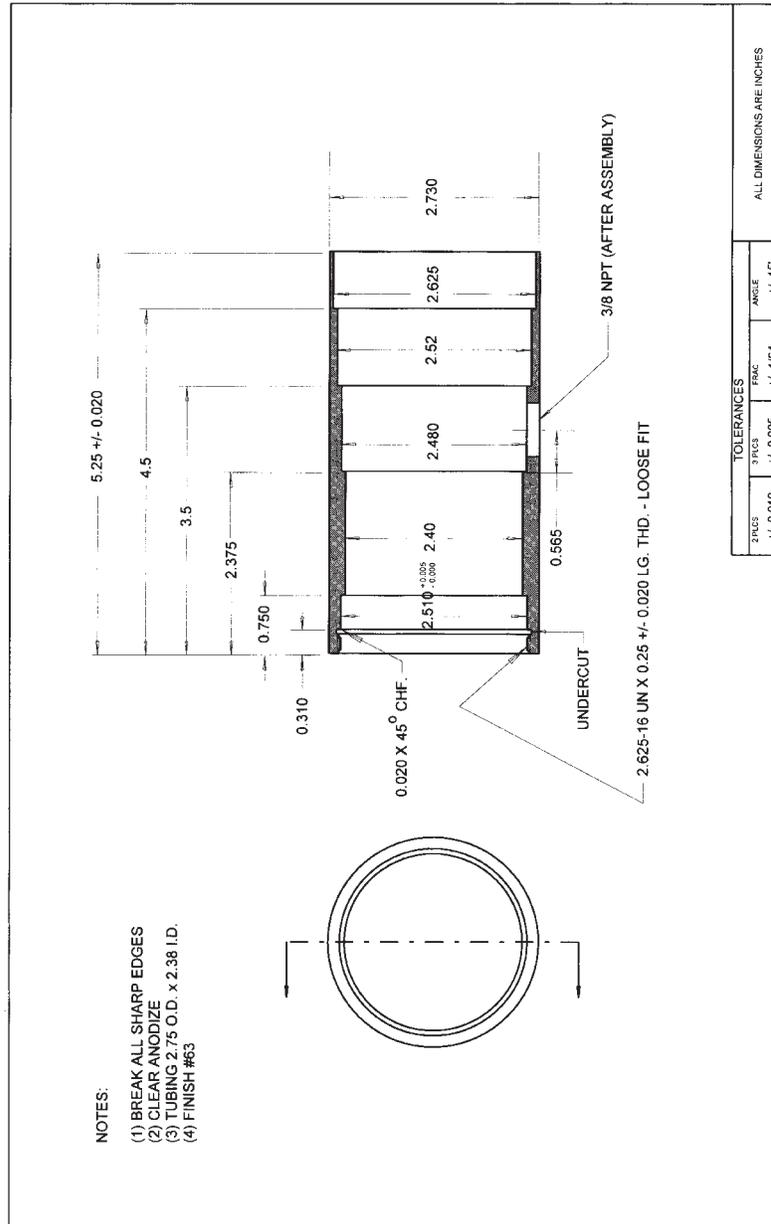
FIGURE L-14. 10-MICRON NOZZLE INSERT



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FIGURE L-15. 10-MICRON OUTER TUBE



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FIGURE L-17. 10-MICRON TARGET PLATE

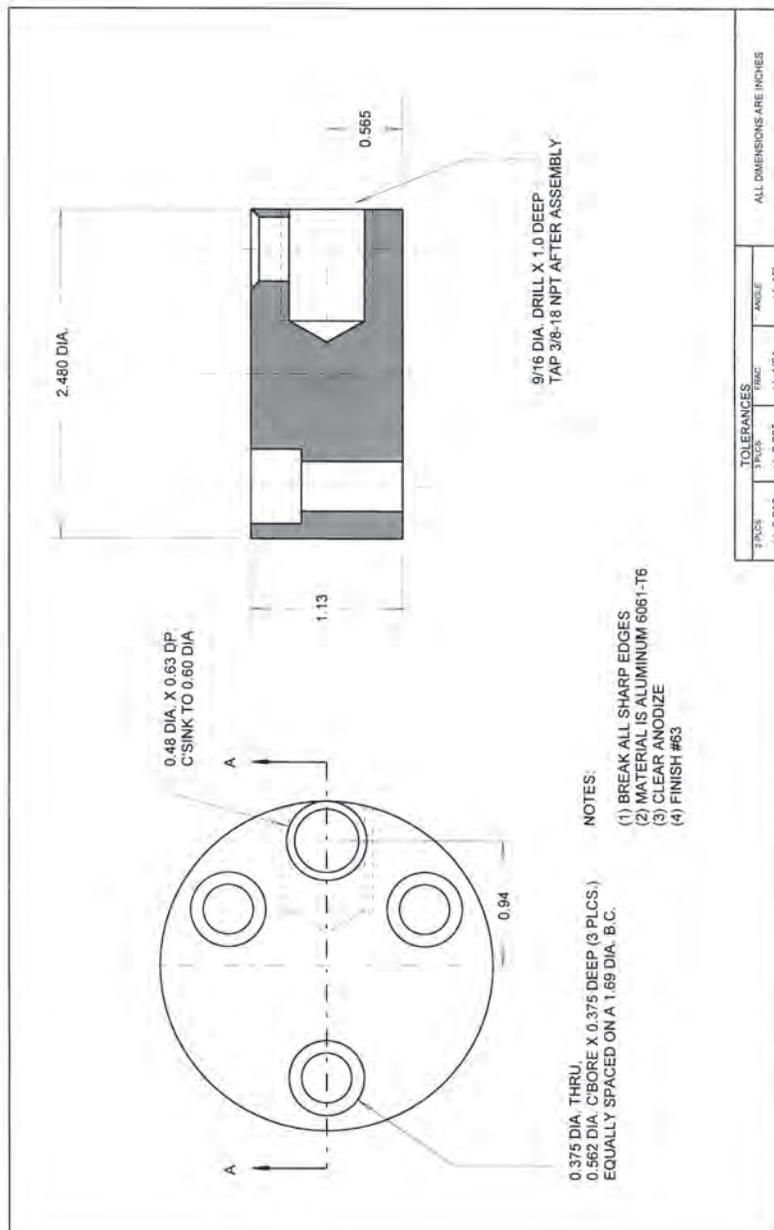
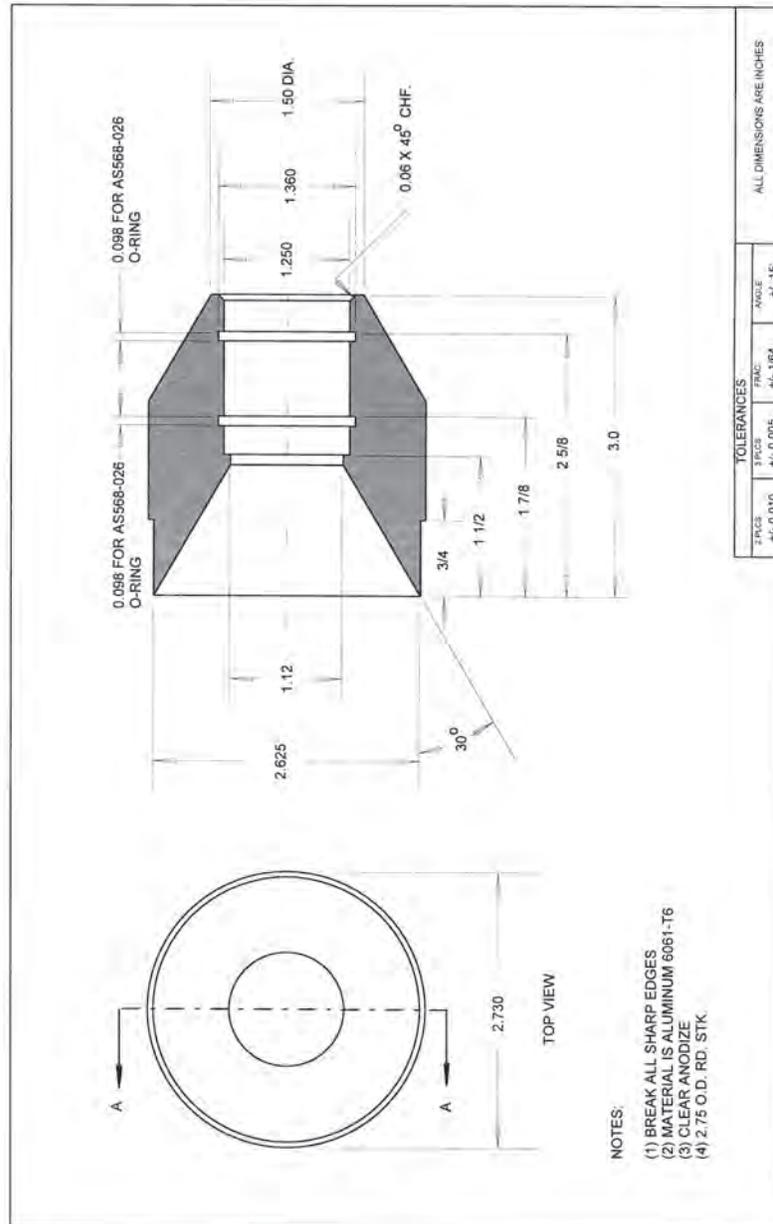


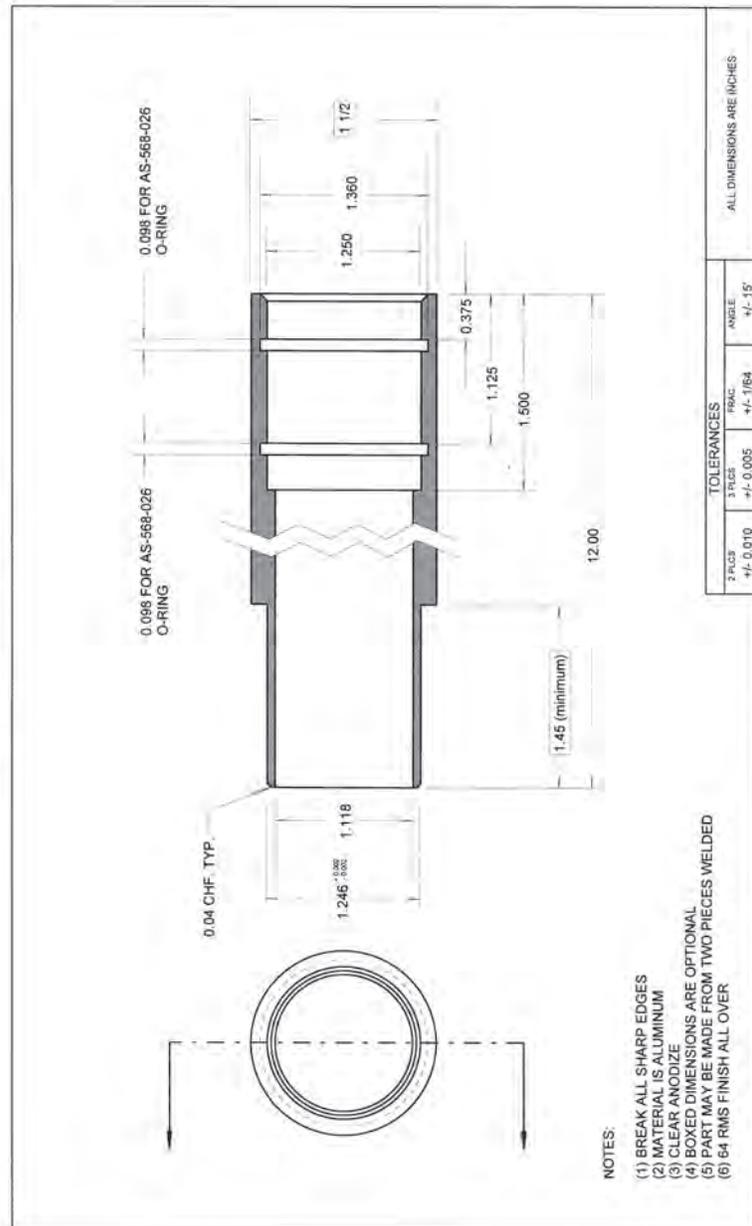
FIGURE L-18. 10-MICRON EXIT ADAPTOR



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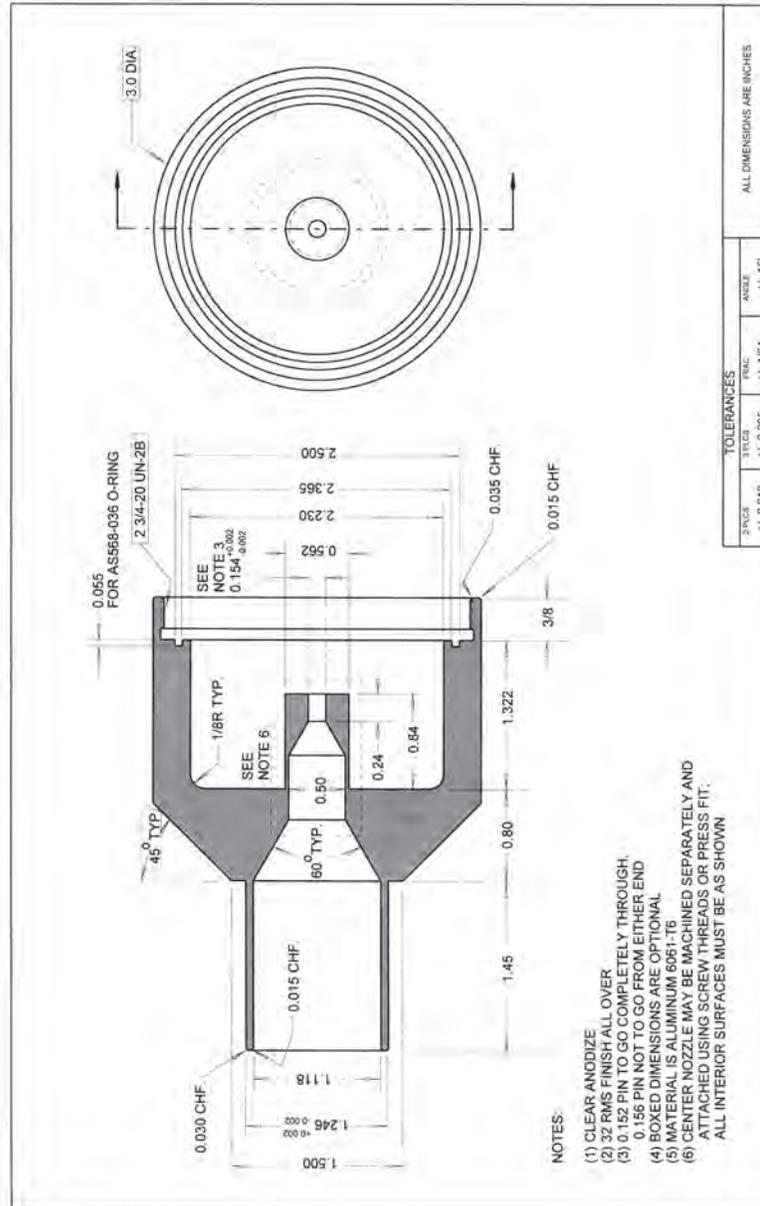
FIGURE L-19. 10-MICRON DOWN TUBE



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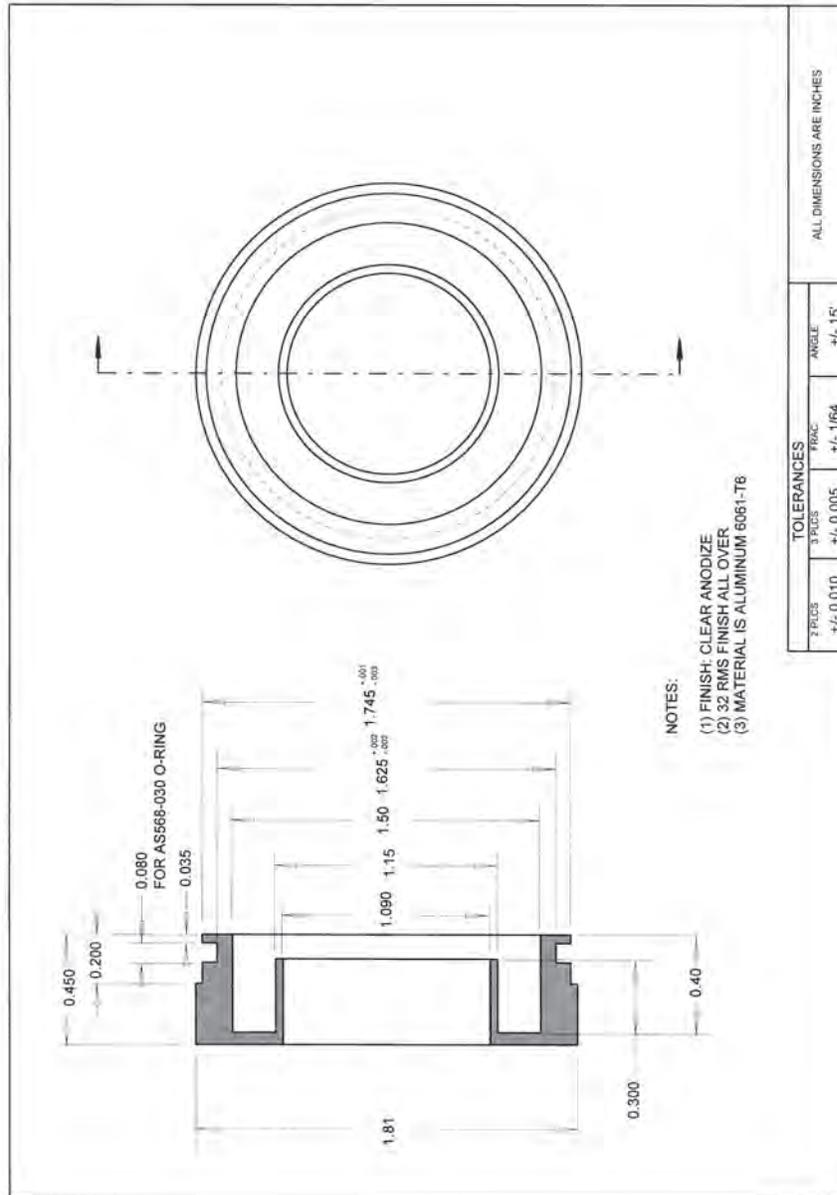
FIGURE L-21. 2.5-MICRON IMPACTOR HOUSING, UPPER



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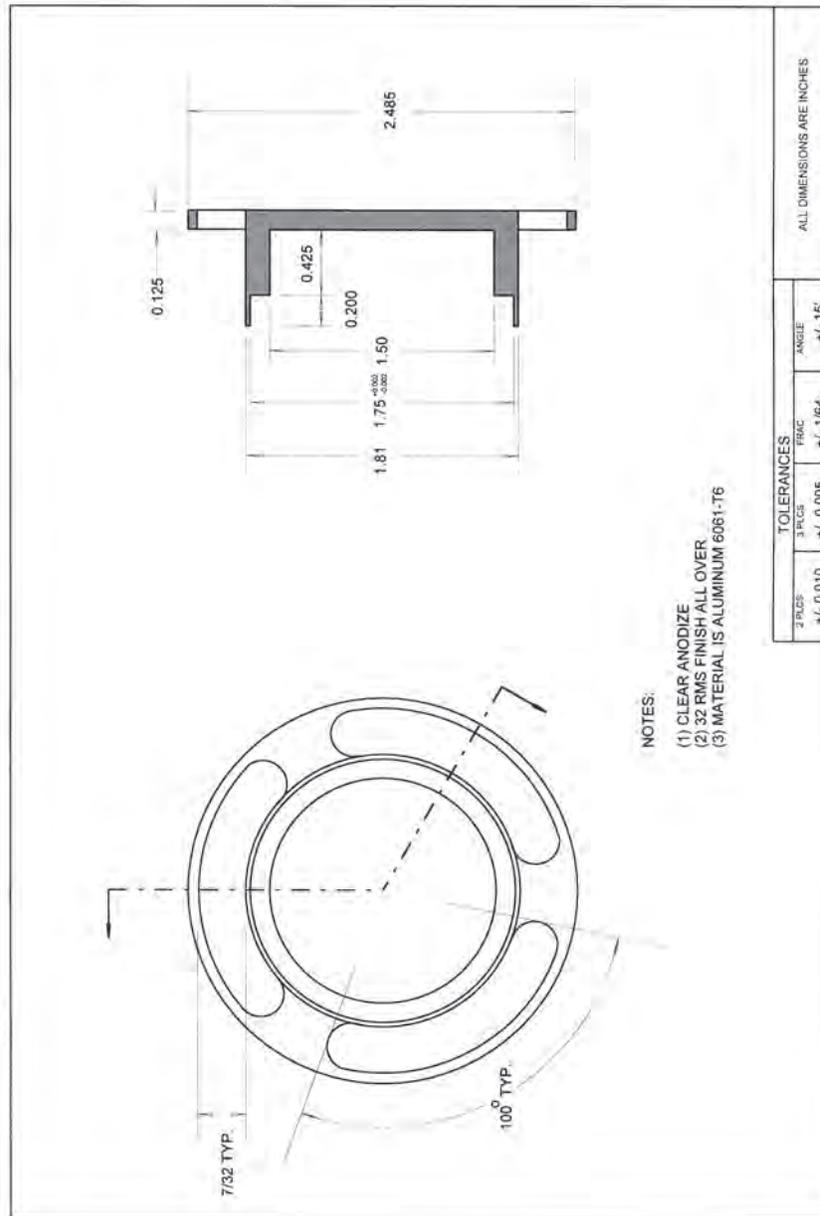
FIGURE L-22. 2.5-MICRON IMPACTOR WELL, UPPER SECTION



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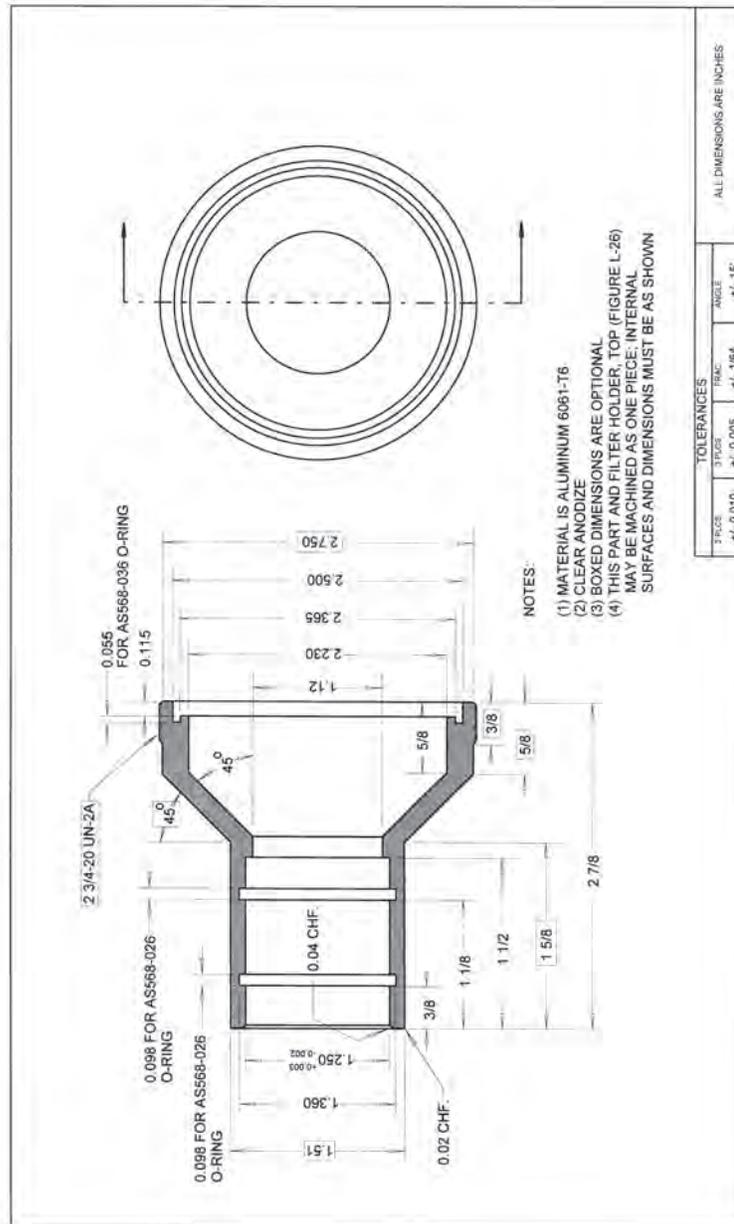
FIGURE L-23. 2.5-MICRON IMPACTOR WELL, LOWER SECTION



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FIGURE L-24. 2.5-MICRON IMPACTOR HOUSING, LOWER



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FIGURE L-25. FILTER HOLDER, ASSEMBLY

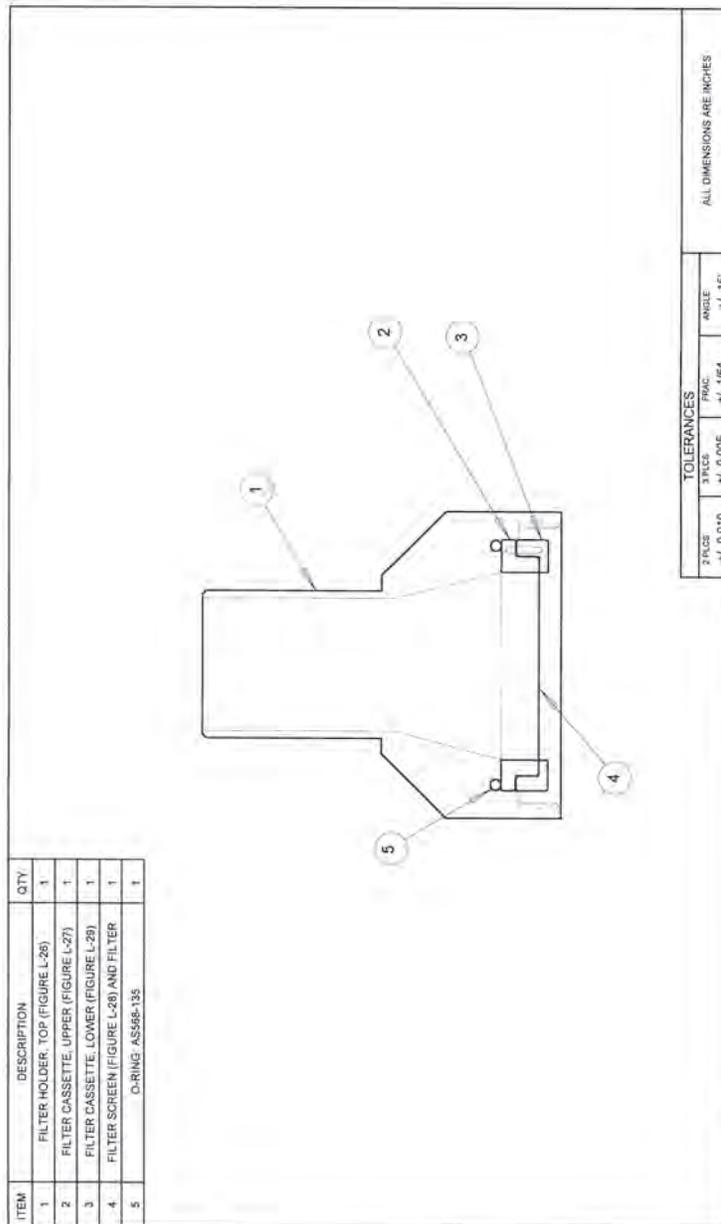
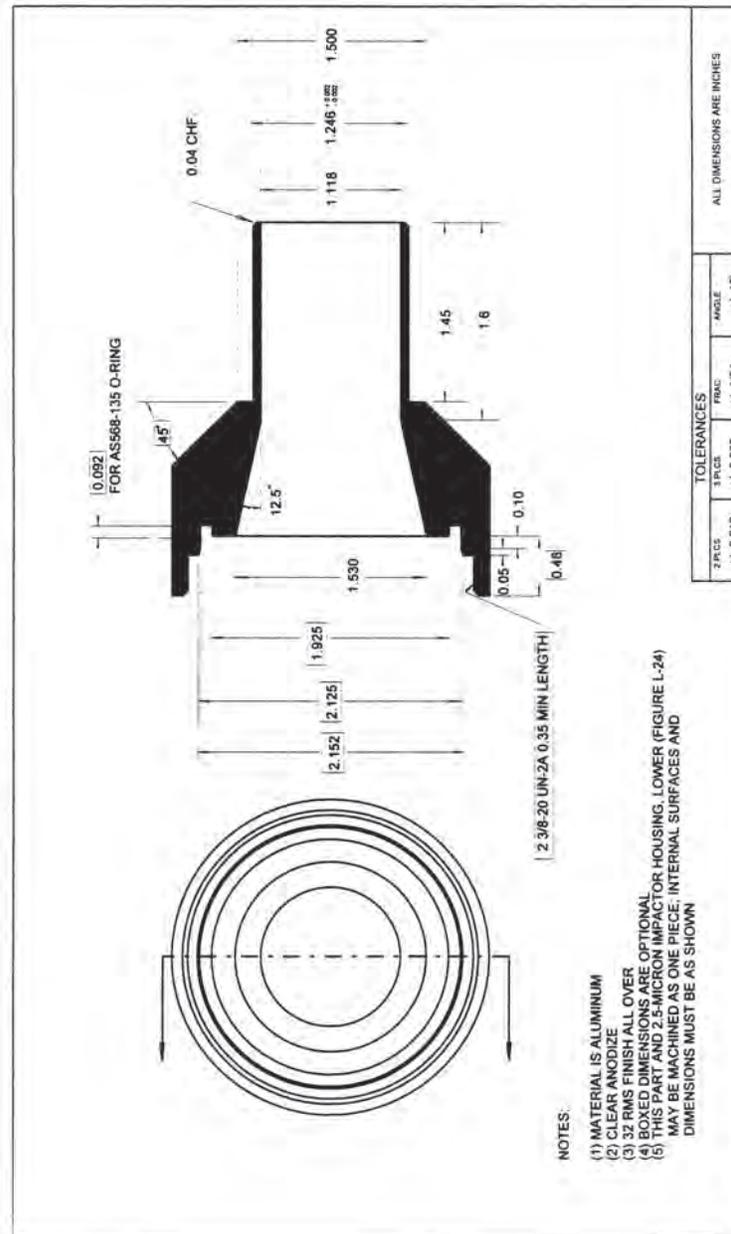


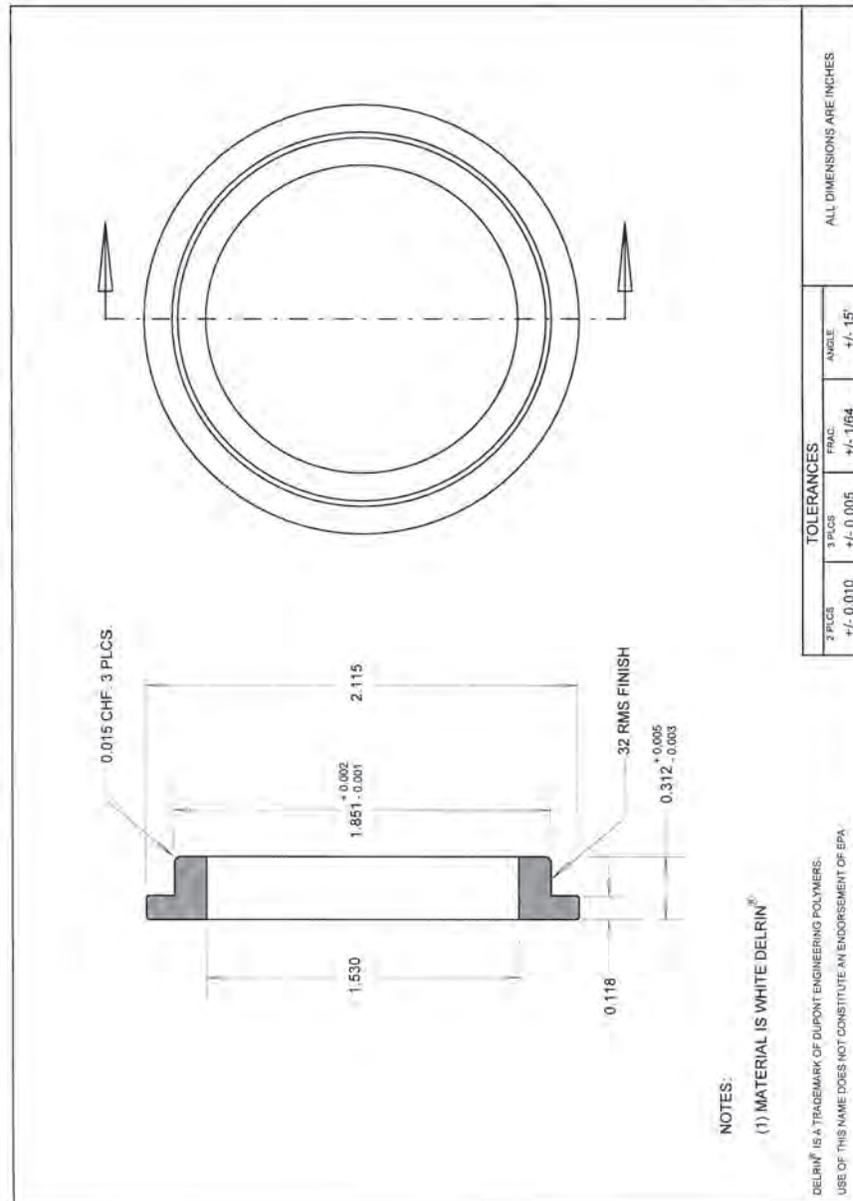
FIGURE L-26. FILTER HOLDER, TOP



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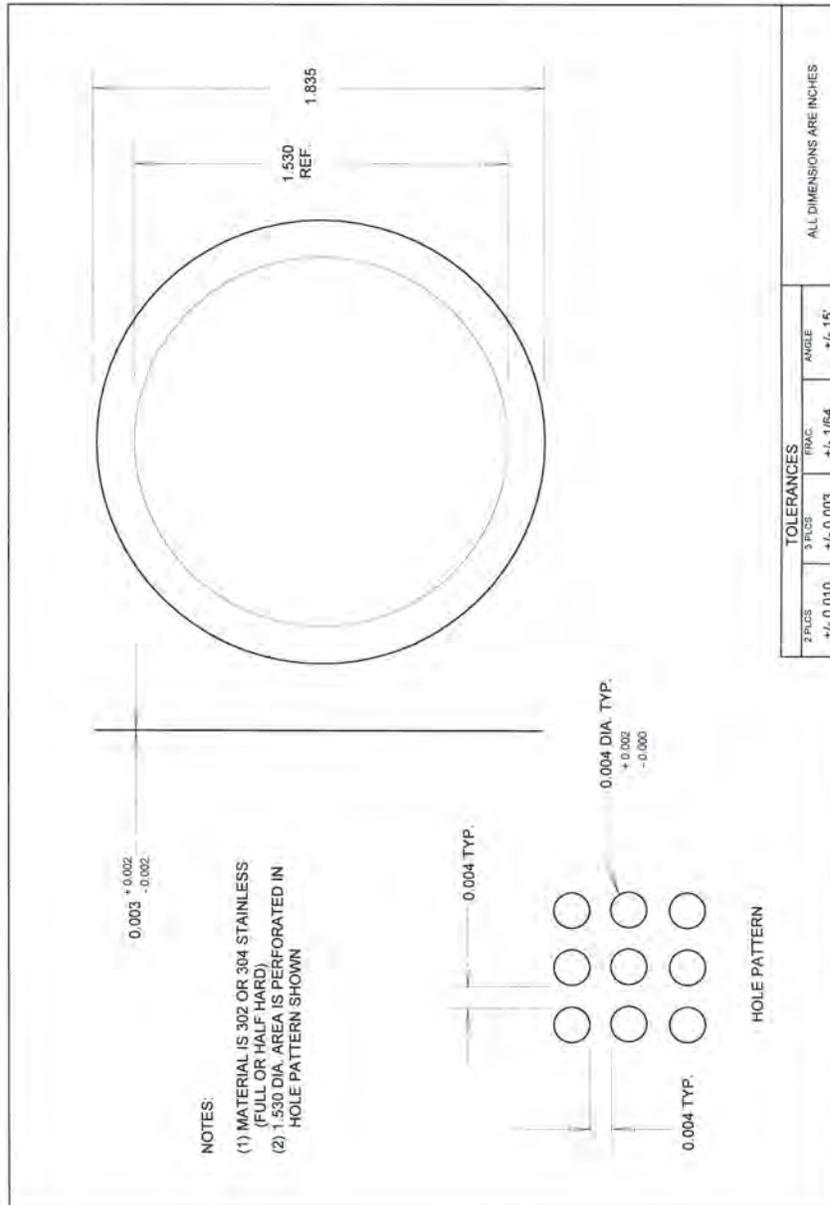
FIGURE L-27. FILTER CASSETTE, UPPER SECTION



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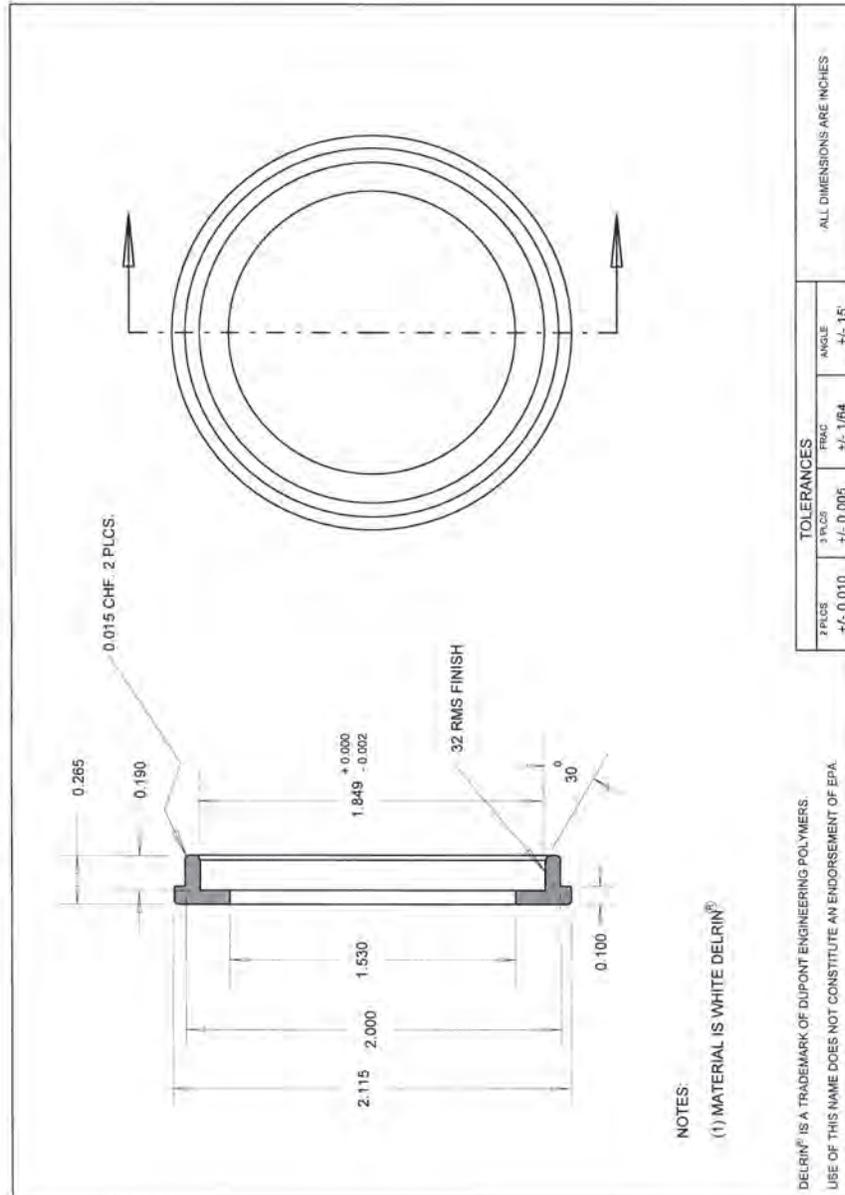
FIGURE L-28. FILTER SCREEN



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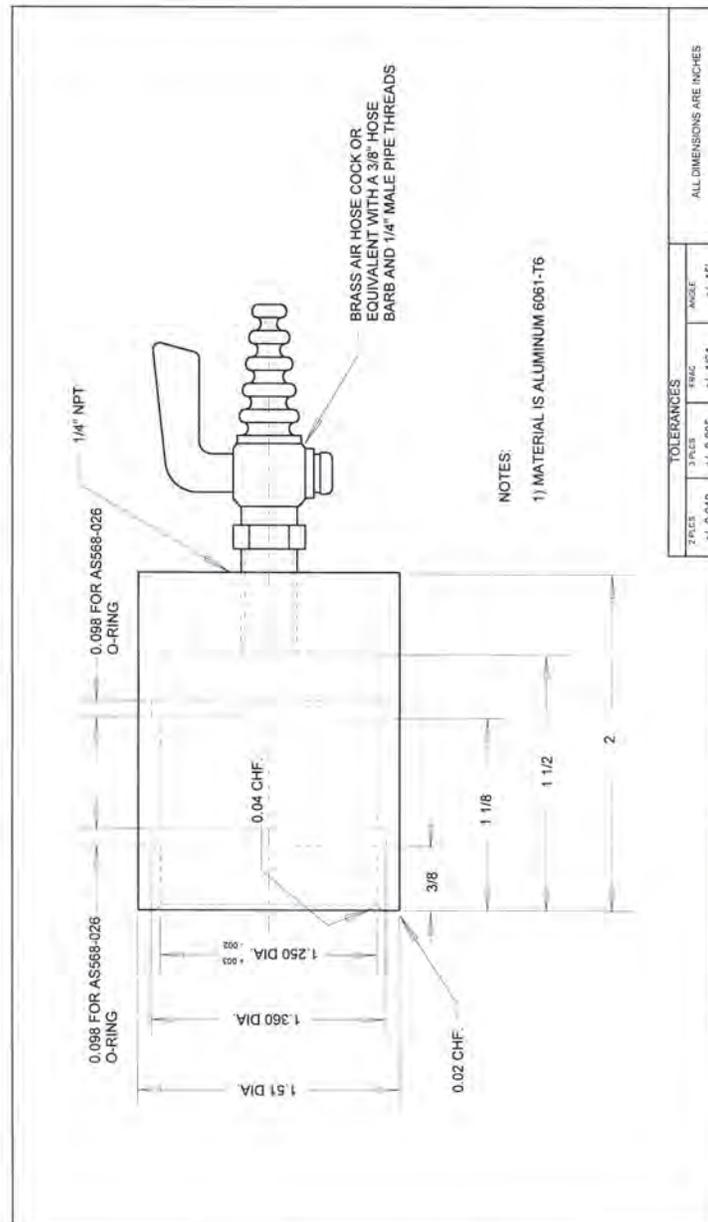
FIGURE L-29. FILTER CASSETTE, LOWER SECTION



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FIGURE L-30. FLOW RATE MEASUREMENT ADAPTER



[62 FR 38714, July 18, 1997, as amended at 64 FR 19719, Apr. 22, 1999; 71 FR 61226, Oct. 17, 2006]

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APPENDIX M TO PART 50 [RESERVED]

APPENDIX N TO PART 50—INTERPRETATION OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR PM_{2.5}

1.0 GENERAL

(a) This appendix explains the data handling conventions and computations necessary for determining when the national ambient air quality standards (NAAQS) for PM_{2.5} are met, specifically the primary and secondary annual and 24-hour PM_{2.5} NAAQS specified in §50.7, 50.13, and 50.18. PM_{2.5} is defined, in general terms, as particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers. PM_{2.5} mass concentrations are measured in the ambient air by a Federal Reference Method (FRM) based on appendix L of this part, as applicable, and designated in accordance with part 53 of this chapter; or by a Federal Equivalent Method (FEM) designated in accordance with part 53 of this chapter; or by an Approved Regional Method (ARM) designated in accordance with part 58 of this chapter. Only those FRM, FEM, and ARM measurements that are derived in accordance with part 58 of this chapter (i.e., that are deemed “suitable”) shall be used in comparisons with the PM_{2.5} NAAQS. The data handling and computation procedures to be used to construct annual and 24-hour NAAQS metrics from reported PM_{2.5} mass concentrations, and the associated instructions for comparing these calculated metrics to the levels of the PM_{2.5} NAAQS, are specified in sections 2.0, 3.0, and 4.0 of this appendix.

(b) Decisions to exclude, retain, or make adjustments to the data affected by exceptional events, including natural events, are made according to the requirements and process deadlines specified in §§50.1, 50.14 and 51.930 of this chapter.

(c) The terms used in this appendix are defined as follows:

Annual mean refers to a weighted arithmetic mean, based on quarterly means, as defined in section 4.4 of this appendix.

The *Air Quality System (AQS)* is EPA’s official repository of ambient air data.

Collocated monitors refers to two or more air measurement instruments for the same parameter (e.g., PM_{2.5} mass) operated at the same site location, and whose placement is consistent with §53.1 of this chapter. For purposes of considering a combined site record in this appendix, when two or more monitors are operated at the same site, one monitor is designated as the “primary” monitor with any additional monitors designated as “collocated.” It is implicit in these appendix procedures that the primary monitor and collocated monitor(s) are all deemed suitable for the applicable NAAQS comparison; however, it is not a requirement that the pri-

mary and monitors utilize the same specific sampling and analysis method.

Combined site data record is the data set used for performing calculations in appendix N. It represents data for the primary monitors augmented with data from collocated monitors according to the procedure specified in section 3.0(d) of this appendix.

Creditable samples are daily values in the combined site record that are given credit for data completeness. The number of creditable samples (cn) for a given year also governs which value in the sorted series of daily values represents the 98th percentile for that year. Creditable samples include daily values collected on scheduled sampling days and valid make-up samples taken for missed or invalidated samples on scheduled sampling days.

Daily values refer to the 24-hour average concentrations of PM_{2.5} mass measured (or averaged from hourly measurements in AQS) from midnight to midnight (local standard time) from suitable monitors.

Data substitution tests are diagnostic evaluations performed on an annual PM_{2.5} NAAQS design value (DV) or a 24-hour PM_{2.5} NAAQS DV to determine if those metrics, which are judged to be based on incomplete data in accordance with 4.1(b) or 4.2(b) of this appendix shall nevertheless be deemed valid for NAAQS comparisons, or alternatively, shall still be considered incomplete and not valid for NAAQS comparisons. There are two data substitution tests, the “minimum quarterly value” test and the “maximum quarterly value” test. *Design values (DVs)* are the 3-year average NAAQS metrics that are compared to the NAAQS levels to determine when a monitoring site meets or does not meet the NAAQS, calculated as shown in section 4. There are two separate DVs specified in this appendix:

(1) The 3-year average of PM_{2.5} annual mean mass concentrations for each eligible monitoring site is referred to as the “*annual PM_{2.5} NAAQS DV*”.

(2) The 3-year average of annual 98th percentile 24-hour average PM_{2.5} mass concentration values recorded at each eligible monitoring site is referred to as the “*24-hour (or daily) PM_{2.5} NAAQS DV*”.

Eligible sites are monitoring stations that meet the criteria specified in §58.11 and §58.30 of this chapter, and thus are approved for comparison to the annual PM_{2.5} NAAQS. For the 24-hour PM_{2.5} NAAQS, all site locations that meet the criteria specified in §58.11 are approved (i.e., eligible) for NAAQS comparisons.

Extra samples are non-creditable samples. They are daily values that do not occur on scheduled sampling days and that cannot be used as make-up samples for missed or invalidated scheduled samples. Extra samples

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are used in mean calculations and are included in the series of all daily values subject to selection as a 98th percentile value, but are not used to determine which value in the sorted list represents the 98th percentile.

Make-up samples are samples collected to take the place of missed or invalidated required scheduled samples. Make-up samples can be made by either the primary or the collocated monitor. Make-up samples are either taken before the next required sampling day or exactly one week after the missed (or voided) sampling day.

The *maximum quarterly value data substitution test* substitutes actual "high" reported daily $PM_{2.5}$ values from the same site (specifically, the highest reported non-excluded quarterly value(s) (year non-specific) contained in the combined site record for the evaluated 3-year period) for missing daily values.

The *minimum quarterly value data substitution test* substitutes actual "low" reported daily $PM_{2.5}$ values from the same site (specifically, the lowest reported quarterly value(s) (year non-specific) contained in the combined site record for the evaluated 3-year period) for missing daily values.

98th percentile is the smallest daily value out of a year of $PM_{2.5}$ mass monitoring data below which no more than 98 percent of all daily values fall using the ranking and selection method specified in section 4.5(a) of this appendix.

Primary monitors are suitable monitors designated by a state or local agency in their annual network plan (and in AQS) as the default data source for creating a combined site record for purposes of NAAQS comparisons. If there is only one suitable monitor at a particular site location, then it is presumed to be a primary monitor.

Quarter refers to a calendar quarter (e.g., January through March).

Quarterly data capture rate is the percentage of scheduled samples in a calendar quarter that have corresponding valid reported sample values. Quarterly data capture rates are specifically calculated as the number of creditable samples for the quarter divided by the number of scheduled samples for the quarter, the result then multiplied by 100 and rounded to the nearest integer.

Scheduled $PM_{2.5}$ samples refers to those reported daily values which are consistent with the required sampling frequency (per §58.12 of this chapter) for the primary monitor, or those that meet the special exception noted in section 3.0(e) of this appendix.

Seasonal sampling is the practice of collecting data at a reduced frequency during a season of expected low concentrations.

Suitable monitors are instruments that use sampling and analysis methods approved for NAAQS comparisons. For the annual and 24-hour $PM_{2.5}$ NAAQS, suitable monitors include all FRMs, and all FEMs/ARMs except

those specific continuous FEMs/ARMs disqualified by a particular monitoring agency network in accordance with §58.10(b)(13) and approved by the EPA Regional Administrator per §58.11(e) of this chapter.

Test design values (TDV) are numerical values that used in the data substitution tests described in sections 4.1(c)(i), 4.1(c)(ii) and 4.2(c)(i) of this appendix to determine if the $PM_{2.5}$ NAAQS DV with incomplete data are judged to be valid for NAAQS comparisons. There are two TDVs: TDV_{min} to determine if the NAAQS is not met and is used in the "minimum quarterly value" data substitution test and TDV_{max} to determine if the NAAQS is met and is used in the "maximum quarterly value" data substitution test. These TDV's are derived by substituting historically low or historically high daily concentration values for missing data in an incomplete year(s).

Year refers to a calendar year.

2.0 MONITORING CONSIDERATIONS

(a) Section 58.30 of this chapter provides special considerations for data comparisons to the annual $PM_{2.5}$ NAAQS.

(b) Monitors meeting the network technical requirements detailed in §58.11 of this chapter are suitable for comparison with the NAAQS for $PM_{2.5}$.

(c) Section 58.12 of this chapter specifies the required minimum frequency of sampling for $PM_{2.5}$. Exceptions to the specified sampling frequencies, such as seasonal sampling, are subject to the approval of the EPA Regional Administrator and must be documented in the state or local agency Annual Monitoring Network Plan as required in §58.10 of this chapter and also in AQS.

3.0 REQUIREMENTS FOR DATA USE AND DATA REPORTING FOR COMPARISONS WITH THE NAAQS FOR $PM_{2.5}$

(a) Except as otherwise provided in this appendix, all valid FRM/FEM/ARM $PM_{2.5}$ mass concentration data produced by suitable monitors that are required to be submitted to AQS, or otherwise available to EPA, meeting the requirements of part 58 of this chapter including appendices A, C, and E shall be used in the DV calculations. Generally, EPA will only use such data if they have been certified by the reporting organization (as prescribed by §58.15 of this chapter); however, data not certified by the reporting organization can nevertheless be used, if the deadline for certification has passed and EPA judges the data to be complete and accurate.

(b) $PM_{2.5}$ mass concentration data (typically collected hourly for continuous instruments and daily for filter-based instruments) shall be reported to AQS in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to at least one decimal place. If concentrations are reported to one

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decimal place, additional digits to the right of the tenths decimal place shall be truncated. If concentrations are reported to AQS with more than one decimal place, AQS will truncate the value to one decimal place for NAAQS usage (i.e., for implementing the procedures in this appendix). In situations where suitable PM_{2.5} data are available to EPA but not reported to AQS, the same truncation protocol shall be applied to that data. In situations where PM_{2.5} mass data are submitted to AQS, or are otherwise available, with less precision than specified above, these data shall nevertheless still be deemed appropriate for NAAQS usage.

(c) Twenty-four-hour average concentrations will be computed in AQS from submitted hourly PM_{2.5} concentration data for each corresponding day of the year and the result will be stored in the first, or start, hour (i.e., midnight, hour '0') of the 24-hour period. A 24-hour average concentration shall be considered valid if at least 75 percent of the hourly averages (i.e., 18 hourly values) for the 24-hour period are available. In the event that less than all 24 hourly average concentrations are available (i.e., less than 24, but at least 18), the 24-hour average concentration shall be computed on the basis of the hours available using the number of available hours within the 24-hour period as the divisor (e.g., 19, if 19 hourly values are available). Twenty-four-hour periods with seven or more missing hours shall also be considered valid if, after substituting zero for all missing hourly concentrations, the resulting 24-hour average daily value is greater than the level of the 24-hour PM_{2.5} NAAQS (i.e., greater than or equal to 35.5 µg/m³). Twenty-four hour average PM_{2.5} mass concentrations that are averaged in AQS from hourly values will be truncated to one decimal place, consistent with the data handling procedure for the reported hourly (and also 24-hour filter-based) data.

(d) All calculations shown in this appendix shall be implemented on a site-level basis. Site level concentration data shall be processed as follows:

(1) The default dataset for PM_{2.5} mass concentrations for a site shall consist of the measured concentrations recorded from the designated primary monitor(s). All daily values produced by the primary monitor are considered part of the site record; this includes all creditable samples and all extra samples.

(2) Data for the primary monitors shall be augmented as much as possible with data from collocated monitors. If a valid daily value is not produced by the primary monitor for a particular day (scheduled or otherwise), but a value is available from a collocated monitor, then that collocated value shall be considered part of the combined site data record. If more than one collocated daily value is available, the average of those

valid collocated values shall be used as the daily value. The data record resulting from this procedure is referred to as the "combined site data record."

(e) All daily values in a combined site data record are used in the calculations specified in this appendix; however, not all daily values are given credit towards data completeness requirements. Only creditable samples are given credit for data completeness. Creditable samples include daily values in the combined site record that are collected on scheduled sampling days and valid make-up samples taken for missed or invalidated samples on scheduled sampling days. Days are considered scheduled according to the required sampling frequency of the designated primary monitor with one exception. The exception is, if a collocated continuous FEM/ARM monitor has a more intensive sampling frequency than the primary FRM monitor, then samples contributed to the combined site record from that continuous FEM/ARM monitor are always considered scheduled and, hence, also creditable. Daily values in the combined site data record that are reported for nonscheduled days, but that are not valid make-up samples are referred to as extra samples.

4.0 COMPARISONS WITH THE ANNUAL AND 24-HOUR PM_{2.5} NAAQS

4.1 Annual PM_{2.5} NAAQS

(a) The primary annual PM_{2.5} NAAQS is met when the annual PM_{2.5} NAAQS DV is less than or equal to 12.0 µg/m³ at each eligible monitoring site. The secondary annual PM_{2.5} NAAQS is met when the annual PM_{2.5} NAAQS DV is less than or equal to 15.0 µg/m³ at each eligible monitoring site.

(b) Three years of valid annual means are required to produce a valid annual PM_{2.5} NAAQS DV. A year meets data completeness requirements when quarterly data capture rates for all four quarters are at least 75 percent. However, years with at least 11 creditable samples in each quarter shall also be considered valid if the resulting annual mean or resulting annual PM_{2.5} NAAQS DV (rounded according to the conventions of section 4.3 of this appendix) is greater than the level of the applicable primary or secondary annual PM_{2.5} NAAQS. Furthermore, where the explicit 75 percent data capture and/or 11 sample minimum requirements are not met, the 3-year annual PM_{2.5} NAAQS DV shall still be considered valid if it passes at least one of the two data substitution tests stipulated below.

(c) In the case of one, two, or three years that do not meet the completeness requirements of section 4.1(b) of this appendix and thus would normally not be useable for the calculation of a valid annual PM_{2.5} NAAQS DV, the annual PM_{2.5} NAAQS DV shall nevertheless be considered valid if one of the test

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conditions specified in sections 4.1(c)(i) and 4.1(c)(ii) of this appendix is met.

(i) An annual $PM_{2.5}$ NAAQS DV that is above the level of the NAAQS can be validated if it passes the minimum quarterly value data substitution test. This type of data substitution is permitted only if there are at least 30 days across the three quarters of the three years under consideration (e.g., collectively, quarter 1 of year 1, quarter 1 of year 2 and quarter 1 of year 3) from which to select the quarter-specific low value. Data substitution will be performed in all quarter periods that have less than 11 creditable samples.

Procedure: Identify for each deficient quarter (i.e., those with less than 11 creditable samples) the lowest reported daily value for that quarter, looking across those three months of all three years under consideration. If after substituting the lowest reported daily value for a quarter for (11 - cn) daily values in the matching deficient quarter(s) (i.e., to bring the creditable number for those quarters up to 11), the procedure yields a recalculated annual $PM_{2.5}$ NAAQS test DV (TDV_{min}) that is greater than the level of the standard, then the annual $PM_{2.5}$ NAAQS DV is deemed to have passed the diagnostic test and is valid, and the annual $PM_{2.5}$ NAAQS is deemed to have been violated in that 3-year period.

(ii) An annual $PM_{2.5}$ NAAQS DV that is equal to or below the level of the NAAQS can be validated if it passes the maximum quarterly value data substitution test. This type of data substitution is permitted only if there is at least 50 percent data capture in each quarter that is deficient of 75 percent data capture in each of the three years under consideration. Data substitution will be performed in all quarter periods that have less than 75 percent data capture but at least 50 percent data capture. If any quarter has less than 50 percent data capture then this substitution test cannot be used.

Procedure: Identify for each deficient quarter (i.e., those with less than 75 percent but at least 50 percent data capture) the highest reported daily value for that quarter, excluding state-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, looking across those three quarters of all three years under consideration. If after substituting the highest reported daily $PM_{2.5}$ value for a quarter for all missing daily data in the matching deficient quarter(s) (i.e., to make those quarters 100 percent complete), the procedure yields a recalculated annual $PM_{2.5}$ NAAQS test DV (TDV_{max}) that is less than or equal to the level of the standard, then the annual $PM_{2.5}$ NAAQS DV is deemed to have passed the diagnostic test and is valid, and the annual $PM_{2.5}$ NAAQS is deemed to have been met in that 3-year period.

(d) An annual $PM_{2.5}$ NAAQS DV based on data that do not meet the completeness criteria stated in 4(b) and also do not satisfy the test conditions specified in section 4(c), may also be considered valid with the approval of, or at the initiative of, the EPA Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the daily values that are available, and nearby concentrations in determining whether to use such data.

(e) The equations for calculating the annual $PM_{2.5}$ NAAQS DVs are given in section 4.4 of this appendix.

4.2 Twenty-four-hour $PM_{2.5}$ NAAQS

(a) The primary and secondary 24-hour $PM_{2.5}$ NAAQS are met when the 24-hour $PM_{2.5}$ NAAQS DV at each eligible monitoring site is less than or equal to $35 \mu\text{g}/\text{m}^3$.

(b) Three years of valid annual $PM_{2.5}$ 98th percentile mass concentrations are required to produce a valid 24-hour $PM_{2.5}$ NAAQS DV. A year meets data completeness requirements when quarterly data capture rates for all four quarters are at least 75 percent. However, years shall be considered valid, notwithstanding quarters with less than complete data (even quarters with less than 11 creditable samples, but at least one creditable sample must be present for the year), if the resulting annual 98th percentile value or resulting 24-hour NAAQS DV (rounded according to the conventions of section 4.3 of this appendix) is greater than the level of the standard. Furthermore, where the explicit 75 percent quarterly data capture requirement is not met, the 24-hour $PM_{2.5}$ NAAQS DV shall still be considered valid if it passes the maximum quarterly value data substitution test.

(c) In the case of one, two, or three years that do not meet the completeness requirements of section 4.2(b) of this appendix and thus would normally not be useable for the calculation of a valid 24-hour $PM_{2.5}$ NAAQS DV, the 24-hour $PM_{2.5}$ NAAQS DV shall nevertheless be considered valid if the test conditions specified in section 4.2(c)(i) of this appendix are met.

(i) A $PM_{2.5}$ 24-hour mass NAAQS DV that is equal to or below the level of the NAAQS can be validated if it passes the maximum quarterly value data substitution test. This type of data substitution is permitted only if there is at least 50 percent data capture in each quarter that is deficient of 75 percent data capture in each of the three years under consideration. Data substitution will be performed in all quarters that have less than 75 percent data capture but at least 50 percent data capture. If any quarter has less than 50 percent data capture then this substitution test cannot be used.

Procedure: Identify for each deficient quarter (i.e., those with less than 75 percent but

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at least 50 percent data capture) the highest reported daily PM_{2.5} value for that quarter, excluding state-flagged data affected by exceptional events which have been approved for exclusion by the Regional Administrator, looking across those three quarters of all three years under consideration. If, after substituting the highest reported daily maximum PM_{2.5} value for a quarter for all missing daily data in the matching deficient quarter(s) (i.e., to make those quarters 100 percent complete), the procedure yields a re-calculated 3-year 24-hour NAAQS test DV (TDV_{max}) less than or equal to the level of the standard, then the 24-hour PM_{2.5} NAAQS DV is deemed to have passed the diagnostic test and is valid, and the 24-hour PM_{2.5} NAAQS is deemed to have been met in that 3-year period.

(d) A 24-hour PM_{2.5} NAAQS DV based on data that do not meet the completeness criteria stated in section 4(b) of this appendix and also do not satisfy the test conditions specified in section 4(c) of this appendix, may also be considered valid with the approval of, or at the initiative of, the EPA Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the daily values that are available, and

nearby concentrations in determining whether to use such data.

(e) The procedures and equations for calculating the 24-hour PM_{2.5} NAAQS DVs are given in section 4.5 of this appendix.

4.3 Rounding Conventions. For the purposes of comparing calculated PM_{2.5} NAAQS DVs to the applicable level of the standard, it is necessary to round the final results of the calculations described in sections 4.4 and 4.5 of this appendix. Results for all intermediate calculations shall not be rounded.

(a) Annual PM_{2.5} NAAQS DVs shall be rounded to the nearest tenth of a µg/m³ (decimals x.x5 and greater are rounded up to the next tenth, and any decimal lower than x.x5 is rounded down to the nearest tenth).

(b) Twenty-four-hour PM_{2.5} NAAQS DVs shall be rounded to the nearest 1 µg/m³ (decimals 0.5 and greater are rounded up to the nearest whole number, and any decimal lower than 0.5 is rounded down to the nearest whole number).

4.4 Equations for the Annual PM_{2.5} NAAQS.

(a) An annual mean value for PM_{2.5} is determined by first averaging the daily values of a calendar quarter using equation 1 of this appendix:

Equation 1

$$\bar{X}_{q,y} = \frac{1}{n_q} \sum_{i=1}^{n_q} X_{i,q,y}$$

Where:

$\bar{X}_{q,y}$ = the mean for quarter q of the year y;
 n_q = the number of daily values in the quarter; and

$X_{i,q,y}$ = the ith value in quarter q for year y.

(b) Equation 2 of this appendix is then used to calculate the site annual mean:

Equation 2

$$\bar{X}_y = \frac{1}{n_{Q,y}} \sum_{q=1}^{n_{Q,y}} \bar{X}_{q,y}$$

Where:

\bar{X}_y = the annual mean concentration for year y (y = 1, 2, or 3);

$n_{Q,y}$ = the number of quarters Q in year y with at least one daily value; and

$\bar{X}_{q,y}$ = the mean for quarter q of year y (result of equation 1).

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(c) The annual PM_{2.5} NAAQS DV is calculated using equation 3 of this appendix:

Equation 3

$$\bar{X} = \frac{1}{3} \sum_{y=1}^3 \bar{X}_y$$

Where:

\bar{X} = the annual PM_{2.5} NAAQS DV; and
 \bar{X}_y = the annual mean for year *y* (result of equation 2)

(d) The annual PM_{2.5} NAAQS DV is rounded according to the conventions in section 4.3 of this appendix before comparisons with the levels of the primary and secondary annual PM_{2.5} NAAQS are made.

4.5 Procedures and Equations for the 24-Hour PM_{2.5} NAAQS

(a) When the data for a particular site and year meet the data completeness requirements in section 4.2 of this appendix, calculation of the 98th percentile is accomplished by the steps provided in this subsection. Table 1 of this appendix shall be used to identify annual 98th percentile values.

Identification of annual 98th percentile values using the Table 1 procedure will be based on the creditable number of samples (as described below), rather than on the actual number of samples. Credit will not be granted for extra (non-creditable) samples. Extra samples, however, are candidates for selection as the annual 98th percentile. [The creditable number of samples will determine how deep to go into the data distribution, but all samples (creditable and extra) will be considered when making the percentile assignment.] The annual creditable number of samples is the sum of the four quarterly creditable number of samples.

Procedure: Sort all the daily values from a particular site and year by descending value. (For example: (x[1], x[2], x[3], * * *, x[n]). In

this case, x[1] is the largest number and x[n] is the smallest value.) The 98th percentile value is determined from this sorted series of daily values which is ordered from the highest to the lowest number. Using the left column of Table 1, determine the appropriate range for the annual creditable number of samples for year *y* (cn_{*y*}) (e.g., for 120 creditable samples per year, the appropriate range would be 101 to 150). The corresponding “n” value in the right column identifies the rank of the annual 98th percentile value in the descending sorted list of site specific daily values for year *y* (e.g., for the range of 101 to 150, n would be 3). Thus, P_{0.98, *y*} = the nth largest value (e.g., for the range of 101 to 150, the 98th percentile value would be the third highest value in the sorted series of daily values.

TABLE 1

Annual number of creditable samples for year <i>y</i> (cn _{<i>y</i>})	The 98th percentile for year <i>y</i> (P _{0.98, <i>y</i>}) is the n th maximum 24-hour average value for the year where <i>n</i> is the listed number
1 to 50	1
51 to 100	2
101 to 150	3
151 to 200	4
201 to 250	5
251 to 300	6
301 to 350	7
351 to 366	8

(b) The 24-hour PM_{2.5} NAAQS DV is then calculated by averaging the annual 98th percentiles using equation 4 of this appendix: P_{0.98, *y*}

Equation 4

$$\bar{P}_{0.98} = \frac{1}{3} \sum_{y=1}^3 P_{0.98, y}$$

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Where:

$\bar{P}_{0.98}$ = the 24-hour $PM_{2.5}$ NAAQS DV; and

$P_{0.98, y}$ = the annual 98th percentile for year y

(c) The 24-hour $PM_{2.5}$ NAAQS DV is rounded according to the conventions in section 4.3 of this appendix before a comparison with the level of the primary and secondary 24-hour NAAQS are made.

[78 FR 3277, Jan. 15, 2013, as amended at 82 FR 14327, Mar. 20, 2017]

APPENDIX O TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF COARSE PARTICULATE MATTER AS $PM_{10-2.5}$ IN THE ATMOSPHERE

1.0 *Applicability and Definition*

1.1 This method provides for the measurement of the mass concentration of coarse particulate matter ($PM_{10-2.5}$) in ambient air over a 24-hour period. In conjunction with additional analysis, this method may be used to develop speciated data.

1.2 For the purpose of this method, $PM_{10-2.5}$ is defined as particulate matter having an aerodynamic diameter in the nominal range of 2.5 to 10 micrometers, inclusive.

1.3 For this reference method, $PM_{10-2.5}$ concentrations shall be measured as the arithmetic difference between separate but concurrent, collocated measurements of PM_{10} and $PM_{2.5}$, where the PM_{10} measurements are obtained with a specially approved sampler, identified as a “ PM_{10c} sampler,” that meets more demanding performance requirements than conventional PM_{10} samplers described in appendix J of this part. Measurements obtained with a PM_{10c} sampler are identified as “ PM_{10c} measurements” to distinguish them from conventional PM_{10} measurements obtained with conventional PM_{10} samplers. Thus, $PM_{10-2.5} = PM_{10c} - PM_{2.5}$.

1.4 The PM_{10c} and $PM_{2.5}$ gravimetric measurement processes are considered to be non-destructive, and the PM_{10c} and $PM_{2.5}$ samples obtained in the $PM_{10-2.5}$ measurement process can be subjected to subsequent physical or chemical analyses.

1.5 Quality assessment procedures are provided in part 58, appendix A of this chapter. The quality assurance procedures and guidance provided in reference 1 in section 13 of this appendix, although written specifically for $PM_{2.5}$, are generally applicable for PM_{10c} , and, hence, $PM_{10-2.5}$ measurements under this method, as well.

1.6 A method based on specific model PM_{10c} and $PM_{2.5}$ samplers will be considered a reference method for purposes of part 58 of this chapter only if:

(a) The PM_{10c} and $PM_{2.5}$ samplers and the associated operational procedures meet the requirements specified in this appendix and

all applicable requirements in part 53 of this chapter, and

(b) The method based on the specific samplers and associated operational procedures have been designated as a reference method in accordance with part 53 of this chapter.

1.7 $PM_{10-2.5}$ methods based on samplers that meet nearly all specifications set forth in this method but have one or more significant but minor deviations or modifications from those specifications may be designated as “Class I” equivalent methods for $PM_{10-2.5}$ in accordance with part 53 of this chapter.

1.8 $PM_{2.5}$ measurements obtained incidental to the $PM_{10-2.5}$ measurements by this method shall be considered to have been obtained with a reference method for $PM_{2.5}$ in accordance with appendix L of this part.

1.9 PM_{10c} measurements obtained incidental to the $PM_{10-2.5}$ measurements by this method shall be considered to have been obtained with a reference method for PM_{10} in accordance with appendix J of this part, provided that:

(a) The PM_{10c} measurements are adjusted to EPA reference conditions (25 °C and 760 millimeters of mercury), and

(b) Such PM_{10c} measurements are appropriately identified to differentiate them from PM_{10} measurements obtained with other (conventional) methods for PM_{10} designated in accordance with part 53 of this chapter as reference or equivalent methods for PM_{10} .

2.0 *Principle*

2.1 Separate, collocated, electrically powered air samplers for PM_{10c} and $PM_{2.5}$ concurrently draw ambient air at identical, constant volumetric flow rates into specially shaped inlets and through one or more inertial particle size separators where the suspended particulate matter in the PM_{10} or $PM_{2.5}$ size range, as applicable, is separated for collection on a polytetrafluoroethylene (PTFE) filter over the specified sampling period. The air samplers and other aspects of this $PM_{10-2.5}$ reference method are specified either explicitly in this appendix or by reference to other applicable regulations or quality assurance guidance.

2.2 Each PM_{10c} and $PM_{2.5}$ sample collection filter is weighed (after moisture and temperature conditioning) before and after sample collection to determine the net weight (mass) gain due to collected PM_{10c} or $PM_{2.5}$. The total volume of air sampled by each sampler is determined by the sampler from the measured flow rate at local ambient temperature and pressure and the sampling time. The mass concentrations of both PM_{10c} and $PM_{2.5}$ in the ambient air are computed as the total mass of collected particles in the PM_{10} or $PM_{2.5}$ size range, as appropriate, divided by the total volume of air sampled by the respective samplers, and expressed in micrograms per cubic meter ($\mu\text{g}/$

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m³) at local temperature and pressure conditions. The mass concentration of PM_{10-2.5} is determined as the PM_{10c} concentration value less the corresponding, concurrently measured PM_{2.5} concentration value.

2.3 Most requirements for PM_{10-2.5} reference methods are similar or identical to the requirements for PM_{2.5} reference methods as set forth in appendix L to this part. To insure uniformity, applicable appendix L requirements are incorporated herein by reference in the sections where indicated rather than repeated in this appendix.

3.0 PM_{10-2.5} Measurement Range

3.1 *Lower concentration limit.* The lower detection limit of the mass concentration measurement range is estimated to be approximately 3 µg/m³, based on the observed precision of PM_{2.5} measurements in the national PM_{2.5} monitoring network, the probable similar level of precision for the matched PM_{10c} measurements, and the additional variability arising from the differential nature of the measurement process. This value is provided merely as a guide to the significance of low PM_{10-2.5} concentration measurements.

3.2 *Upper concentration limit.* The upper limit of the mass concentration range is determined principally by the PM_{10c} filter mass loading beyond which the sampler can no longer maintain the operating flow rate within specified limits due to increased pressure drop across the loaded filter. This upper limit cannot be specified precisely because it is a complex function of the ambient particle size distribution and type, humidity, the individual filter used, the capacity of the sampler flow rate control system, and perhaps other factors. All PM_{10c} samplers are estimated to be capable of measuring 24-hour mass concentrations of at least 200 µg/m³ while maintaining the operating flow rate within the specified limits. The upper limit for the PM_{10-2.5} measurement is likely to be somewhat lower because the PM_{10-2.5} concentration represents only a fraction of the PM₁₀ concentration.

3.3 *Sample period.* The required sample period for PM_{10-2.5} concentration measurements by this method shall be at least 1,380 minutes but not more than 1,500 minutes (23 to 25 hours), and the start times of the PM_{2.5} and PM_{10c} samples are within 10 minutes and the stop times of the samples are also within 10 minutes (see section 10.4 of this appendix).

4.0 Accuracy (bias)

4.1 Because the size, density, and volatility of the particles making up ambient particulate matter vary over wide ranges and the mass concentration of particles varies with particle size, it is difficult to define the accuracy of PM_{10-2.5} measurements in an absolute sense. Furthermore, generation of

credible PM_{10-2.5} concentration standards at field monitoring sites and presenting or introducing such standards reliably to samplers or monitors to assess accuracy is still generally impractical. The accuracy of PM_{10-2.5} measurements is therefore defined in a relative sense as bias, referenced to measurements provided by other reference method samplers or based on flow rate verification audits or checks, or on other performance evaluation procedures.

4.2 Measurement system bias for monitoring data is assessed according to the procedures and schedule set forth in part 58, appendix A of this chapter. The goal for the measurement uncertainty (as bias) for monitoring data is defined in part 58, appendix A of this chapter as an upper 95 percent confidence limit for the absolute bias of 15 percent. Reference 1 in section 13 of this appendix provides additional information and guidance on flow rate accuracy audits and assessment of bias.

5.0 Precision

5.1 Tests to establish initial measurement precision for each sampler of the reference method sampler pair are specified as a part of the requirements for designation as a reference method under part 53 of this chapter.

5.2 Measurement system precision is assessed according to the procedures and schedule set forth in appendix A to part 58 of this chapter. The goal for acceptable measurement uncertainty, as precision, of monitoring data is defined in part 58, appendix A of this chapter as an upper 95 percent confidence limit for the coefficient of variation (CV) of 15 percent. Reference 1 in section 13 of this appendix provides additional information and guidance on this requirement.

6.0 *Filters for PM_{10c} and PM_{2.5} Sample Collection.* Sample collection filters for both PM_{10c} and PM_{2.5} measurements shall be identical and as specified in section 6 of appendix L to this part.

7.0 *Sampler.* The PM_{10-2.5} sampler shall consist of a PM_{10c} sampler and a PM_{2.5} sampler, as follows:

7.1 The PM_{2.5} sampler shall be as specified in section 7 of appendix L to this part.

7.2 The PM_{10c} sampler shall be of like manufacturer, design, configuration, and fabrication to that of the PM_{2.5} sampler and as specified in section 7 of appendix L to this part, except as follows:

7.2.1 The particle size separator specified in section 7.3.4 of appendix L to this part shall be eliminated and replaced by a downtube extension fabricated as specified in Figure O-1 of this appendix.

7.2.2 The sampler shall be identified as a PM_{10c} sampler on its identification label required under §53.9(d) of this chapter.

7.2.3 The average temperature and average barometric pressure measured by the

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sampler during the sample period, as described in Table L-1 of appendix L to this part, need not be reported to EPA's AQS data base, as required by section 7.4.19 and Table L-1 of appendix L to this part, provided such measurements for the sample period determined by the associated PM_{2.5} sampler are reported as required.

7.3 In addition to the operation/instruction manual required by section 7.4.18 of appendix L to this part for each sampler, supplemental operational instructions shall be provided for the simultaneous operation of the samplers as a pair to collect concurrent PM_{10c} and PM_{2.5} samples. The supplemental instructions shall cover any special procedures or guidance for installation and setup of the samplers for PM_{10-2.5} measurements, such as synchronization of the samplers' clocks or timers, proper programming for collection of concurrent samples, and any other pertinent issues related to the simultaneous, coordinated operation of the two samplers.

7.4 Capability for electrical interconnection of the samplers to simplify sample period programming and further ensure simultaneous operation is encouraged but not required. Any such capability for interconnection shall not supplant each sampler's capability to operate independently, as required by section 7 of appendix L of this part.

8.0 Filter Weighing

8.1 Conditioning and weighing for both PM_{10c} and PM_{2.5} sample filters shall be as specified in section 8 of appendix L to this part. See reference 1 of section 13 of this appendix for additional, more detailed guidance.

8.2 Handling, conditioning, and weighing for both PM_{10c} and PM_{2.5} sample filters shall be matched such that the corresponding PM_{10c} and PM_{2.5} filters of each filter pair receive uniform treatment. The PM_{10c} and PM_{2.5} sample filters should be weighed on the same balance, preferably in the same weighing session and by the same analyst.

8.3 Due care shall be exercised to accurately maintain the paired relationship of each set of concurrently collected PM_{10c} and PM_{2.5} sample filters and their net weight gain data and to avoid misidentification or reversal of the filter samples or weight data. See Reference 1 of section 13 of this appendix for additional guidance.

9.0 *Calibration.* Calibration of the flow rate, temperature measurement, and pressure measurement systems for both the PM_{10c} and PM_{2.5} samplers shall be as specified in section 9 of appendix L to this part.

10.0 PM_{10-2.5} Measurement Procedure

10.1 The PM_{10c} and PM_{2.5} samplers shall be installed at the monitoring site such that their ambient air inlets differ in vertical

height by not more than 0.2 meter, if possible, but in any case not more than 1 meter, and the vertical axes of their inlets are separated by at least 1 meter but not more than 4 meters, horizontally.

10.2 The measurement procedure for PM_{10c} shall be as specified in section 10 of appendix L to this part, with "PM_{10c}" substituted for "PM_{2.5}" wherever it occurs in that section.

10.3 The measurement procedure for PM_{2.5} shall be as specified in section 10 of appendix L to this part.

10.4 For the PM_{10-2.5} measurement, the PM_{10c} and PM_{2.5} samplers shall be programmed to operate on the same schedule and such that the sample period start times are within 5 minutes and the sample duration times are within 5 minutes.

10.5 Retrieval, transport, and storage of each PM_{10c} and PM_{2.5} sample pair following sample collection shall be matched to the extent practical such that both samples experience uniform conditions.

11.0 *Sampler Maintenance.* Both PM_{10c} and PM_{2.5} samplers shall be maintained as described in section 11 of appendix L to this part.

12.0 Calculations

12.1 Both concurrent PM_{10c} and PM_{2.5} measurements must be available, valid, and meet the conditions of section 10.4 of this appendix to determine the PM_{10-2.5} mass concentration.

12.2 The PM_{10c} mass concentration is calculated using equation 1 of this section:

Equation 1

$$PM_{10c} = \frac{(W_f - W_i)}{V_a}$$

Where:

PM_{10c} = mass concentration of PM_{10c}, µg/m³;
W_f, W_i = final and initial masses (weights), respectively, of the filter used to collect the PM_{10c} particle sample, µg;

V_a = total air volume sampled by the PM_{10c} sampler in actual volume units measured at local conditions of temperature and pressure, as provided by the sampler, m³.

NOTE: Total sample time must be between 1,380 and 1,500 minutes (23 and 25 hrs) for a fully valid PM_{10c} sample; however, see also section 3.3 of this appendix.

12.3 The PM_{2.5} mass concentration is calculated as specified in section 12 of appendix L to this part.

12.4 The PM_{10-2.5} mass concentration, in µg/m³, is calculated using Equation 2 of this section:

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Equation 2

$$PM_{10-2.5} = PM_{10c} - PM_{2.5}$$

13.0 Reference

1. Quality Assurance Guidance Document
- 2.12. Monitoring $PM_{2.5}$ in Ambient Air Using

Designated Reference or Class I Equivalent Methods. Draft, November 1998 (or later version or supplement, if available). Available at: www.epa.gov/ttn/amtic/pgqa.html.

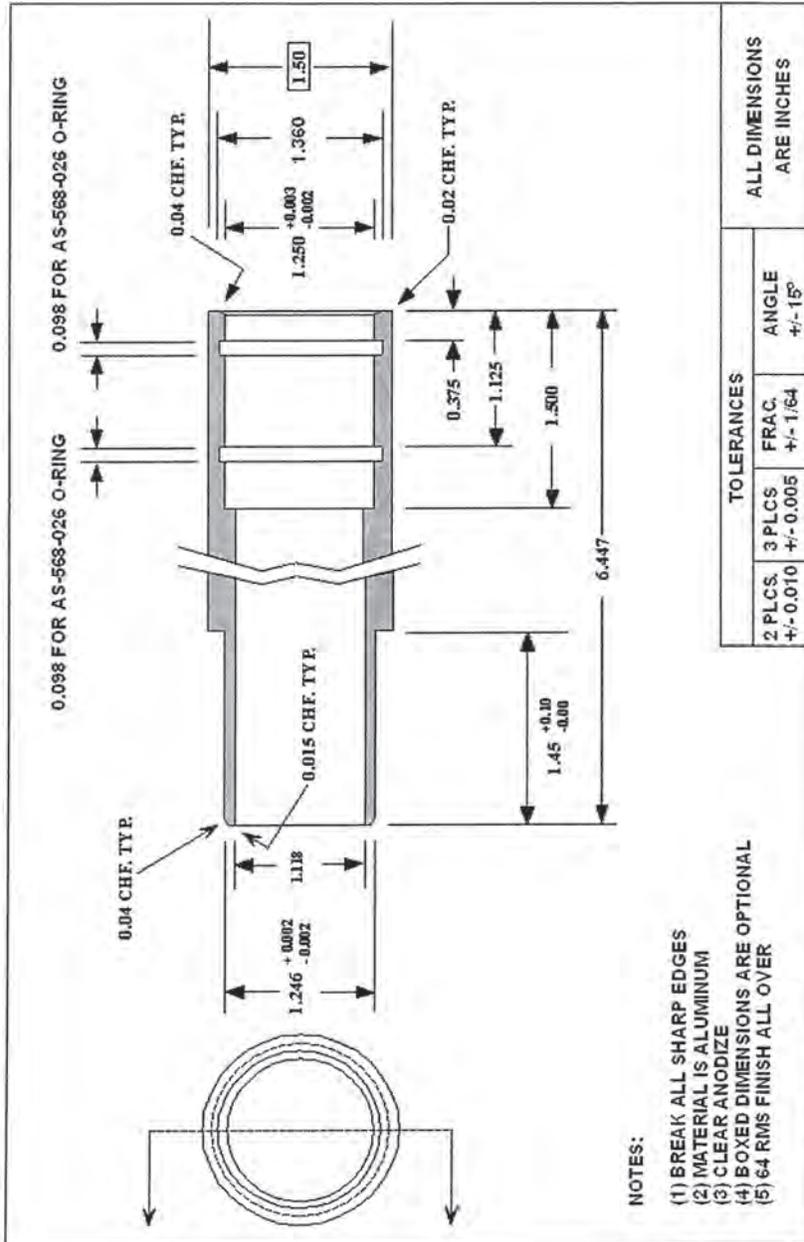
14.0 Figures

Figure O-1 is included as part of this appendix O.

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FIGURE O-1. DOWNTUBE EXTENSION



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[71 FR 61230, Oct. 17, 2006]

APPENDIX P TO PART 50—INTERPRETATION OF THE PRIMARY AND SECONDARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE

1. General

(a) This appendix explains the data handling conventions and computations necessary for determining whether the national 8-hour primary and secondary ambient air quality standards for ozone (O₃) specified in §50.15 are met at an ambient O₃ air quality monitoring site. Ozone is measured in the ambient air by a reference method based on appendix D of this part, as applicable, and designated in accordance with part 53 of this chapter, or by an equivalent method designated in accordance with part 53 of this chapter. Data reporting, data handling, and computation procedures to be used in making comparisons between reported O₃ concentrations and the levels of the O₃ standards are specified in the following sections. Whether to exclude, retain, or make adjustments to the data affected by exceptional events, including stratospheric O₃ intrusion and other natural events, is determined by the requirements under §§50.1, 50.14 and 51.930.

(b) The terms used in this appendix are defined as follows:

8-hour average is the rolling average of eight hourly O₃ concentrations as explained in section 2 of this appendix.

Annual fourth-highest daily maximum refers to the fourth highest value measured at a monitoring site during a particular year.

Daily maximum 8-hour average concentration refers to the maximum calculated 8-hour average for a particular day as explained in section 2 of this appendix.

Design values are the metrics (*i.e.*, statistics) that are compared to the NAAQS levels to determine compliance, calculated as shown in section 3 of this appendix.

O₃ monitoring season refers to the span of time within a calendar year when individual States are required to measure ambient O₃ concentrations as listed in part 58 appendix D to this chapter.

Year refers to calendar year.

2. Primary and Secondary Ambient Air Quality Standards for Ozone

2.1 Data Reporting and Handling Conventions

Computing 8-hour averages. Hourly average concentrations shall be reported in parts per million (ppm) to the third decimal place, with additional digits to the right of the third decimal place truncated. Running 8-hour averages shall be computed from the hourly O₃ concentration data for each hour

of the year and shall be stored in the first, or start, hour of the 8-hour period. An 8-hour average shall be considered valid if at least 75% of the hourly averages for the 8-hour period are available. In the event that only 6 or 7 hourly averages are available, the 8-hour average shall be computed on the basis of the hours available using 6 or 7 as the divisor. 8-hour periods with three or more missing hours shall be considered valid also, if, after substituting one-half the minimum detectable limit for the missing hourly concentrations, the 8-hour average concentration is greater than the level of the standard. The computed 8-hour average O₃ concentrations shall be reported to three decimal places (the digits to the right of the third decimal place are truncated, consistent with the data handling procedures for the reported data).

Daily maximum 8-hour average concentrations. (a) There are 24 possible running 8-hour average O₃ concentrations for each calendar day during the O₃ monitoring season. The daily maximum 8-hour concentration for a given calendar day is the highest of the 24 possible 8-hour average concentrations computed for that day. This process is repeated, yielding a daily maximum 8-hour average O₃ concentration for each calendar day with ambient O₃ monitoring data. Because the 8-hour averages are recorded in the start hour, the daily maximum 8-hour concentrations from two consecutive days may have some hourly concentrations in common. Generally, overlapping daily maximum 8-hour averages are not likely, except in those non-urban monitoring locations with less pronounced diurnal variation in hourly concentrations.

(b) An O₃ monitoring day shall be counted as a valid day if valid 8-hour averages are available for at least 75% of possible hours in the day (*i.e.*, at least 18 of the 24 averages). In the event that less than 75% of the 8-hour averages are available, a day shall also be counted as a valid day if the daily maximum 8-hour average concentration for that day is greater than the level of the standard.

2.2 Primary and Secondary Standard-related Summary Statistic

The standard-related summary statistic is the annual fourth-highest daily maximum 8-hour O₃ concentration, expressed in parts per million, averaged over three years. The 3-year average shall be computed using the three most recent, consecutive calendar years of monitoring data meeting the data completeness requirements described in this appendix. The computed 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentrations shall be reported to three decimal places (the digits to the right of the third decimal place are truncated, consistent with the data handling procedures for the reported data).

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2.3 Comparisons with the Primary and Secondary O₃ Standards

(a) The primary and secondary O₃ ambient air quality standards are met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentration is less than or equal to 0.075 ppm.

(b) This comparison shall be based on three consecutive, complete calendar years of air quality monitoring data. This requirement is met for the 3-year period at a monitoring site if daily maximum 8-hour average concentrations are available for at least 90% of the days within the O₃ monitoring season, on average, for the 3-year period, with a minimum data completeness requirement in any one year of at least 75% of the days within the O₃ monitoring season. When computing whether the minimum data completeness requirements have been met, meteorological or ambient data may be sufficient to dem-

onstrate that meteorological conditions on missing days were not conducive to concentrations above the level of the standard. Missing days assumed less than the level of the standard are counted for the purpose of meeting the data completeness requirement, subject to the approval of the appropriate Regional Administrator.

(c) Years with concentrations greater than the level of the standard shall be included even if they have less than complete data. Thus, in computing the 3-year average fourth maximum concentration, calendar years with less than 75% data completeness shall be included in the computation if the 3-year average fourth-highest 8-hour concentration is greater than the level of the standard.

(d) Comparisons with the primary and secondary O₃ standards are demonstrated by examples 1 and 2 in paragraphs (d)(1) and (d)(2) respectively as follows:

EXAMPLE 1—AMBIENT MONITORING SITE ATTAINING THE PRIMARY AND SECONDARY O₃ STANDARDS

Year	Percent valid days (within the required monitoring season)	1st Highest daily max 8-hour Conc. (ppm)	2nd Highest daily max 8-hour Conc. (ppm)	3rd Highest daily max 8-hour Conc. (ppm)	4th Highest daily max 8-hour Conc. (ppm)	5th Highest daily max 8-hour Conc. (ppm)
2004	100	0.092	0.090	0.085	0.079	0.078
2005	96	0.084	0.083	0.075	0.072	0.070
2006	98	0.080	0.079	0.077	0.076	0.060
Average	98	.....	.....	.....	0.075	.....

(1) As shown in Example 1, this monitoring site meets the primary and secondary O₃ standards because the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentrations (*i.e.*, 0.075666 * * * ppm, truncated to 0.075 ppm) is less than or equal to 0.075 ppm. The data completeness requirement is also met because the average

percent of days within the required monitoring season with valid ambient monitoring data is greater than 90%, and no single year has less than 75% data completeness. In Example 1, the individual 8-hour averages used to determine the annual fourth maximum have also been truncated to the third decimal place.

EXAMPLE 2—AMBIENT MONITORING SITE FAILING TO MEET THE PRIMARY AND SECONDARY O₃ STANDARDS

Year	Percent valid days (within the required monitoring season)	1st Highest daily max 8-hour Conc. (ppm)	2nd Highest daily max 8-hour Conc. (ppm)	3rd Highest daily max 8-hour Conc. (ppm)	4th Highest daily max 8-hour Conc. (ppm)	5th Highest daily max 8-hour Conc. (ppm)
2004	96	0.105	0.103	0.103	0.103	0.102
2005	74	0.104	0.103	0.092	0.091	0.088
2006	98	0.103	0.101	0.101	0.095	0.094
Average	89	.....	.....	.....	0.096	.....

As shown in Example 2, the primary and secondary O₃ standards are not met for this monitoring site because the 3-year average of the fourth-highest daily maximum 8-hour average O₃ concentrations (*i.e.*, 0.096333 * * * ppm, truncated to 0.096 ppm) is greater than

0.075 ppm, even though the data capture is less than 75% and the average data capture for the 3 years is less than 90% within the required monitoring season. In Example 2, the individual 8-hour averages used to determine

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the annual fourth maximum have also been truncated to the third decimal place.

3. Design Values for Primary and Secondary Ambient Air Quality Standards for Ozone

The air quality design value at a monitoring site is defined as that concentration that when reduced to the level of the standard ensures that the site meets the standard. For a concentration-based standard, the air quality design value is simply the standard-related test statistic. Thus, for the primary and secondary standards, the 3-year average annual fourth-highest daily maximum 8-hour average O₃ concentration is also the air quality design value for the site.

[73 FR 16511, Mar. 27, 2008]

APPENDIX Q TO PART 50—REFERENCE METHOD FOR THE DETERMINATION OF LEAD IN PARTICULATE MATTER AS PM₁₀ COLLECTED FROM AMBIENT AIR

This Federal Reference Method (FRM) draws heavily from the specific analytical protocols used by the U.S. EPA.

1. *Applicability and Principle*

1.1 This method provides for the measurement of the lead (Pb) concentration in particulate matter that is 10 micrometers or less (PM₁₀) in ambient air. PM₁₀ is collected on an acceptable (see section 6.1.2) 46.2 mm diameter polytetrafluoroethylene (PTFE) filter for 24 hours using active sampling at local conditions with a low-volume air sampler. The low-volume sampler has an average flow rate of 16.7 liters per minute (Lpm) and total sampled volume of 24 cubic meters (m³) of air. The analysis of Pb in PM₁₀ is performed on each individual 24-hour sample. Gravimetric mass analysis of PM_{10c} filters is not required for Pb analysis. For the purpose of this method, PM₁₀ is defined as particulate matter having an aerodynamic diameter in the nominal range of 10 micrometers (10 μm) or less.

1.2 For this reference method, PM₁₀ shall be collected with the PM_{10c} federal reference method (FRM) sampler as described in appendix O to Part 50 using the same sample period, measurement procedures, and requirements specified in appendix L of Part 50. The PM_{10c} sampler is also being used for measurement of PM_{10-2.5} mass by difference and as such, the PM_{10c} sampler must also meet all of the performance requirements specified for PM_{2.5} in appendix L. The concentration of Pb in the atmosphere is determined in the total volume of air sampled and expressed in micrograms per cubic meter (μg/m³) at local temperature and pressure conditions.

1.3 The FRM will serve as the basis for approving Federal Equivalent Methods (FEMs) as specified in 40 CFR Part 53 (Reference and

Equivalent Methods). This FRM specifically applies to the analysis of Pb in PM₁₀ filters collected with the PM_{10c} sampler. If these filters are analyzed for elements other than Pb, then refer to the guidance provided in the EPA Inorganic Compendium Method IO-3.3 (Reference 1 of section 8) for multi-element analysis.

1.4 The PM_{10c} air sampler draws ambient air at a constant volumetric flow rate into a specially shaped inlet and through an inertial particle size separator, where the suspended particulate matter in the PM₁₀ size range is separated for collection on a PTFE filter over the specified sampling period. The Pb content of the PM₁₀ sample is analyzed by energy-dispersive X-ray fluorescence spectrometry (EDXRF). Energy-dispersive X-ray fluorescence spectrometry provides a means for identification of an element by measurement of its characteristic X-ray emission energy. The method allows for quantification of the element by measuring the intensity of X-rays emitted at the characteristic photon energy and then relating this intensity to the elemental concentration. The number or intensity of X-rays produced at a given energy provides a measure of the amount of the element present by comparisons with calibration standards. The X-rays are detected and the spectral signals are acquired and processed with a personal computer. EDXRF is commonly used as a non-destructive method for quantifying trace elements in PM. A detailed explanation of quantitative X-ray spectrometry is described in references 2, 3 and 4.

1.5 Quality assurance (QA) procedures for the collection of monitoring data are contained in Part 58, appendix A.

2. *PM₁₀Pb Measurement Range and Detection Limit.* The values given below in section 2.1 and 2.2 are typical of the method capabilities. Absolute values will vary for individual situations depending on the instrument, detector age, and operating conditions used. Data are typically reported in ng/m³ for ambient air samples; however, for this reference method, data will be reported in μg/m³ at local temperature and pressure conditions.

2.1 *EDXRF Pb Measurement Range.* The typical ambient air measurement range is 0.001 to 30 μg Pb/m³, assuming an upper range calibration standard of about 60 μg Pb per square centimeter (cm²), a filter deposit area of 11.86 cm², and an air volume of 24 m³. The top range of the EDXRF instrument is much greater than what is stated here. The top measurement range of quantification is defined by the level of the high concentration calibration standard used and can be increased to expand the measurement range as needed.

2.2 *Detection Limit (DL).* A typical estimate of the one-sigma detection limit (DL) is about 2 ng Pb/cm² or 0.001 μg Pb/m³, assuming a filter size of 46.2 mm (filter deposit

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area of 11.86 cm²) and a sample air volume of 24 m³. The DL is an estimate of the lowest amount of Pb that can be reliably distinguished from a blank filter. The one-sigma detection limit for Pb is calculated as the average overall uncertainty or propagated error for Pb, determined from measurements on a series of blank filters from the filter lot(s) in use. Detection limits must be determined for each filter lot in use. If a new filter lot is used, then a new DL must be determined. The sources of random error which are considered are calibration uncertainty; system stability; peak and background counting statistics; uncertainty in attenuation corrections; and uncertainty in peak overlap corrections, but the dominating source by far is peak and background counting statistics. At a minimum, laboratories are to determine annual estimates of the DL using the guidance provided in Reference 5.

3. Factors Affecting Bias and Precision of Lead Determination by EDXRF

3.1 *Filter Deposit.* X-ray spectra are subject to distortion if unusually heavy deposits are analyzed. This is the result of internal absorption of both primary and secondary X-rays within the sample; however, this is not an issue for Pb due to the energetic X-rays used to fluoresce Pb and the energetic characteristic X-rays emitted by Pb. The optimum mass filter loading for multi-elemental EDXRF analysis is about 100 µg/cm² or 1.2 mg/filter for a 46.2-mm filter. Too little deposit material can also be problematic due to low counting statistics and signal noise. The particle mass deposit should minimally be 15 µg/cm². The maximum PM₁₀ filter loading or upper concentration limit of mass expected to be collected by the PM_{10c} sampler is 200 µg/m³ (Appendix O to Part 50, Section 3.2). This equates to a mass loading of about 400 µg/cm² and is the maximum expected loading for PM_{10c} filters. This maximum loading is acceptable for the analysis of Pb and other high-Z elements with very energetic characteristic X-rays. A properly collected sample will have a uniform deposit over the entire collection area. Samples with physical deformities (including a visually non-uniform deposit area) should not be quantitatively analyzed. Tests on the uniformity of particle deposition on PM_{10c} filters showed that the non-uniformity of the filter deposit represents a small fraction of the overall uncertainty in ambient Pb concentration measurement. The analysis beam of the XRF analyzer does not cover the entire filter collection area. The minimum allowable beam size is 10 mm.

3.2 *Spectral Interferences and Spectral Overlap.* Spectral interference occurs when the entirety of the analyte spectral lines of two species are nearly 100% overlapped. The presence of arsenic (As) is a problematic interference for EDXRF systems which use the Pb L_α line exclusively to quantify the Pb con-

centration. This is because the Pb L_α line and the As K_α lines severely overlap. The use of multiple Pb lines, including the L_β and/or the L_γ lines for quantification must be used to reduce the uncertainty in the Pb determination in the presence of As. There can be instances when lines partially overlap the Pb spectral lines, but with the energy resolution of most detectors these overlaps are typically de-convoluted using standard spectral de-convolution software provided by the instrument vendor. An EDXRF protocol for Pb must define which Pb lines are used for quantification and where spectral overlaps occur. A de-convolution protocol must be used to separate all the lines which overlap with Pb.

3.3 *Particle Size Effects and Attenuation Correction Factors.* X-ray attenuation is dependent on the X-ray energy, mass sample loading, composition, and particle size. In some cases, the excitation and fluorescent X-rays are attenuated as they pass through the sample. In order to relate the measured intensity of the X-rays to the thin-film calibration standards used, the magnitude of any attenuation present must be corrected for. See references 6, 7, and 8 for more discussion on this issue. Essentially no attenuation corrections are necessary for Pb in PM₁₀: Both the incoming excitation X-rays used for analyzing lead and the fluoresced Pb X-rays are sufficiently energetic that for particles in this size range and for normal filter loadings, the Pb X-ray yield is not significantly impacted by attenuation.

4. Precision

4.1 Measurement system precision is assessed according to the procedures set forth in appendix A to part 58. Measurement method precision is assessed from collocated sampling and analysis. The goal for acceptable measurement uncertainty, as precision, is defined as an upper 90 percent confidence limit for the coefficient of variation (CV) of 20 percent.

5. Bias

5.1 Measurement system bias for monitoring data is assessed according to the procedures set forth in appendix A of part 58. The bias is assessed through an audit using spiked filters. The goal for measurement bias is defined as an upper 95 percent confidence limit for the absolute bias of 15 percent.

6. Measurement of PTFE Filters by EDXRF

6.1 Sampling

6.1.1 *Low-Volume PM_{10c} Sampler.* The low-volume PM_{10c} sampler shall be used for PM₁₀ sample collection and operated in accordance with the performance specifications described in part 50, appendix L.

6.1.2 *PTFE Filters and Filter Acceptance Testing.* The PTFE filters used for PM_{10c} sample collection shall meet the specifications provided in part 50, appendix L. The following requirements are similar to those

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currently specified for the acceptance of PM_{2.5} filters that are tested for trace elements by EDXRF. For large filter lots (greater than 500 filters) randomly select 20 filters from a given lot. For small lots (less than 500 filters) a lesser number of filters may be taken. Analyze each blank filter separately and calculate the average lead concentration in ng/cm². Ninety percent, or 18 of the 20 filters, must have an average lead concentration that is less than 4.8 ng Pb/cm².

6.1.2.1 *Filter Blanks.* Field blank filters shall be collected along with routine samples. Field blank filters will be collected that are transported to the sampling site and placed in the sampler for the duration of sampling without sampling. Laboratory blank filters from each filter lot used shall be analyzed with each batch of routine sample filters analyzed. Laboratory blank filters are used in background subtraction as discussed below in Section 6.2.4.

6.2 *Analysis.* The four main categories of random and systematic error encountered in X-ray fluorescence analysis include errors from sample collection, the X-ray source, the counting process, and inter-element effects. These errors are addressed through the calibration process and mathematical corrections in the instrument software. Spectral processing methods are well established and most commercial analyzers have software that can implement the most common approaches (references 9–11) to background subtraction, peak overlap correction, counting and deadtime corrections.

6.2.1 *EDXRF Analysis Instrument.* An energy-dispersive XRF system is used. Energy-dispersive XRF systems are available from a number of commercial vendors. Examples include Thermo (www.thermo.com), Spectro (<http://www.spectro.com>), Xenometrix (<http://www.xenometrix.com>) and PANalytical (<http://www.panalytical.com>).¹ The analysis is performed at room temperature in either vacuum or in a helium atmosphere. The specific details of the corrections and calibration algorithms are typically included in commercial analytical instrument software routines for automated spectral acquisition and processing and vary by manufacturer. It is important for the analyst to understand the correction procedures and algorithms of the particular system used, to ensure that the necessary corrections are applied.

6.2.2 *Thin film standards.* Thin film standards are used for calibration because they most closely resemble the layer of particles on a filter. Thin films standards are typically deposited on Nuclepore substrates. The

preparation of thin film standards is discussed in reference 8, and 10. The NIST SRM 2783 (Air Particulate on Filter Media) is currently available on polycarbonate filters and contains a certified concentration for Pb. Thin film standards at 15 and 50 µg/cm² are commercially available from MicroMatter Inc. (Arlington, WA).

6.2.3 *Filter Preparation.* Filters used for sample collection are 46.2-mm PTFE filters with a pore size of 2 microns and filter deposit area 11.86 cm². Cold storage is not a requirement for filters analyzed for Pb; however, if filters scheduled for XRF analysis were stored cold, they must be allowed to reach room temperature prior to analysis. All filter samples received for analysis are checked for any holes, tears, or a non-uniform deposit which would prevent quantitative analysis. Samples with physical deformities are not quantitatively analyzable. The filters are carefully removed with tweezers from the Petri dish and securely placed into the instrument-specific sampler holder for analysis. Care must be taken to protect filters from contamination prior to analysis. Filters must be kept covered when not being analyzed. No other preparation of filter samples is required.

6.2.4 *Calibration.* In general, calibration determines each element's sensitivity, *i.e.*, its response in x-ray counts/sec to each µg/cm² of a standard and an interference coefficient for each element that causes interference with another one (See section 3.2 above). The sensitivity can be determined by a linear plot of count rate versus concentration (µg/cm²) in which the slope is the instrument's sensitivity for that element. A more precise way, which requires fewer standards, is to fit sensitivity versus atomic number. Calibration is a complex task in the operation of an XRF system. Two major functions accomplished by calibration are the production of reference spectra which are used for fitting and the determination of the elemental sensitivities. Included in the reference spectra (referred to as "shapes") are background-subtracted peak shapes of the elements to be analyzed (as well as interfering elements) and spectral backgrounds. Pure element thin film standards are used for the element peak shapes and clean filter blanks from the same lot as routine filter samples are used for the background. The analysis of Pb in PM filter deposits is based on the assumption that the thickness of the deposit is small with respect to the characteristic Pb X-ray transmission thickness. Therefore, the concentration of Pb in a sample is determined by first calibrating the spectrometer with thin film standards to determine the sensitivity factor for Pb and then analyzing the unknown samples under identical excitation conditions as used to determine the calibration. Calibration shall be

¹These are examples of available systems and is not an all inclusive list. The mention of commercial products does not imply endorsement by the U.S. Environmental Protection Agency.

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performed annually or when significant repairs or changes occur (e.g., a change in fluorescers, X-ray tubes, or detector). Calibration establishes the elemental sensitivity factors and the magnitude of interference or overlap coefficients. See reference 7 for more detailed discussion of calibration and analysis of shapes standards for background correction, coarse particle absorption corrections, and spectral overlap.

6.2.4.1 *Spectral Peak Fitting.* The EPA uses a library of pure element peak shapes (shape standards) to extract the elemental background-free peak areas from an unknown spectrum. It is also possible to fit spectra using peak stripping or analytically defined functions such as modified Gaussian functions. The EPA shape standards are generated from pure, mono-elemental thin film standards. The shape standards are acquired for sufficiently long times to provide a large number of counts in the peaks of interest. It is not necessary for the concentration of the standard to be known. A slight contaminant in the region of interest in a shape standard can have a significant and serious effect on the ability of the least squares fitting algorithm to fit the shapes to the unknown spectrum. It is these elemental peak shapes that are fitted to the peaks in an unknown sample during spectral processing by the analyzer. In addition to this library of elemental shapes there is also a background shape spectrum for the filter type used as discussed below in section 6.2.4.2 of this section.

6.2.4.2 *Background Measurement and Correction.* A background spectrum generated by the filter itself must be subtracted from the X-ray spectrum prior to extracting peak areas. Background spectra must be obtained for each filter lot used for sample collection. The background shape standards which are used for background fitting are created at the time of calibration. If a new lot of filters is used, new background spectra must be obtained. A minimum of 20 clean blank filters from each filter lot are kept in a sealed container and are used exclusively for background measurement and correction. The spectra acquired on individual blank filters are added together to produce a single spectrum for each of the secondary targets or fluorescers used in the analysis of lead. Individual blank filter spectra which show atypical contamination are excluded from the summed spectra. The summed spectra are fitted to the appropriate background during spectral processing. Background correction is automatically included during spectral processing of each sample.

7. Calculation.

7.1 *PM₁₀ Pb concentrations.* The PM₁₀ Pb concentration in the atmosphere (µg/m³) is calculated using the following equation:

$$M_{Pb} = \frac{C_{Pb} \times A}{V_{LC}}$$

Where,

M_{Pb} is the mass per unit volume for lead in µg/m³;

C_{Pb} is the mass per unit area for lead in µg/cm² as measured by XRF;

A is the filter deposit area in cm²;

V_{LC} is the total volume of air sampled by the PM_{10c} sampler in actual volume units measured at local conditions of temperature and pressure, as provided by the sampler in m³.

7.2 *PM₁₀ Pb Uncertainty Calculations.*

The principal contributors to total uncertainty of XRF values include: field sampling; filter deposit area; XRF calibration; attenuation or loss of the x-ray signals due to the other components of the particulate sample; and determination of the Pb X-ray emission peak area by curve fitting. See reference 12 for a detailed discussion of how uncertainties are similarly calculated for the PM_{2.5} Chemical Speciation program.

The model for calculating total uncertainty is:

$$\delta_{tot} = (\delta_f^2 + \delta_a^2 + \delta_c^2 + \delta_v^2)^{1/2}$$

Where,

δ_f = fitting uncertainty (XRF-specific, from 2 to 100 + %)

δ_a = attenuation uncertainty (XRF-specific, insignificant for Pb)

δ_c = calibration uncertainty (combined lab uncertainty, assumed as 5%)

δ_v = volume/deposition size uncertainty (combined field uncertainty, assumed as 5%)

8. References

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APPENDIX R TO PART 50—INTERPRETATION OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR LEAD

1. General.

(a) This appendix explains the data handling conventions and computations necessary for determining when the primary and secondary national ambient air quality standards (NAAQS) for lead (Pb) specified in § 50.16 are met. The NAAQS indicator for Pb is defined as: lead and its compounds, measured as elemental lead in total suspended particulate (Pb-TSP), sampled and analyzed by a Federal reference method (FRM) based on appendix G to this part or by a Federal equivalent method (FEM) designated in accordance with part 53 of this chapter. Although Pb-TSP is the lead NAAQS indicator, surrogate Pb-TSP concentrations shall also be used for NAAQS comparisons; specifically, valid surrogate Pb-TSP data are concentration data for lead and its compounds, measured as elemental lead, in particles with an aerodynamic size of 10 microns or less (Pb-PM₁₀), sampled and analyzed by an

FRM based on appendix Q to this part or by an FEM designated in accordance with part 53 of this chapter. Surrogate Pb-TSP data (*i.e.*, Pb-PM₁₀ data), however, can only be used to show that the Pb NAAQS were violated (*i.e.*, not met); they can not be used to demonstrate that the Pb NAAQS were met. Pb-PM₁₀ data used as surrogate Pb-TSP data shall be processed at face value; that is, without any transformation or scaling. Data handling and computation procedures to be used in making comparisons between reported and/or surrogate Pb-TSP concentrations and the level of the Pb NAAQS are specified in the following sections.

(b) Whether to exclude, retain, or make adjustments to the data affected by exceptional events, including natural events, is determined by the requirements and process deadlines specified in §§ 50.1, 50.14, and 51.930 of this chapter.

(c) The terms used in this appendix are defined as follows:

Annual monitoring network plan refers to the plan required by section 58.10 of this chapter.

Creditable samples are samples that are given credit for data completeness. They include valid samples collected on required sampling days and valid “make-up” samples taken for missed or invalidated samples on required sampling days.

Daily values for Pb refer to the 24-hour mean concentrations of Pb (Pb-TSP or Pb-PM₁₀), measured from midnight to midnight (local standard time), that are used in NAAQS computations.

Design value is the site-level metric (*i.e.*, statistic) that is compared to the NAAQS level to determine compliance; the design value for the Pb NAAQS is selected according to the procedures in this appendix from among the valid three-month Pb-TSP and surrogate Pb-TSP (Pb-PM₁₀) arithmetic mean concentration for the 36-month period consisting of the most recent 3-year calendar period plus two previous months (*i.e.*, 36 3-month periods) using the last month of each 3-month period as the period of report.

Extra samples are non-creditable samples. They are daily values that do not occur on scheduled sampling days and that can not be used as “make-up samples” for missed or invalidated scheduled samples. Extra samples are used in mean calculations. For purposes of determining whether a sample must be treated as a make-up sample or an extra sample, Pb-TSP and Pb-PM₁₀ data collected before January 1, 2009 will be treated with an assumed scheduled sampling frequency of every sixth day.

Make-up samples are samples taken to replace missed or invalidated required scheduled samples. Make-ups can be made by either the primary or collocated (same size fraction) instruments; to be considered a

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valid make-up, the sampling must be conducted with equipment and procedures that meet the requirements for scheduled sampling. Make-up samples are either taken before the next required sampling day or exactly one week after the missed (or voided) sampling day. Make-up samples can not span years; that is, if a scheduled sample for December is missed (or voided), it can not be made up in January. Make-up samples, however, may span months, for example a missed sample on January 31 may be made up on February 1, 2, 3, 4, 5, or 7 (with an assumed sampling frequency of every sixth day). Section 3(e) explains how such month-spanning make-up samples are to be treated for purposes of data completeness and mean calculations. Only two make-up samples are permitted each calendar month; these are counted according to the month in which the miss and not the make-up occurred. For purposes of determining whether a sample must be treated as a make-up sample or an extra sample, Pb-TSP and Pb-PM₁₀ data collected before January 1, 2009 will be treated with an assumed scheduled sampling frequency of every sixth day.

Monthly mean refers to an arithmetic mean, calculated as specified in section 6(a) of this appendix. Monthly means are computed at each monitoring site separately for Pb-TSP and Pb-PM₁₀ (*i.e.*, by site-parameter-year-month).

Parameter refers either to Pb-TSP or to Pb-PM₁₀.

Pollutant Occurrence Code (POC) refers to a numerical code (1, 2, 3, etc.) used to distinguish the data from two or more monitors for the same parameter at a single monitoring site.

Scheduled sampling day means a day on which sampling is scheduled based on the required sampling frequency for the monitoring site, as provided in section 58.12 of this chapter.

Three-month means are arithmetic averages of three consecutive monthly means. Three-month means are computed on a rolling, overlapping basis. Each distinct monthly mean will be included in three different 3-month means; for example, in a given year, a November mean would be included in: (1) The September-October-November 3-month mean, (2) the October-November-December 3-month mean, and (3) the November-December-January (of the following year) 3-month mean. Three-month means are computed separately for each parameter per section 6(a) (and are referred to as 3-month parameter means) and are validated according to the criteria specified in section 4(c). The parameter-specific 3-month means are then prioritized according to section 2(a) to determine a single 3-month site mean.

Year refers to a calendar year.

2. *Use of Pb-PM₁₀ Data as Surrogate Pb-TSP Data.*

(a) As stipulated in section 2.10 of Appendix C to 40 CFR part 58, at some mandatory Pb monitoring locations, monitoring agencies are required to sample for Pb as Pb-TSP, and at other mandatory Pb monitoring sites, monitoring agencies are permitted to monitor for Pb-PM₁₀ in lieu of Pb-TSP. In either situation, valid collocated Pb data for the other parameter may be produced. Additionally, there may be non-required monitoring locations that also produce valid Pb-TSP and/or valid Pb-PM₁₀ data. Pb-TSP data and Pb-PM₁₀ data are always processed separately when computing monthly and 3-month parameter means; monthly and 3-month parameter means are validated according to the criteria stated in section 4 of this appendix. Three-month "site" means, which are the final valid 3-month mean from which a design value is identified, are determined from the one or two available valid 3-month parameter means according to the following prioritization which applies to all Pb monitoring locations.

(i) Whenever a valid 3-month Pb-PM₁₀ mean shows a violation and either is greater than a corresponding (collocated) 3-month Pb-TSP mean or there is no corresponding valid 3-month Pb-TSP mean present, then that 3-month Pb-PM₁₀ mean will be the site-level mean for that (site's) 3-month period.

(ii) Otherwise (*i.e.*, there is no valid violating 3-month Pb-PM₁₀ that exceeds a corresponding 3-month Pb-TSP mean),

(A) If a valid 3-month Pb-TSP mean exists, then it will be the site-level mean for that (site's) 3-month period, or

(B) If a valid 3-month Pb-TSP mean does not exist, then there is no valid 3-month site mean for that period (even if a valid non-violating 3-month Pb-PM₁₀ mean exists).

(b) As noted in section 1(a) of this appendix, FRM/FEM Pb-PM₁₀ data will be processed at face value (*i.e.*, at reported concentrations) without adjustment when computing means and making NAAQS comparisons.

3. *Requirements for Data Used for Comparisons With the Pb NAAQS and Data Reporting Considerations.*

(a) All valid FRM/FEM Pb-TSP data and all valid FRM/FEM Pb-PM₁₀ data submitted to EPA's Air Quality System (AQS), or otherwise available to EPA, meeting the requirements of part 58 of this chapter including appendices A, C, and E shall be used in design value calculations. Pb-TSP and Pb-PM₁₀ data representing sample collection periods prior to January 1, 2009 (*i.e.*, "pre-rule" data) will also be considered valid for NAAQS comparisons and related attainment/nonattainment determinations if the sampling and analysis methods that were utilized to collect that data were consistent with previous or newly designated FRMs or FEMs and with either the provisions of part 58 of this chapter including appendices A, C,

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and E that were in effect at the time of original sampling or that are in effect at the time of the attainment/nonattainment determination, and if such data are submitted to AQS prior to September 1, 2009.

(b) Pb-TSP and Pb-PM₁₀ measurement data are reported to AQS in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) at local conditions (local temperature and pressure, LC) to three decimal places; any additional digits to the right of the third decimal place are truncated. Pre-rule Pb-TSP and Pb-PM₁₀ concentration data that were reported in standard conditions (standard temperature and standard pressure, STP) will not require a conversion to local conditions but rather, after truncating to three decimal places and processing as stated in this appendix, shall be compared "as is" to the NAAQS (*i.e.*, the LC to STP conversion factor will be assumed to be one). However, if the monitoring agency has retroactively resubmitted Pb-TSP or Pb-PM₁₀ pre-rule data converted from STP to LC based on suitable meteorological data, only the LC data will be used.

(c) At each monitoring location (site), Pb-TSP and Pb-PM₁₀ data are to be processed separately when selecting daily data by day (as specified in section 3(d) of this appendix), when aggregating daily data by month (per section 6(a)), and when forming 3-month means (per section 6(b)). However, when deriving (*i.e.*, identifying) the design value for the 38-month period, 3-month means for the two data types may be considered together; see sections 2(a) and 4(e) of this appendix for details.

(d) Daily values for sites will be selected for a site on a size cut (Pb-TSP or Pb-PM₁₀, *i.e.*, "parameter") basis; Pb-TSP concentrations and Pb-PM₁₀ concentrations shall not be commingled in these determinations. Site level, parameter-specific daily values will be selected as follows:

(i) The starting dataset for a site-parameter shall consist of the measured daily concentrations recorded from the designated primary FRM/FEM monitor for that parameter. The primary monitor for each parameter shall be designated in the appropriate state or local agency annual Monitoring Network Plan. If no primary monitor is designated, the Administrator will select which monitor to treat as primary. All daily values produced by the primary sampler are considered part of the site-parameter data record (*i.e.*, that site-parameter's set of daily values); this includes all creditable samples and all extra samples. For pre-rule Pb-TSP and Pb-PM₁₀ data, valid data records present in AQS for the monitor with the lowest occurring Pollutant Occurrence Code (POC), as selected on a site-parameter-daily basis, will constitute the site-parameter data record. Where pre-rule Pb-TSP data (or subsequent non-required Pb-TSP or Pb-PM₁₀ data) are reported in "composite" form (*i.e.*, multiple

filters for a month of sampling that are analyzed together), the composite concentration will be used as the site-parameter monthly mean concentration if there are no valid daily Pb-TSP data reported for that month with a lower POC.

(ii) Data for the primary monitor for each parameter shall be augmented as much as possible with data from collocated (same parameter) FRM/FEM monitors. If a valid 24-hour measurement is not produced from the primary monitor for a particular day (scheduled or otherwise), but a valid sample is generated by a collocated (same parameter) FRM/FEM instrument, then that collocated value shall be considered part of the site-parameter data record (*i.e.*, that site-parameter's monthly set of daily values). If more than one valid collocated FRM/FEM value is available, the mean of those valid collocated values shall be used as the daily value. Note that this step will not be necessary for pre-rule data given the daily identification presumption for the primary monitor.

(e) All daily values in the composite site-parameter record are used in monthly mean calculations. However, not all daily values are given credit towards data completeness requirements. Only "creditable" samples are given credit for data completeness. Creditable samples include valid samples on scheduled sampling days and valid make-up samples. All other types of daily values are referred to as "extra" samples. Make-up samples taken in the (first week of the) month after the one in which the miss/void occurred will be credited for data capture in the month of the miss/void but will be included in the month actually taken when computing monthly means. For example, if a make-up sample was taken in February to replace a missed sample scheduled for January, the make-up concentration would be included in the February monthly mean but the sample credited in the January data capture rate.

4. Comparisons With the Pb NAAQS.

(a) The Pb NAAQS is met at a monitoring site when the identified design value is valid and less than or equal to 0.15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). A Pb design value that meets the NAAQS (*i.e.*, 0.15 $\mu\text{g}/\text{m}^3$ or less), is considered valid if it encompasses 36 consecutive valid 3-month site means (specifically for a 3-year calendar period and the two previous months). For sites that begin monitoring Pb after this rule is effective but before January 15, 2010 (or January 15, 2011), a 2010-2012 (or 2011-2013) Pb design value that meets the NAAQS will be considered valid if it encompasses at least 34 consecutive valid 3-month means (specifically encompassing only the 3-year calendar period). See 4(c) of this appendix for the description of a valid 3-month mean and section 6(d) for the definition of the design value.

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(b) The Pb NAAQS is violated at a monitoring site when the identified design value is valid and is greater than $0.15 \mu\text{g}/\text{m}^3$, no matter whether determined from Pb-TSP or Pb-PM₁₀ data. A Pb design value greater than $0.15 \mu\text{g}/\text{m}^3$ is valid no matter how many valid 3-month means in the 3-year period it encompasses; that is, a violating design value is valid even if it (*i.e.*, the highest 3-month mean) is the only valid 3-month mean in the 3-year timeframe. Further, a site does not have to monitor for three full calendar years in order to have a valid violating design value; a site could monitor just three months and still produce a valid (violating) design value.

(c)(i) A 3-month parameter mean is considered valid (*i.e.*, meets data completeness requirements) if the average of the data capture rate of the three constituent monthly means (*i.e.*, the 3-month data capture rate) is greater than or equal to 75 percent. Monthly data capture rates (expressed as a percentage) are specifically calculated as the number of creditable samples for the month (including any make-up samples taken the subsequent month for missed samples in the month in question, and excluding any make-up samples taken in the month in question for missed samples in the previous month) divided by the number of scheduled samples for the month, the result then multiplied by 100 but not rounded. The 3-month data capture rate is the sum of the three corresponding unrounded monthly data capture rates divided by three and the result rounded to the nearest integer (zero decimal places). As noted in section 3(c), Pb-TSP and Pb-PM₁₀ daily values are processed separately when calculating monthly means and data capture rates; a Pb-TSP value cannot be used as a make-up for a missing Pb-PM₁₀ value or vice versa. For purposes of assessing data capture, Pb-TSP and Pb-PM₁₀ data collected before January 1, 2009 will be treated with an assumed scheduled sampling frequency of every sixth day.

(ii) A 3-month parameter mean that does not have at least 75 percent data capture and thus is not considered valid under 4(c)(i) shall be considered valid (and complete) if it passes either of the two following “data substitution” tests, one such test for validating an above NAAQS-level (*i.e.*, violating) 3-month Pb-TSP or Pb-PM₁₀ mean (using actual “low” reported values from the same site at about the same time of the year (*i.e.*, in the same month) looking across three or four years), and the second test for validating a below-NAAQS level 3-month Pb-TSP mean (using actual “high” values reported for the same site at about the same time of the year (*i.e.*, in the same month) looking across three or four years). Note that both tests are merely diagnostic in nature intending to confirm that there is a very high likelihood if not certainty that the

original mean (the one with less than 75% data capture) reflects the true over/under NAAQS-level status for that 3-month period; the result of one of these data substitution tests (*i.e.*, a “test mean”, as defined in section 4(c)(ii)(A) or 4(c)(ii)(B)) is not considered the actual 3-month parameter mean and shall not be used in the determination of design values. For both types of data substitution, substitution is permitted only if there are available data points from which to identify the high or low 3-year month-specific values, specifically if there are at least 10 data points total from at least two of the three (or four for November and December) possible year-months. Data substitution may only use data of the same parameter type.

(A) The “above NAAQS level” test is as follows: Data substitution will be done in each month of the 3-month period that has less than 75 percent data capture; monthly capture rates are temporarily rounded to integers (zero decimals) for this evaluation. If by substituting the lowest reported daily value for that month (year non-specific; *e.g.*, for January) over the 38-month design value period in question for missing scheduled data in the deficient months (substituting only enough to meet the 75 percent data capture minimum), the computation yields a recalculated test 3-month parameter mean concentration above the level of the standard, then the 3-month period is deemed to have passed the diagnostic test and the level of the standard is deemed to have been exceeded in that 3-month period. As noted in section 4(c)(ii), in such a case, the 3-month parameter mean of the data actually reported, not the recalculated (“test”) result including the low values, shall be used to determine the design value.

(B) The “below NAAQS level” test is as follows: Data substitution will be performed for each month of the 3-month period that has less than 75 percent but at least 50 percent data capture; if any month has less than 50% data capture then the 3-month mean can not utilize this substitution test. Also, incomplete 3-month Pb-PM₁₀ means can not utilize this test. A 3-month Pb-TSP mean with less than 75% data capture shall still be considered valid (and complete) if, by substituting the highest reported daily value, month-specific, over the 3-year design value period in question, for all missing scheduled data in the deficient months (*i.e.*, bringing the data capture rate up to 100%), the computation yields a recalculated 3-month parameter mean concentration equal or less than the level of the standard ($0.15 \mu\text{g}/\text{m}^3$), then the 3-month mean is deemed to have passed the diagnostic test and the level of the standard is deemed not to have been exceeded in that 3-month period (for that parameter). As noted in section 4(c)(ii), in such a case, the 3-month parameter mean of the data actually reported, not the recalculated (“test”) result

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including the high values, shall be used to determine the design value.

(d) Months that do not meet the completeness criteria stated in 4(c)(i) or 4(c)(ii), and design values that do not meet the completeness criteria stated in 4(a) or 4(b), may also be considered valid (and complete) with the approval of, or at the initiative of, the Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the valid concentration measurements that are available, and nearby concentrations in determining whether to use such data.

(e) The site-level design value for a 38-month period (three calendar years plus two previous months) is identified from the available (between one and 36) valid 3-month site means. In a situation where there are valid 3-month means for both parameters (Pb-TSP and Pb-PM₁₀), the mean originating from the reported Pb-TSP data will be the one deemed the site-level monthly mean and used in design value identifications unless the Pb-PM₁₀ mean shows a violation of the NAAQS and exceeds the Pb-TSP mean; see section 2(a) for details. A monitoring site will have only one site-level 3-month mean per 3-month period; however, the set of site-level 3-month means considered for design value identification (*i.e.*, one to 36 site-level 3-month means) can be a combination of Pb-TSP and Pb-PM₁₀ data.

(f) The procedures for calculating monthly means and 3-month means, and identifying Pb design values are given in section 6 of this appendix.

5. Rounding Conventions.

(a) Monthly means and monthly data capture rates are not rounded.

(b) Three-month means shall be rounded to the nearest hundredth $\mu\text{g}/\text{m}^3$ (0.xx). Decimals 0.xx5 and greater are rounded up, and any decimal lower than 0.xx5 is rounded down. *E.g.*, a 3-month mean of 0.104925 rounds to 0.10 and a 3-month mean of .10500 rounds to 0.11. Three-month data capture rates, expressed as a percent, are round to zero decimal places.

(c) Because a Pb design value is simply a (highest) 3-month mean and because the NAAQS level is stated to two decimal places, no additional rounding beyond what is specified for 3-month means is required before a design value is compared to the NAAQS.

6. Procedures and Equations for the Pb NAAQS.

(a)(i) A monthly mean value for Pb-TSP (or Pb-PM₁₀) is determined by averaging the daily values of a calendar month using equation 1 of this appendix, unless the Administrator chooses to exercise his discretion to use the alternate approach described in 6(a)(ii).

Equation 1

$$\bar{X}_{m,y,s} = \frac{1}{n_m} \sum_{i=1}^{n_m} X_{i,m,y,s}$$

Where:

$\bar{X}_{m,y,s}$ = the mean for month *m* of the year *y* for sites; and

n_m = the number of daily values in the month (creditable plus extra samples); and

$X_{i,m,y,s}$ = the *i*th value in month *m* for year *y* for site *s*.

(a)(ii) The Administrator may at his discretion use the following alternate approach to calculating the monthly mean concentration if the number of extra sampling days during a month is greater than the number of successfully completed scheduled and make-up sample days in that month. In exercising his discretion, the Administrator will consider whether the approach specified in 6(a)(i) might in the Administrator's judgment result in an unrepresentative value for the monthly mean concentration. This provision is to protect the integrity of the monthly and 3-month mean concentration values in situations in which, by intention or otherwise, extra sampling days are concentrated in a period during which ambient concentrations are particularly high or low. The alternate approach is to average all extra and make-up samples (in the given month) taken after each scheduled sampling day ("Day X") and before the next scheduled sampling day (*e.g.*, "Day X + 6", in the case of one-in-six sampling) with the sample taken on Day X (assuming valid data was obtained on the scheduled sampling day), and then averaging these averages to calculate the monthly mean. This approach has the effect of giving approximately equal weight to periods during a month that have equal number of days, regardless of how many samples were actually obtained during the periods, thus mitigating the potential for the monthly mean to be distorted. The first day of scheduled sampling typically will not fall on the first day of the calendar month, and there may be make-up and/or extra samples (in that same calendar month) preceding the first scheduled day of the month. These samples will not be shifted into the previous month's mean concentration, but rather will stay associated with their actual calendar month as follows. Any extra and make-up samples taken in a month before the first scheduled sampling day of the month will be associated with and averaged with the last scheduled sampling day of that same month.

(b) Three-month parameter means are determined by averaging three consecutive monthly means of the same parameter using Equation 2 of this appendix.

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Equation 2

$$\bar{X}_{m1,m2,m3,s} = \frac{1}{n_m} \sum_{i=1}^{n_m} \bar{X}_{m,y,z,s}$$

Where:

$\bar{X}_{m1, m2, m3, s}$ = the 3-month parameter mean for months m1, m2, and m3 for site s; and n_m = the number of monthly means available to be averaged (typically 3, sometimes 1 or 2 if one or two months have no valid daily values); and

$\bar{X}_{m, y, z, s}$ = The mean for month m of the year y (or z) for site s.

(c) Three-month site means are determined from available 3-month parameter means according to the hierarchy established in 2(a) of this appendix.

(d) The site-level Pb design value is the highest valid 3-month site-level mean over the most recent 38-month period (*i.e.*, the most recent 3-year calendar period plus two previous months). Section 4(a) of this appendix explains when the identified design value is itself considered valid for purposes of determining that the NAAQS is met or violated at a site.

[73 FR 67054, Nov. 12, 2008]

APPENDIX S TO PART 50—INTERPRETATION OF THE PRIMARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OXIDES OF NITROGEN (NITROGEN DIOXIDE)

1. GENERAL

(a) This appendix explains the data handling conventions and computations necessary for determining when the primary national ambient air quality standards for oxides of nitrogen as measured by nitrogen dioxide (“NO₂ NAAQS”) specified in 50.11 are met. Nitrogen dioxide (NO₂) is measured in the ambient air by a Federal reference method (FRM) based on appendix F to this part or by a Federal equivalent method (FEM) designated in accordance with part 53 of this chapter. Data handling and computation procedures to be used in making comparisons between reported NO₂ concentrations and the levels of the NO₂ NAAQS are specified in the following sections.

(b) Whether to exclude, retain, or make adjustments to the data affected by exceptional events, including natural events, is determined by the requirements and process deadlines specified in 50.1, 50.14 and 51.930 of this chapter.

(c) The terms used in this appendix are defined as follows:

Annual mean refers to the annual average of all of the 1-hour concentration values as defined in section 5.1 of this appendix.

Daily maximum 1-hour values for NO₂ refers to the maximum 1-hour NO₂ concentration values measured from midnight to midnight (local standard time) that are used in NAAQS computations.

Design values are the metrics (*i.e.*, statistics) that are compared to the NAAQS levels to determine compliance, calculated as specified in section 5 of this appendix. The design values for the primary NAAQS are:

(1) The annual mean value for a monitoring site for one year (referred to as the “annual primary standard design value”).

(2) The 3-year average of annual 98th percentile daily maximum 1-hour values for a monitoring site (referred to as the “1-hour primary standard design value”).

98th percentile daily maximum 1-hour value is the value below which nominally 98 percent of all daily maximum 1-hour concentration values fall, using the ranking and selection method specified in section 5.2 of this appendix.

Quarter refers to a calendar quarter.

Year refers to a calendar year.

2. REQUIREMENTS FOR DATA USED FOR COMPARISONS WITH THE NO₂ NAAQS AND DATA REPORTING CONSIDERATIONS

(a) All valid FRM/FEM NO₂ hourly data required to be submitted to EPA’s Air Quality System (AQS), or otherwise available to EPA, meeting the requirements of part 58 of this chapter including appendices A, C, and E shall be used in design value calculations. Multi-hour average concentration values collected by wet chemistry methods shall not be used.

(b) When two or more NO₂ monitors are operated at a site, the State may in advance designate one of them as the primary monitor. If the State has not made this designation, the Administrator will make the designation, either in advance or retrospectively. Design values will be developed using only the data from the primary monitor, if this results in a valid design value. If data from the primary monitor do not allow the development of a valid design value, data solely from the other monitor(s) will be used in turn to develop a valid design value, if this results in a valid design value. If there are three or more monitors, the order for such comparison of the other monitors will be determined by the Administrator. The Administrator may combine data from different monitors in different years for the purpose of developing a valid 1-hour primary standard design value, if a valid design value cannot be developed solely with the data from a single monitor. However, data from two or more monitors in the same year at the same site will not be combined in an attempt to meet data completeness requirements, except if one monitor has physically replaced another instrument permanently, in

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which case the two instruments will be considered to be the same monitor, or if the State has switched the designation of the primary monitor from one instrument to another during the year.

(c) Hourly NO₂ measurement data shall be reported to AQS in units of parts per billion (ppb), to at most one place after the decimal, with additional digits to the right being truncated with no further rounding.

3. COMPARISONS WITH THE NO₂ NAAQS**3.1 The Annual Primary NO₂ NAAQS**

(a) The annual primary NO₂ NAAQS is met at a site when the valid annual primary standard design value is less than or equal to 53 parts per billion (ppb).

(b) An annual primary standard design value is valid when at least 75 percent of the hours in the year are reported.

(c) An annual primary standard design value based on data that do not meet the completeness criteria stated in section 3.1(b) may also be considered valid with the approval of, or at the initiative of, the Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the valid concentration measurements that are available, and nearby concentrations in determining whether to use such data.

(d) The procedures for calculating the annual primary standard design values are given in section 5.1 of this appendix.

3.2 The 1-hour Primary NO₂ NAAQS

(a) The 1-hour primary NO₂ NAAQS is met at a site when the valid 1-hour primary standard design value is less than or equal to 100 parts per billion (ppb).

(b) An NO₂ 1-hour primary standard design value is valid if it encompasses three consecutive calendar years of complete data. A year meets data completeness requirements when all 4 quarters are complete. A quarter is complete when at least 75 percent of the sampling days for each quarter have complete data. A sampling day has complete data if 75 percent of the hourly concentration values, including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, are reported.

(c) In the case of one, two, or three years that do not meet the completeness requirements of section 3.2(b) of this appendix and thus would normally not be useable for the calculation of a valid 3-year 1-hour primary standard design value, the 3-year 1-hour primary standard design value shall nevertheless be considered valid if one of the following conditions is true.

(i) At least 75 percent of the days in each quarter of each of three consecutive years have at least one reported hourly value, and the design value calculated according to the

procedures specified in section 5.2 is above the level of the primary 1-hour standard.

(ii)(A) A 1-hour primary standard design value that is below the level of the NAAQS can be validated if the substitution test in section 3.2(c)(ii)(B) results in a "test design value" that is below the level of the NAAQS. The test substitutes actual "high" reported daily maximum 1-hour values from the same site at about the same time of the year (specifically, in the same calendar quarter) for unknown values that were not successfully measured. Note that the test is merely diagnostic in nature, intended to confirm that there is a very high likelihood that the original design value (the one with less than 75 percent data capture of hours by day and of days by quarter) reflects the true under-NAAQS-level status for that 3-year period; the result of this data substitution test (the "test design value", as defined in section 3.2(c)(ii)(B)) is not considered the actual design value. For this test, substitution is permitted only if there are at least 200 days across the three matching quarters of the three years under consideration (which is about 75 percent of all possible daily values in those three quarters) for which 75 percent of the hours in the day, including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, have reported concentrations. However, maximum 1-hour values from days with less than 75 percent of the hours reported shall also be considered in identifying the high value to be used for substitution.

(B) *The substitution test is as follows:* Data substitution will be performed in all quarter periods that have less than 75 percent data capture but at least 50 percent data capture, including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator; if any quarter has less than 50 percent data capture then this substitution test cannot be used. Identify for each quarter (e.g., January–March) the highest reported daily maximum 1-hour value for that quarter, excluding State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, looking across those three months of all three years under consideration. All daily maximum 1-hour values from all days in the quarter period shall be considered when identifying this highest value, including days with less than 75 percent data capture. If after substituting the highest non-excluded reported daily maximum 1-hour value for a quarter for as much of the missing daily data in the matching deficient quarter(s) as is needed to make them 100 percent complete, the procedure in section 5.2 yields a recalculated 3-year 1-hour standard "test design value" below the level of the standard, then the 1-hour primary standard design value is deemed to have

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passed the diagnostic test and is valid, and the level of the standard is deemed to have been met in that 3-year period. As noted in section 3.2(c)(i), in such a case, the 3-year design value based on the data actually reported, not the “test design value”, shall be used as the valid design value.

(iii)(A) A 1-hour primary standard design value that is above the level of the NAAQS can be validated if the substitution test in section 3.2(c)(iii)(B) results in a “test design value” that is above the level of the NAAQS. The test substitutes actual “low” reported daily maximum 1-hour values from the same site at about the same time of the year (specifically, in the same three months of the calendar) for unknown values that were not successfully measured. Note that the test is merely diagnostic in nature, intended to confirm that there is a very high likelihood that the original design value (the one with less than 75 percent data capture of hours by day and of days by quarter) reflects the true above-NAAQS-level status for that 3-year period; the result of this data substitution test (the “test design value”, as defined in section 3.2(c)(iii)(B)) is not considered the actual design value. For this test, substitution is permitted only if there are a minimum number of available daily data points from which to identify the low quarter-specific daily maximum 1-hour values, specifically if there are at least 200 days across the three matching quarters of the three years under consideration (which is about 75 percent of all possible daily values in those three quarters) for which 75 percent of the hours in the day have reported concentrations. Only days with at least 75 percent of the hours reported shall be considered in identifying the low value to be used for substitution.

(B) The substitution test is as follows: Data substitution will be performed in all quarter periods that have less than 75 percent data capture. Identify for each quarter (e.g., January-March) the lowest reported daily maximum 1-hour value for that quarter, looking across those three months of all three years under consideration. All daily maximum 1-hour values from all days with at least 75 percent capture in the quarter period shall be considered when identifying this lowest value. If after substituting the lowest reported daily maximum 1-hour value for a quarter for as much of the missing daily data in the matching deficient quarter(s) as is needed to make them 75 percent complete, the procedure in section 5.2 yields a recalculated 3-year 1-hour standard “test design value” above the level of the standard, then the 1-hour primary standard design value is deemed to have passed the diagnostic test and is valid, and the level of the standard is deemed to have been exceeded in that 3-year period. As noted in section 3.2(c)(i), in such a case, the 3-year design value based on the data actually reported,

not the “test design value”, shall be used as the valid design value.

(d) A 1-hour primary standard design value based on data that do not meet the completeness criteria stated in 3.2(b) and also do not satisfy section 3.2(c), may also be considered valid with the approval of, or at the initiative of, the Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the valid concentration measurements that are available, and nearby concentrations in determining whether to use such data.

(e) The procedures for calculating the 1-hour primary standard design values are given in section 5.2 of this appendix.

4. ROUNDING CONVENTIONS

4.1 Rounding Conventions for the Annual Primary NO₂ NAAQS

(a) Hourly NO₂ measurement data shall be reported to AQS in units of parts per billion (ppb), to at most one place after the decimal, with additional digits to the right being truncated with no further rounding.

(b) The annual primary standard design value is calculated pursuant to section 5.1 and then rounded to the nearest whole number or 1 ppb (decimals 0.5 and greater are rounded up to the nearest whole number, and any decimal lower than 0.5 is rounded down to the nearest whole number).

4.2 Rounding Conventions for the 1-hour Primary NO₂ NAAQS

(a) Hourly NO₂ measurement data shall be reported to AQS in units of parts per billion (ppb), to at most one place after the decimal, with additional digits to the right being truncated with no further rounding.

(b) Daily maximum 1-hour values are not rounded.

(c) The 1-hour primary standard design value is calculated pursuant to section 5.2 and then rounded to the nearest whole number or 1 ppb (decimals 0.5 and greater are rounded up to the nearest whole number, and any decimal lower than 0.5 is rounded down to the nearest whole number).

5. CALCULATION PROCEDURES FOR THE PRIMARY NO₂ NAAQS5.1 Procedures for the Annual Primary NO₂ NAAQS

(a) When the data for a site and year meet the data completeness requirements in section 3.1(b) of this appendix, or if the Administrator exercises the discretionary authority in section 3.1(c), the annual mean is simply the arithmetic average of all of the reported 1-hour values.

(b) The annual primary standard design value for a site is the valid annual mean

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rounded according to the conventions in section 4.1.

5.2 Calculation Procedures for the 1-hour Primary NO₂ NAAQS

(a) *Procedure for identifying annual 98th percentile values.* When the data for a particular site and year meet the data completeness requirements in section 3.2(b), or if one of the conditions of section 3.2(c) is met, or if the Administrator exercises the discretionary authority in section 3.2(d), identification of annual 98th percentile value is accomplished as follows.

(i) The annual 98th percentile value for a year is the higher of the two values resulting from the following two procedures.

(1) Procedure 1.

(A) For the year, determine the number of days with at least 75 percent of the hourly values reported including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(B) For the year, from only the days with at least 75 percent of the hourly values reported, select from each day the maximum hourly value excluding State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(C) Sort all these daily maximum hourly values from a particular site and year by descending value. (For example: $x[1]$, $x[2]$, $x[3]$, * * *, $x[n]$). In this case, $x[1]$ is the largest number and $x[n]$ is the smallest value.) The 98th percentile is determined from this sorted series of daily values which is ordered from the highest to the lowest number. Using the left column of Table 1, determine the appropriate range (*i.e.*, row) for the annual number of days with valid data for year y (cn_y) as determined from step (A). The corresponding “ n ” value in the right column identifies the rank of the annual 98th percentile value in the descending sorted list of daily site values for year y . Thus, $P_{0.98, y}$ = the n th largest value.

(2) Procedure 2.

(A) For the year, determine the number of days with at least one hourly value reported including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(B) For the year, from all the days with at least one hourly value reported, select from each day the maximum hourly value excluding State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(C) Sort all these daily maximum values from a particular site and year by descending value. (For example: $x[1]$, $x[2]$, $x[3]$, * * *, $x[n]$). In this case, $x[1]$ is the largest number and $x[n]$ is the smallest value.) The 98th percentile is determined from this sorted series of daily values which is ordered from the highest to the lowest number.

Using the left column of Table 1, determine the appropriate range (*i.e.*, row) for the annual number of days with valid data for year y (cn_y) as determined from step (A). The corresponding “ n ” value in the right column identifies the rank of the annual 98th percentile value in the descending sorted list of daily site values for year y . Thus, $P_{0.98, y}$ = the n th largest value.

(b) The 1-hour primary standard design value for a site is mean of the three annual 98th percentile values, rounded according to the conventions in section 4.

TABLE 1

Annual number of days with valid data for year “y” (cn_y)	$P_{0.98, y}$ is the n th maximum value of the year, where n is the listed number
1–50	1
51–100	2
101–150	3
151–200	4
201–250	5
251–300	6
301–350	7
351–366	8

[75 FR 6532, Feb. 9, 2010]

APPENDIX T TO PART 50—INTERPRETATION OF THE PRIMARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OXIDES OF SULFUR (SULFUR DIOXIDE)

1. GENERAL

(a) This appendix explains the data handling conventions and computations necessary for determining when the primary national ambient air quality standards for Oxides of Sulfur as measured by Sulfur Dioxide (“SO₂ NAAQS”) specified in § 50.17 are met at an ambient air quality monitoring site. Sulfur Dioxide (SO₂) is measured in the ambient air by a Federal reference method (FRM) based on appendix A or A-1 to this part or by a Federal equivalent method (FEM) designated in accordance with part 53 of this chapter. Data handling and computation procedures to be used in making comparisons between reported SO₂ concentrations and the levels of the SO₂ NAAQS are specified in the following sections.

(b) Decisions to exclude, retain, or make adjustments to the data affected by exceptional events, including natural events, are made according to the requirements and process deadlines specified in §§ 50.1, 50.14 and 51.930 of this chapter.

(c) The terms used in this appendix are defined as follows:

Daily maximum 1-hour values for SO₂ refers to the maximum 1-hour SO₂ concentration

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values measured from midnight to midnight (local standard time) that are used in NAAQS computations.

Design values are the metrics (*i.e.*, statistics) that are compared to the NAAQS levels to determine compliance, calculated as specified in section 5 of this appendix. The design value for the primary 1-hour NAAQS is the 3-year average of annual 99th percentile daily maximum 1-hour values for a monitoring site (referred to as the “1-hour primary standard design value”).

99th percentile daily maximum 1-hour value is the value below which nominally 99 percent of all daily maximum 1-hour concentration values fall, using the ranking and selection method specified in section 5 of this appendix.

Pollutant Occurrence Code (POC) refers to a numerical code (1, 2, 3, *etc.*) used to distinguish the data from two or more monitors for the same parameter at a single monitoring site.

Quarter refers to a calendar quarter.

Year refers to a calendar year.

2. REQUIREMENTS FOR DATA USED FOR COMPARISONS WITH THE SO₂ NAAQS AND DATA REPORTING CONSIDERATIONS

(a) All valid FRM/FEM SO₂ hourly data required to be submitted to EPA’s Air Quality System (AQS), or otherwise available to EPA, meeting the requirements of part 58 of this chapter including appendices A, C, and E shall be used in design value calculations. Multi-hour average concentration values collected by wet chemistry methods shall not be used.

(b) Data from two or more monitors from the same year at the same site reported to EPA under distinct Pollutant Occurrence Codes shall not be combined in an attempt to meet data completeness requirements. The Administrator will combine annual 99th percentile daily maximum concentration values from different monitors in different years, selected as described here, for the purpose of developing a valid 1-hour primary standard design value. If more than one of the monitors meets the completeness requirement for all four quarters of a year, the steps specified in section 5(a) of this appendix shall be applied to the data from the monitor with the highest average of the four quarterly completeness values to derive a valid annual 99th percentile daily maximum concentration. If no monitor is complete for all four quarters in a year, the steps specified in section 3(c) and 5(a) of this appendix shall be applied to the data from the monitor with the highest average of the four quarterly completeness values in an attempt to derive a valid annual 99th percentile daily maximum concentration. This paragraph does not prohibit a monitoring agency from making a local designation of one physical monitor as the primary monitor for a Pollutant Occur-

rence Code and substituting the 1-hour data from a second physical monitor whenever a valid concentration value is not obtained from the primary monitor; if a monitoring agency substitutes data in this manner, each substituted value must be accompanied by an AQS qualifier code indicating that substitution with a value from a second physical monitor has taken place.

(c) Hourly SO₂ measurement data shall be reported to AQS in units of parts per billion (ppb), to at most one place after the decimal, with additional digits to the right being truncated with no further rounding.

3. COMPARISONS WITH THE 1-HOUR PRIMARY SO₂ NAAQS

(a) The 1-hour primary SO₂ NAAQS is met at an ambient air quality monitoring site when the valid 1-hour primary standard design value is less than or equal to 75 parts per billion (ppb).

(b) An SO₂ 1-hour primary standard design value is valid if it encompasses three consecutive calendar years of complete data. A year meets data completeness requirements when all 4 quarters are complete. A quarter is complete when at least 75 percent of the sampling days for each quarter have complete data. A sampling day has complete data if 75 percent of the hourly concentration values, including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, are reported.

(c) In the case of one, two, or three years that do not meet the completeness requirements of section 3(b) of this appendix and thus would normally not be useable for the calculation of a valid 3-year 1-hour primary standard design value, the 3-year 1-hour primary standard design value shall nevertheless be considered valid if one of the following conditions is true.

(i) At least 75 percent of the days in each quarter of each of three consecutive years have at least one reported hourly value, and the design value calculated according to the procedures specified in section 5 is above the level of the primary 1-hour standard.

(ii)(A) A 1-hour primary standard design value that is equal to or below the level of the NAAQS can be validated if the substitution test in section 3(c)(ii)(B) results in a “test design value” that is below the level of the NAAQS. The test substitutes actual “high” reported daily maximum 1-hour values from the same site at about the same time of the year (specifically, in the same calendar quarter) for unknown values that were not successfully measured. *Note* that the test is merely diagnostic in nature, intended to confirm that there is a very high likelihood that the original design value (the one with less than 75 percent data capture of hours by day and of days by quarter) reflects the true under-NAAQS-level status for that

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3-year period; the result of this data substitution test (the "test design value", as defined in section 3(c)(ii)(B)) is not considered the actual design value. For this test, substitution is permitted only if there are at least 200 days across the three matching quarters of the three years under consideration (which is about 75 percent of all possible daily values in those three quarters) for which 75 percent of the hours in the day, including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, have reported concentrations. However, maximum 1-hour values from days with less than 75 percent of the hours reported shall also be considered in identifying the high value to be used for substitution.

(B) The substitution test is as follows: Data substitution will be performed in all quarter periods that have less than 75 percent data capture but at least 50 percent data capture, including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator; if any quarter has less than 50 percent data capture then this substitution test cannot be used. Identify for each quarter (e.g., January–March) the highest reported daily maximum 1-hour value for that quarter, excluding State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, looking across those three months of all three years under consideration. All daily maximum 1-hour values from all days in the quarter period shall be considered when identifying this highest value, including days with less than 75 percent data capture. If after substituting the highest reported daily maximum 1-hour value for a quarter for as much of the missing daily data in the matching deficient quarter(s) as is needed to make them 100 percent complete, the procedure in section 5 yields a recalculated 3-year 1-hour standard "test design value" less than or equal to the level of the standard, then the 1-hour primary standard design value is deemed to have passed the diagnostic test and is valid, and the level of the standard is deemed to have been met in that 3-year period. As noted in section 3(c)(i), in such a case, the 3-year design value based on the data actually reported, not the "test design value", shall be used as the valid design value.

(iii)(A) A 1-hour primary standard design value that is above the level of the NAAQS can be validated if the substitution test in section 3(c)(iii)(B) results in a "test design value" that is above the level of the NAAQS. The test substitutes actual "low" reported daily maximum 1-hour values from the same site at about the same time of the year (specifically, in the same three months of the calendar) for unknown hourly values that were not successfully measured. Note that

the test is merely diagnostic in nature, intended to confirm that there is a very high likelihood that the original design value (the one with less than 75 percent data capture of hours by day and of days by quarter) reflects the true above-NAAQS-level status for that 3-year period; the result of this data substitution test (the "test design value", as defined in section 3(c)(iii)(B)) is not considered the actual design value. For this test, substitution is permitted only if there are a minimum number of available daily data points from which to identify the low quarter-specific daily maximum 1-hour values, specifically if there are at least 200 days across the three matching quarters of the three years under consideration (which is about 75 percent of all possible daily values in those three quarters) for which 75 percent of the hours in the day have reported concentrations. Only days with at least 75 percent of the hours reported shall be considered in identifying the low value to be used for substitution.

(B) The substitution test is as follows: Data substitution will be performed in all quarter periods that have less than 75 percent data capture. Identify for each quarter (e.g., January–March) the lowest reported daily maximum 1-hour value for that quarter, looking across those three months of all three years under consideration. All daily maximum 1-hour values from all days with at least 75 percent capture in the quarter period shall be considered when identifying this lowest value. If after substituting the lowest reported daily maximum 1-hour value for a quarter for as much of the missing daily data in the matching deficient quarter(s) as is needed to make them 75 percent complete, the procedure in section 5 yields a recalculated 3-year 1-hour standard "test design value" above the level of the standard, then the 1-hour primary standard design value is deemed to have passed the diagnostic test and is valid, and the level of the standard is deemed to have been exceeded in that 3-year period. As noted in section 3(c)(i), in such a case, the 3-year design value based on the data actually reported, not the "test design value", shall be used as the valid design value.

(d) A 1-hour primary standard design value based on data that do not meet the completeness criteria stated in 3(b) and also do not satisfy section 3(c), may also be considered valid with the approval of, or at the initiative of, the Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the valid concentration measurements that are available, and nearby concentrations in determining whether to use such data.

(e) The procedures for calculating the 1-hour primary standard design values are given in section 5 of this appendix.

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4. ROUNDING CONVENTIONS FOR THE 1-HOUR PRIMARY SO₂ NAAQS

- (a) Hourly SO₂ measurement data shall be reported to AQS in units of parts per billion (ppb), to at most one place after the decimal, with additional digits to the right being truncated with no further rounding.
- (b) Daily maximum 1-hour values and therefore the annual 99th percentile of those daily values are not rounded.
- (c) The 1-hour primary standard design value is calculated pursuant to section 5 and then rounded to the nearest whole number or 1 ppb (decimals 0.5 and greater are rounded up to the nearest whole number, and any decimal lower than 0.5 is rounded down to the nearest whole number).

5. CALCULATION PROCEDURES FOR THE 1-HOUR PRIMARY SO₂ NAAQS

(a) *Procedure for identifying annual 99th percentile values.* When the data for a particular ambient air quality monitoring site and year meet the data completeness requirements in section 3(b), or if one of the conditions of section 3(c) is met, or if the Administrator exercises the discretionary authority in section 3(d), identification of annual 99th percentile value is accomplished as follows.

(i) The annual 99th percentile value for a year is the higher of the two values resulting from the following two procedures.

(1) *Procedure 1.* For the year, determine the number of days with at least 75 percent of the hourly values reported.

(A) For the year, determine the number of days with at least 75 percent of the hourly values reported including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(B) For the year, from only the days with at least 75 percent of the hourly values reported, select from each day the maximum hourly value excluding State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(C) Sort all these daily maximum hourly values from a particular site and year by descending value. (For example: (x[1], x[2], x[3], * * *, x[n]). In this case, x[1] is the largest number and x[n] is the smallest value.) The 99th percentile is determined from this sorted series of daily values which is ordered from the highest to the lowest number. Using the left column of Table 1, determine the appropriate range (*i.e.*, row) for the annual number of days with valid data for year y (cn_y). The corresponding “n” value in the right column identifies the rank of the annual 99th percentile value in the descending sorted list of daily site values for year y. Thus, P_{0.99, y} = the nth largest value.

(2) *Procedure 2.* For the year, determine the number of days with at least one hourly value reported.

(A) For the year, determine the number of days with at least one hourly value reported including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(B) For the year, from all the days with at least one hourly value reported, select from each day the maximum hourly value excluding State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator.

(C) Sort all these daily maximum values from a particular site and year by descending value. (For example: (x[1], x[2], x[3], * * *, x[n]). In this case, x[1] is the largest number and x[n] is the smallest value.) The 99th percentile is determined from this sorted series of daily values which is ordered from the highest to the lowest number. Using the left column of Table 1, determine the appropriate range (*i.e.*, row) for the annual number of days with valid data for year y (cn_y). The corresponding “n” value in the right column identifies the rank of the annual 99th percentile value in the descending sorted list of daily site values for year y. Thus, P_{0.99, y} = the nth largest value.

(b) The 1-hour primary standard design value for an ambient air quality monitoring site is mean of the three annual 99th percentile values, rounded according to the conventions in section 4.

TABLE 1

Annual number of days with valid data for year “y” (cn _y)	P _{0.99, y} is the nth maximum value of the year, where n is the listed number
1–100	1
101–200	2
201–300	3
301–366	4

[75 FR 35595, June 23, 2010]

APPENDIX U TO PART 50—INTERPRETATION OF THE PRIMARY AND SECONDARY NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE

1. GENERAL

(a) This appendix explains the data handling conventions and computations necessary for determining whether the primary and secondary national ambient air quality standards (NAAQS) for ozone (O₃) specified in §50.19 are met at an ambient O₃ air quality monitoring site. Data reporting, data handling, and computation procedures to be used in making comparisons between reported O₃ concentrations and the levels of the O₃ NAAQS are specified in the following sections.

(b) Whether to exclude or retain the data affected by exceptional events is determined

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by the requirements under §§50.1, 50.14 and 51.930.

(c) The terms used in this appendix are defined as follows:

8-hour average refers to the moving average of eight consecutive hourly O₃ concentrations measured at a site, as explained in section 3 of this appendix.

Annual fourth-highest daily maximum refers to the fourth highest value measured at a site during a year.

Collocated monitors refers to the instance of two or more O₃ monitors operating at the same physical location.

Daily maximum 8-hour average O₃ concentration refers to the maximum calculated 8-hour average value measured at a site on a particular day, as explained in section 3 of this appendix.

Design value refers to the metric (*i.e.*, statistic) that is used to compare ambient O₃ concentration data measured at a site to the NAAQS in order to determine compliance, as explained in section 4 of this appendix.

Minimum data completeness requirements refer to the amount of data that a site is required to collect in order to make a valid determination that the site is meeting the NAAQS.

Monitor refers to a physical instrument used to measure ambient O₃ concentrations.

O₃ monitoring season refers to the span of time within a year when individual states are required to measure ambient O₃ concentrations, as listed in Appendix D to part 58 of this chapter.

Site refers to an ambient O₃ air quality monitoring site.

Site data record refers to the set of hourly O₃ concentration data collected at a site for use in comparisons with the NAAQS.

Year refers to calendar year.

2. SELECTION OF DATA FOR USE IN COMPARISONS WITH THE PRIMARY AND SECONDARY OZONE NAAQS

(a) All valid hourly O₃ concentration data collected using a federal reference method specified in Appendix D to this part, or an equivalent method designated in accordance with part 53 of this chapter, meeting all applicable requirements in part 58 of this chapter, and submitted to EPA's Air Quality System (AQS) database or otherwise available to EPA, shall be used in design value calculations.

(b) All design value calculations shall be implemented on a site-level basis. If data are reported to EPA from collocated monitors, those data shall be combined into a single site data record as follows:

(i) The monitoring agency shall designate one monitor as the primary monitor for the site.

(ii) Hourly O₃ concentration data from a secondary monitor shall be substituted into the site data record whenever a valid hourly

O₃ concentration is not obtained from the primary monitor. In the event that hourly O₃ concentration data are available for more than one secondary monitor, the hourly concentration values from the secondary monitors shall be averaged and substituted into the site data record.

(c) In certain circumstances, including but not limited to site closures or relocations, data from two nearby sites may be combined into a single site data record for the purpose of calculating a valid design value. The appropriate Regional Administrator may approve such combinations after taking into consideration factors such as distance between sites, spatial and temporal patterns in air quality, local emissions and meteorology, jurisdictional boundaries, and terrain features.

3. DATA REPORTING AND DATA HANDLING CONVENTIONS

(a) Hourly average O₃ concentrations shall be reported in parts per million (ppm) to the third decimal place, with additional digits to the right of the third decimal place truncated. Each hour shall be identified using local standard time (LST).

(b) Moving 8-hour averages shall be computed from the hourly O₃ concentration data for each hour of the year and shall be stored in the first, or start, hour of the 8-hour period. An 8-hour average shall be considered valid if at least 6 of the hourly concentrations for the 8-hour period are available. In the event that only 6 or 7 hourly concentrations are available, the 8-hour average shall be computed on the basis of the hours available, using 6 or 7, respectively, as the divisor. In addition, in the event that 5 or fewer hourly concentrations are available, the 8-hour average shall be considered valid if, after substituting zero for the missing hourly concentrations, the resulting 8-hour average is greater than the level of the NAAQS, or equivalently, if the sum of the available hourly concentrations is greater than 0.567 ppm. The 8-hour averages shall be reported to three decimal places, with additional digits to the right of the third decimal place truncated. Hourly O₃ concentrations that have been approved under §50.14 as having been affected by exceptional events shall be counted as missing or unavailable in the calculation of 8-hour averages.

(c) The daily maximum 8-hour average O₃ concentration for a given day is the highest of the 17 consecutive 8-hour averages beginning with the 8-hour period from 7:00 a.m. to 3:00 p.m. and ending with the 8-hour period from 11:00 p.m. to 7:00 a.m. the following day (*i.e.*, the 8-hour averages for 7:00 a.m. to 11:00 p.m.). Daily maximum 8-hour average O₃ concentrations shall be determined for each day with ambient O₃ monitoring data, including days outside the O₃ monitoring season if those data are available.

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(d) A daily maximum 8-hour average O₃ concentration shall be considered valid if valid 8-hour averages are available for at least 13 of the 17 consecutive 8-hour periods starting from 7:00 a.m. to 11:00 p.m. In addition, in the event that fewer than 13 valid 8-hour averages are available, a daily maximum 8-hour average O₃ concentration shall also be considered valid if it is greater than the level of the NAAQS. Hourly O₃ concentrations that have been approved under §50.14 as having been affected by exceptional events shall be included when determining whether these criteria have been met.

(e) The primary and secondary O₃ design value statistic is the annual fourth-highest daily maximum 8-hour O₃ concentration, averaged over three years, expressed in ppm. The fourth-highest daily maximum 8-hour O₃ concentration for each year shall be determined based only on days meeting the validity criteria in 3(d). The 3-year average shall be computed using the three most recent, consecutive years of ambient O₃ monitoring data. Design values shall be reported in ppm to three decimal places, with additional digits to the right of the third decimal place truncated.

4. COMPARISONS WITH THE PRIMARY AND SECONDARY OZONE NAAQS

(a) The primary and secondary national ambient air quality standards for O₃ are met

at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentration (*i.e.*, the design value) is less than or equal to 0.070 ppm.

(b) A design value greater than the level of the NAAQS is always considered to be valid. A design value less than or equal to the level of the NAAQS must meet minimum data completeness requirements in order to be considered valid. These requirements are met for a 3-year period at a site if valid daily maximum 8-hour average O₃ concentrations are available for at least 90% of the days within the O₃ monitoring season, on average, for the 3-year period, with a minimum of at least 75% of the days within the O₃ monitoring season in any one year.

(c) When computing whether the minimum data completeness requirements have been met, meteorological or ambient data may be sufficient to demonstrate that meteorological conditions on missing days were not conducive to concentrations above the level of the NAAQS. Missing days assumed less than the level of the NAAQS are counted for the purpose of meeting the minimum data completeness requirements, subject to the approval of the appropriate Regional Administrator.

(d) Comparisons with the primary and secondary O₃ NAAQS are demonstrated by examples 1 and 2 as follows:

EXAMPLE 1—SITE MEETING THE PRIMARY AND SECONDARY O₃ NAAQS

Year	Percent valid days within O ₃ monitoring season (Data completeness)	1st highest daily max 8-hour O ₃ (ppm)	2nd highest daily max 8-hour O ₃ (ppm)	3rd highest daily max 8-hour O ₃ (ppm)	4th highest daily max 8-hour O ₃ (ppm)	5th highest daily max 8-hour O ₃ (ppm)
2014	100	0.082	0.080	0.075	0.069	0.068
2015	96	0.074	0.073	0.065	0.062	0.060
2016	98	0.070	0.069	0.067	0.066	0.060
Average	98	.....	.....	.....	0.065	.....

As shown in Example 1, this site meets the primary and secondary O₃ NAAQS because the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentrations (*i.e.*, 0.065666 ppm, truncated to 0.065 ppm) is less than or equal to 0.070 ppm. The minimum data completeness require-

ments are also met (*i.e.*, design value is considered valid) because the average percent of days within the O₃ monitoring season with valid ambient monitoring data is greater than 90%, and no single year has less than 75% data completeness.

EXAMPLE 2—SITE FAILING TO MEET THE PRIMARY AND SECONDARY O₃ NAAQS

Year	Percent valid days within O ₃ monitoring season (Data completeness)	1st highest daily max 8-hour O ₃ (ppm)	2nd highest daily max 8-hour O ₃ (ppm)	3rd highest daily max 8-hour O ₃ (ppm)	4th highest daily max 8-hour O ₃ (ppm)	5th highest daily max 8-hour O ₃ (ppm)
2014	96	0.085	0.080	0.079	0.074	0.072
2015	74	0.084	0.083	0.072	0.071	0.068
2016	98	0.083	0.081	0.081	0.075	0.074
Average	89	0.073

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As shown in Example 2, this site fails to meet the primary and secondary O₃ NAAQS because the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentrations (*i.e.*, 0.073333 ppm, truncated to 0.073 ppm) is greater than 0.070 ppm, even though the annual data completeness is less than 75% in one year and the 3-year average data completeness is less than 90% (*i.e.*, design value would not otherwise be considered valid).

[80 FR 65458, Oct. 26, 2015]

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

Subpart A—Air Emissions Reporting Requirements

GENERAL INFORMATION FOR INVENTORY PREPARERS

Sec.

- 51.1 Who is responsible for actions described in this subpart?
- 51.5 What tools are available to help prepare and report emissions data?
- 51.10 [Reserved]

SPECIFIC REPORTING REQUIREMENTS

- 51.15 What data does my state need to report to EPA?
- 51.20 What are the emission thresholds that separate point and nonpoint sources?
- 51.25 What geographic area must my state's inventory cover?
- 51.30 When does my state report which emissions data to EPA?
- 51.35 How can my state equalize the emission inventory effort from year to year?
- 51.40 In what form and format should my state report the data to EPA?
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- 51.50 What definitions apply to this subpart?

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APPENDIX B TO SUBPART A OF PART 51 [RESERVED]

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Subpart G—Control Strategy

- 51.110 Attainment and maintenance of national standards.
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- 51.150 Classification of regions for episode plans.
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- 51.160 Legally enforceable procedures.
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- 51.166 Prevention of significant deterioration of air quality.

Subpart J—Ambient Air Quality Surveillance

- 51.190 Ambient air quality monitoring requirements.

Attachment 6

other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95-95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95-95 [this chapter], see section 406(b) of Pub. L. 95-95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

TERMINATION OF ADVISORY COMMITTEES

Advisory committees established after Jan. 5, 1973, to terminate not later than the expiration of the 2-year period beginning on the date of their establishment, unless, in the case of a committee established by the President or an officer of the Federal Government, such committee is renewed by appropriate action prior to the expiration of such 2-year period, or in the case of a committee established by the Congress, its duration is otherwise provided for by law. See section 14 of Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 776, set out in the Appendix to Title 5, Government Organization and Employees.

ROLE OF SECONDARY STANDARDS

Pub. L. 101-549, title VIII, §817, Nov. 15, 1990, 104 Stat. 2697, provided that:

“(a) REPORT.—The Administrator shall request the National Academy of Sciences to prepare a report to the Congress on the role of national secondary ambient air quality standards in protecting welfare and the environment. The report shall:

“(1) include information on the effects on welfare and the environment which are caused by ambient concentrations of pollutants listed pursuant to section 108 [42 U.S.C. 7408] and other pollutants which may be listed;

“(2) estimate welfare and environmental costs incurred as a result of such effects;

“(3) examine the role of secondary standards and the State implementation planning process in preventing such effects;

“(4) determine ambient concentrations of each such pollutant which would be adequate to protect welfare and the environment from such effects;

“(5) estimate the costs and other impacts of meeting secondary standards; and

“(6) consider other means consistent with the goals and objectives of the Clean Air Act [42 U.S.C. 7401 et seq.] which may be more effective than secondary standards in preventing or mitigating such effects.

“(b) SUBMISSION TO CONGRESS; COMMENTS; AUTHORIZATION.—(1) The report shall be transmitted to the Congress not later than 3 years after the date of enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990].

“(2) At least 90 days before issuing a report the Administrator shall provide an opportunity for public comment on the proposed report. The Administrator shall include in the final report a summary of the comments received on the proposed report.

“(3) There are authorized to be appropriated such sums as are necessary to carry out this section.”

§ 7410. State implementation plans for national primary and secondary ambient air quality standards

(a) Adoption of plan by State; submission to Administrator; content of plan; revision; new sources; indirect source review program; supplemental or intermittent control systems

(1) Each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator, within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) under section 7409 of this title for any air pollut-

ant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(2) Each implementation plan submitted by a State under this chapter shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—

(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter;

(B) provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to—

(i) monitor, compile, and analyze data on ambient air quality, and

(ii) upon request, make such data available to the Administrator;

(C) include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D;

(D) contain adequate provisions—

(i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—

(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or

(II) interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deterioration of air quality or to protect visibility,

(ii) insuring compliance with the applicable requirements of sections 7426 and 7415 of this title (relating to interstate and international pollution abatement);

(E) provide (i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional

agency designated by the State or general purpose local governments for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof), (ii) requirements that the State comply with the requirements respecting State boards under section 7428 of this title, and (iii) necessary assurances that, where the State has relied on a local or regional government, agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision;

(F) require, as may be prescribed by the Administrator—

(i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources,

(ii) periodic reports on the nature and amounts of emissions and emissions-related data from such sources, and

(iii) correlation of such reports by the State agency with any emission limitations or standards established pursuant to this chapter, which reports shall be available at reasonable times for public inspection;

(G) provide for authority comparable to that in section 7603 of this title and adequate contingency plans to implement such authority;

(H) provide for revision of such plan—

(i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard, and

(ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this chapter;

(I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D (relating to nonattainment areas);

(J) meet the applicable requirements of section 7421 of this title (relating to consultation), section 7427 of this title (relating to public notification), and part C (relating to prevention of significant deterioration of air quality and visibility protection);

(K) provide for—

(i) the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and

(ii) the submission, upon request, of data related to such air quality modeling to the Administrator;

(L) require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this chapter, a fee sufficient to cover—

(i) the reasonable costs of reviewing and acting upon any application for such a permit, and

(ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action),

until such fee requirement is superseded with respect to such sources by the Administrator's approval of a fee program under subchapter V; and

(M) provide for consultation and participation by local political subdivisions affected by the plan.

(3)(A) Repealed. Pub. L. 101-549, title I, § 101(d)(1), Nov. 15, 1990, 104 Stat. 2409.

(B) As soon as practicable, the Administrator shall, consistent with the purposes of this chapter and the Energy Supply and Environmental Coordination Act of 1974 [15 U.S.C. 791 et seq.], review each State's applicable implementation plans and report to the State on whether such plans can be revised in relation to fuel burning stationary sources (or persons supplying fuel to such sources) without interfering with the attainment and maintenance of any national ambient air quality standard within the period permitted in this section. If the Administrator determines that any such plan can be revised, he shall notify the State that a plan revision may be submitted by the State. Any plan revision which is submitted by the State shall, after public notice and opportunity for public hearing, be approved by the Administrator if the revision relates only to fuel burning stationary sources (or persons supplying fuel to such sources), and the plan as revised complies with paragraph (2) of this subsection. The Administrator shall approve or disapprove any revision no later than three months after its submission.

(C) Neither the State, in the case of a plan (or portion thereof) approved under this subsection, nor the Administrator, in the case of a plan (or portion thereof) promulgated under subsection (c), shall be required to revise an applicable implementation plan because one or more exemptions under section 7418 of this title (relating to Federal facilities), enforcement orders under section 7413(d)¹ of this title, suspensions under subsection (f) or (g) (relating to temporary energy or economic authority), orders under section 7419 of this title (relating to primary nonferrous smelters), or extensions of compliance in decrees entered under section 7413(e)¹ of this title (relating to iron- and steel-producing operations) have been granted, if such plan would have met the requirements of this section if no such exemptions, orders, or extensions had been granted.

(4) Repealed. Pub. L. 101-549, title I, § 101(d)(2), Nov. 15, 1990, 104 Stat. 2409.

¹ See References in Text note below.

(5)(A)(i) Any State may include in a State implementation plan, but the Administrator may not require as a condition of approval of such plan under this section, any indirect source review program. The Administrator may approve and enforce, as part of an applicable implementation plan, an indirect source review program which the State chooses to adopt and submit as part of its plan.

(ii) Except as provided in subparagraph (B), no plan promulgated by the Administrator shall include any indirect source review program for any air quality control region, or portion thereof.

(iii) Any State may revise an applicable implementation plan approved under this subsection to suspend or revoke any such program included in such plan, provided that such plan meets the requirements of this section.

(B) The Administrator shall have the authority to promulgate, implement and enforce regulations under subsection (c) respecting indirect source review programs which apply only to federally assisted highways, airports, and other major federally assisted indirect sources and federally owned or operated indirect sources.

(C) For purposes of this paragraph, the term "indirect source" means a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and other facilities subject to any measure for management of parking supply (within the meaning of subsection (c)(2)(D)(ii)), including regulation of existing off-street parking but such term does not include new or existing on-street parking. Direct emissions sources or facilities at, within, or associated with, any indirect source shall not be deemed indirect sources for the purpose of this paragraph.

(D) For purposes of this paragraph the term "indirect source review program" means the facility-by-facility review of indirect sources of air pollution, including such measures as are necessary to assure, or assist in assuring, that a new or modified indirect source will not attract mobile sources of air pollution, the emissions from which would cause or contribute to air pollution concentrations—

(i) exceeding any national primary ambient air quality standard for a mobile source-related air pollutant after the primary standard attainment date, or

(ii) preventing maintenance of any such standard after such date.

(E) For purposes of this paragraph and paragraph (2)(B), the term "transportation control measure" does not include any measure which is an "indirect source review program".

(6) No State plan shall be treated as meeting the requirements of this section unless such plan provides that in the case of any source which uses a supplemental, or intermittent control system for purposes of meeting the requirements of an order under section 7413(d)¹ of this title or section 7419 of this title (relating to primary nonferrous smelter orders), the owner or operator of such source may not temporarily reduce the pay of any employee by reason of the use of such supplemental or intermittent or other dispersion dependent control system.

(b) Extension of period for submission of plans

The Administrator may, wherever he determines necessary, extend the period for submission of any plan or portion thereof which implements a national secondary ambient air quality standard for a period not to exceed 18 months from the date otherwise required for submission of such plan.

(c) Preparation and publication by Administrator of proposed regulations setting forth implementation plan; transportation regulations study and report; parking surcharge; suspension authority; plan implementation

(1) The Administrator shall promulgate a Federal implementation plan at any time within 2 years after the Administrator—

(A) finds that a State has failed to make a required submission or finds that the plan or plan revision submitted by the State does not satisfy the minimum criteria established under subsection (k)(1)(A), or

(B) disapproves a State implementation plan submission in whole or in part,

unless the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such Federal implementation plan.

(2)(A) Repealed. Pub. L. 101-549, title I, § 101(d)(3)(A), Nov. 15, 1990, 104 Stat. 2409.

(B) No parking surcharge regulation may be required by the Administrator under paragraph (1) of this subsection as a part of an applicable implementation plan. All parking surcharge regulations previously required by the Administrator shall be void upon June 22, 1974. This subparagraph shall not prevent the Administrator from approving parking surcharges if they are adopted and submitted by a State as part of an applicable implementation plan. The Administrator may not condition approval of any implementation plan submitted by a State on such plan's including a parking surcharge regulation.

(C) Repealed. Pub. L. 101-549, title I, § 101(d)(3)(B), Nov. 15, 1990, 104 Stat. 2409.

(D) For purposes of this paragraph—

(i) The term "parking surcharge regulation" means a regulation imposing or requiring the imposition of any tax, surcharge, fee, or other charge on parking spaces, or any other area used for the temporary storage of motor vehicles.

(ii) The term "management of parking supply" shall include any requirement providing that any new facility containing a given number of parking spaces shall receive a permit or other prior approval, issuance of which is to be conditioned on air quality considerations.

(iii) The term "preferential bus/carpool lane" shall include any requirement for the setting aside of one or more lanes of a street or highway on a permanent or temporary basis for the exclusive use of buses or carpools, or both.

(E) No standard, plan, or requirement, relating to management of parking supply or preferential bus/carpool lanes shall be promulgated after June 22, 1974, by the Administrator pursuant to this section, unless such promulgation has been subjected to at least one public hearing

which has been held in the area affected and for which reasonable notice has been given in such area. If substantial changes are made following public hearings, one or more additional hearings shall be held in such area after such notice.

(3) Upon application of the chief executive officer of any general purpose unit of local government, if the Administrator determines that such unit has adequate authority under State or local law, the Administrator may delegate to such unit the authority to implement and enforce within the jurisdiction of such unit any part of a plan promulgated under this subsection. Nothing in this paragraph shall prevent the Administrator from implementing or enforcing any applicable provision of a plan promulgated under this subsection.

(4) Repealed. Pub. L. 101-549, title I, § 101(d)(3)(C), Nov. 15, 1990, 104 Stat. 2409.

(5)(A) Any measure in an applicable implementation plan which requires a toll or other charge for the use of a bridge located entirely within one city shall be eliminated from such plan by the Administrator upon application by the Governor of the State, which application shall include a certification by the Governor that he will revise such plan in accordance with subparagraph (B).

(B) In the case of any applicable implementation plan with respect to which a measure has been eliminated under subparagraph (A), such plan shall, not later than one year after August 7, 1977, be revised to include comprehensive measures to:

(i) establish, expand, or improve public transportation measures to meet basic transportation needs, as expeditiously as is practicable; and

(ii) implement transportation control measures necessary to attain and maintain national ambient air quality standards,

and such revised plan shall, for the purpose of implementing such comprehensive public transportation measures, include requirements to use (insofar as is necessary) Federal grants, State or local funds, or any combination of such grants and funds as may be consistent with the terms of the legislation providing such grants and funds. Such measures shall, as a substitute for the tolls or charges eliminated under subparagraph (A), provide for emissions reductions equivalent to the reductions which may reasonably be expected to be achieved through the use of the tolls or charges eliminated.

(C) Any revision of an implementation plan for purposes of meeting the requirements of subparagraph (B) shall be submitted in coordination with any plan revision required under part D.

(d), (e) Repealed. Pub. L. 101-549, title I, § 101(d)(4), (5), Nov. 15, 1990, 104 Stat. 2409

(f) National or regional energy emergencies; determination by President

(1) Upon application by the owner or operator of a fuel burning stationary source, and after notice and opportunity for public hearing, the Governor of the State in which such source is located may petition the President to determine that a national or regional energy emergency exists of such severity that—

(A) a temporary suspension of any part of the applicable implementation plan or of any requirement under section 7651j of this title (concerning excess emissions penalties or offsets) may be necessary, and

(B) other means of responding to the energy emergency may be inadequate.

Such determination shall not be delegable by the President to any other person. If the President determines that a national or regional energy emergency of such severity exists, a temporary emergency suspension of any part of an applicable implementation plan or of any requirement under section 7651j of this title (concerning excess emissions penalties or offsets) adopted by the State may be issued by the Governor of any State covered by the President's determination under the condition specified in paragraph (2) and may take effect immediately.

(2) A temporary emergency suspension under this subsection shall be issued to a source only if the Governor of such State finds that—

(A) there exists in the vicinity of such source a temporary energy emergency involving high levels of unemployment or loss of necessary energy supplies for residential dwellings; and

(B) such unemployment or loss can be totally or partially alleviated by such emergency suspension.

Not more than one such suspension may be issued for any source on the basis of the same set of circumstances or on the basis of the same emergency.

(3) A temporary emergency suspension issued by a Governor under this subsection shall remain in effect for a maximum of four months or such lesser period as may be specified in a disapproval order of the Administrator, if any. The Administrator may disapprove such suspension if he determines that it does not meet the requirements of paragraph (2).

(4) This subsection shall not apply in the case of a plan provision or requirement promulgated by the Administrator under subsection (c) of this section, but in any such case the President may grant a temporary emergency suspension for a four month period of any such provision or requirement if he makes the determinations and findings specified in paragraphs (1) and (2).

(5) The Governor may include in any temporary emergency suspension issued under this subsection a provision delaying for a period identical to the period of such suspension any compliance schedule (or increment of progress) to which such source is subject under section 1857c-10¹ of this title, as in effect before August 7, 1977, or section 7413(d)¹ of this title, upon a finding that such source is unable to comply with such schedule (or increment) solely because of the conditions on the basis of which a suspension was issued under this subsection.

(g) Governor's authority to issue temporary emergency suspensions

(1) In the case of any State which has adopted and submitted to the Administrator a proposed plan revision which the State determines—

(A) meets the requirements of this section, and

(B) is necessary (i) to prevent the closing for one year or more of any source of air pollution, and (ii) to prevent substantial increases in unemployment which would result from such closing, and

which the Administrator has not approved or disapproved under this section within 12 months of submission of the proposed plan revision, the Governor may issue a temporary emergency suspension of the part of the applicable implementation plan for such State which is proposed to be revised with respect to such source. The determination under subparagraph (B) may not be made with respect to a source which would close without regard to whether or not the proposed plan revision is approved.

(2) A temporary emergency suspension issued by a Governor under this subsection shall remain in effect for a maximum of four months or such lesser period as may be specified in a disapproval order of the Administrator. The Administrator may disapprove such suspension if he determines that it does not meet the requirements of this subsection.

(3) The Governor may include in any temporary emergency suspension issued under this subsection a provision delaying for a period identical to the period of such suspension any compliance schedule (or increment of progress) to which such source is subject under section 1857c-10¹ of this title as in effect before August 7, 1977, or under section 7413(d)¹ of this title upon a finding that such source is unable to comply with such schedule (or increment) solely because of the conditions on the basis of which a suspension was issued under this subsection.

(h) Publication of comprehensive document for each State setting forth requirements of applicable implementation plan

(1) Not later than 5 years after November 15, 1990, and every 3 years thereafter, the Administrator shall assemble and publish a comprehensive document for each State setting forth all requirements of the applicable implementation plan for such State and shall publish notice in the Federal Register of the availability of such documents.

(2) The Administrator may promulgate such regulations as may be reasonably necessary to carry out the purpose of this subsection.

(i) Modification of requirements prohibited

Except for a primary nonferrous smelter order under section 7419 of this title, a suspension under subsection (f) or (g) (relating to emergency suspensions), an exemption under section 7418 of this title (relating to certain Federal facilities), an order under section 7413(d)¹ of this title (relating to compliance orders), a plan promulgation under subsection (c), or a plan revision under subsection (a)(3); no order, suspension, plan revision, or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State or by the Administrator.

(j) Technological systems of continuous emission reduction on new or modified stationary sources; compliance with performance standards

As a condition for issuance of any permit required under this subchapter, the owner or operator of each new or modified stationary source which is required to obtain such a permit must show to the satisfaction of the permitting authority that the technological system of continuous emission reduction which is to be used at such source will enable it to comply with the standards of performance which are to apply to such source and that the construction or modification and operation of such source will be in compliance with all other requirements of this chapter.

(k) Environmental Protection Agency action on plan submissions

(1) Completeness of plan submissions

(A) Completeness criteria

Within 9 months after November 15, 1990, the Administrator shall promulgate minimum criteria that any plan submission must meet before the Administrator is required to act on such submission under this subsection. The criteria shall be limited to the information necessary to enable the Administrator to determine whether the plan submission complies with the provisions of this chapter.

(B) Completeness finding

Within 60 days of the Administrator's receipt of a plan or plan revision, but no later than 6 months after the date, if any, by which a State is required to submit the plan or revision, the Administrator shall determine whether the minimum criteria established pursuant to subparagraph (A) have been met. Any plan or plan revision that a State submits to the Administrator, and that has not been determined by the Administrator (by the date 6 months after receipt of the submission) to have failed to meet the minimum criteria established pursuant to subparagraph (A), shall on that date be deemed by operation of law to meet such minimum criteria.

(C) Effect of finding of incompleteness

Where the Administrator determines that a plan submission (or part thereof) does not meet the minimum criteria established pursuant to subparagraph (A), the State shall be treated as not having made the submission (or, in the Administrator's discretion, part thereof).

(2) Deadline for action

Within 12 months of a determination by the Administrator (or a determination deemed by operation of law) under paragraph (1) that a State has submitted a plan or plan revision (or, in the Administrator's discretion, part thereof) that meets the minimum criteria established pursuant to paragraph (1), if applicable (or, if those criteria are not applicable, within 12 months of submission of the plan or revision), the Administrator shall act on the submission in accordance with paragraph (3).

(3) Full and partial approval and disapproval

In the case of any submittal on which the Administrator is required to act under paragraph (2), the Administrator shall approve such submittal as a whole if it meets all of the applicable requirements of this chapter. If a portion of the plan revision meets all the applicable requirements of this chapter, the Administrator may approve the plan revision in part and disapprove the plan revision in part. The plan revision shall not be treated as meeting the requirements of this chapter until the Administrator approves the entire plan revision as complying with the applicable requirements of this chapter.

(4) Conditional approval

The Administrator may approve a plan revision based on a commitment of the State to adopt specific enforceable measures by a date certain, but not later than 1 year after the date of approval of the plan revision. Any such conditional approval shall be treated as a disapproval if the State fails to comply with such commitment.

(5) Calls for plan revisions

Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant national ambient air quality standard, to mitigate adequately the interstate pollutant transport described in section 7506a of this title or section 7511c of this title, or to otherwise comply with any requirement of this chapter, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies. The Administrator shall notify the State of the inadequacies, and may establish reasonable deadlines (not to exceed 18 months after the date of such notice) for the submission of such plan revisions. Such findings and notice shall be public. Any finding under this paragraph shall, to the extent the Administrator deems appropriate, subject the State to the requirements of this chapter to which the State was subject when it developed and submitted the plan for which such finding was made, except that the Administrator may adjust any dates applicable under such requirements as appropriate (except that the Administrator may not adjust any attainment date prescribed under part D, unless such date has elapsed).

(6) Corrections

Whenever the Administrator determines that the Administrator's action approving, disapproving, or promulgating any plan or plan revision (or part thereof), area designation, redesignation, classification, or reclassification was in error, the Administrator may in the same manner as the approval, disapproval, or promulgation revise such action as appropriate without requiring any further submission from the State. Such determination and the basis thereof shall be provided to the State and public.

(I) Plan revisions

Each revision to an implementation plan submitted by a State under this chapter shall be

adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 7501 of this title), or any other applicable requirement of this chapter.

(m) Sanctions

The Administrator may apply any of the sanctions listed in section 7509(b) of this title at any time (or at any time after) the Administrator makes a finding, disapproval, or determination under paragraphs (1) through (4), respectively, of section 7509(a) of this title in relation to any plan or plan item (as that term is defined by the Administrator) required under this chapter, with respect to any portion of the State the Administrator determines reasonable and appropriate, for the purpose of ensuring that the requirements of this chapter relating to such plan or plan item are met. The Administrator shall, by rule, establish criteria for exercising his authority under the previous sentence with respect to any deficiency referred to in section 7509(a) of this title to ensure that, during the 24-month period following the finding, disapproval, or determination referred to in section 7509(a) of this title, such sanctions are not applied on a statewide basis where one or more political subdivisions covered by the applicable implementation plan are principally responsible for such deficiency.

(n) Savings clauses**(1) Existing plan provisions**

Any provision of any applicable implementation plan that was approved or promulgated by the Administrator pursuant to this section as in effect before November 15, 1990, shall remain in effect as part of such applicable implementation plan, except to the extent that a revision to such provision is approved or promulgated by the Administrator pursuant to this chapter.

(2) Attainment dates

For any area not designated nonattainment, any plan or plan revision submitted or required to be submitted by a State—

(A) in response to the promulgation or revision of a national primary ambient air quality standard in effect on November 15, 1990, or

(B) in response to a finding of substantial inadequacy under subsection (a)(2) (as in effect immediately before November 15, 1990),

shall provide for attainment of the national primary ambient air quality standards within 3 years of November 15, 1990, or within 5 years of issuance of such finding of substantial inadequacy, whichever is later.

(3) Retention of construction moratorium in certain areas

In the case of an area to which, immediately before November 15, 1990, the prohibition on construction or modification of major stationary sources prescribed in subsection (a)(2)(I) (as in effect immediately before November 15, 1990) applied by virtue of a finding

of the Administrator that the State containing such area had not submitted an implementation plan meeting the requirements of section 7502(b)(6) of this title (relating to establishment of a permit program) (as in effect immediately before November 15, 1990) or 7502(a)(1) of this title (to the extent such requirements relate to provision for attainment of the primary national ambient air quality standard for sulfur oxides by December 31, 1982) as in effect immediately before November 15, 1990, no major stationary source of the relevant air pollutant or pollutants shall be constructed or modified in such area until the Administrator finds that the plan for such area meets the applicable requirements of section 7502(c)(5) of this title (relating to permit programs) or subpart 5 of part D (relating to attainment of the primary national ambient air quality standard for sulfur dioxide), respectively.

(o) Indian tribes

If an Indian tribe submits an implementation plan to the Administrator pursuant to section 7601(d) of this title, the plan shall be reviewed in accordance with the provisions for review set forth in this section for State plans, except as otherwise provided by regulation promulgated pursuant to section 7601(d)(2) of this title. When such plan becomes effective in accordance with the regulations promulgated under section 7601(d) of this title, the plan shall become applicable to all areas (except as expressly provided otherwise in the plan) located within the exterior boundaries of the reservation, notwithstanding the issuance of any patent and including rights-of-way running through the reservation.

(p) Reports

Any State shall submit, according to such schedule as the Administrator may prescribe, such reports as the Administrator may require relating to emission reductions, vehicle miles traveled, congestion levels, and any other information the Administrator may deem necessary to assess the development² effectiveness, need for revision, or implementation of any plan or plan revision required under this chapter.

(July 14, 1955, ch. 360, title I, §110, as added Pub. L. 91-604, §4(a), Dec. 31, 1970, 84 Stat. 1680; amended Pub. L. 93-319, §4, June 22, 1974, 88 Stat. 256; Pub. L. 95-95, title I, §§107, 108, Aug. 7, 1977, 91 Stat. 691, 693; Pub. L. 95-190, §14(a)(1)-(6), Nov. 16, 1977, 91 Stat. 1399; Pub. L. 97-23, §3, July 17, 1981, 95 Stat. 142; Pub. L. 101-549, title I, §§101(b)-(d), 102(h), 107(c), 108(d), title IV, §412, Nov. 15, 1990, 104 Stat. 2404-2408, 2422, 2464, 2466, 2634.)

Editorial Notes

REFERENCES IN TEXT

The Energy Supply and Environmental Coordination Act of 1974, referred to in subsec. (a)(3)(B), is Pub. L. 93-319, June 22, 1974, 88 Stat. 246, as amended, which is classified principally to chapter 16C (§791 et seq.) of Title 15, Commerce and Trade. For complete classification of this Act to the Code, see Short Title note set out under section 791 of Title 15 and Tables.

²So in original. Probably should be followed by a comma.

Section 7413 of this title, referred to in subsecs. (a)(3)(C), (6), (f)(5), (g)(3), and (i), was amended generally by Pub. L. 101-549, title VII, §701, Nov. 15, 1990, 104 Stat. 2672, and, as so amended, subsecs. (d) and (e) of section 7413 no longer relates to final compliance orders and steel industry compliance extension, respectively.

Section 1857c-10 of this title, as in effect before August 7, 1977, referred to in subsecs. (f)(5) and (g)(3), was in the original "section 119, as in effect before the date of the enactment of this paragraph", meaning section 119 of act July 14, 1955, ch. 360, title I, as added June 22, 1974, Pub. L. 93-319, §3, 88 Stat. 248, (which was classified to section 1857c-10 of this title) as in effect prior to the enactment of subsecs. (f)(5) and (g)(3) of this section by Pub. L. 95-95, §107, Aug. 7, 1977, 91 Stat. 691, effective Aug. 7, 1977. Section 112(b)(1) of Pub. L. 95-95 repealed section 119 of act July 14, 1955, ch. 360, title I, as added by Pub. L. 93-319, and provided that all references to such section 119 in any subsequent enactment which supersedes Pub. L. 93-319 shall be construed to refer to section 113(d) of the Clean Air Act and to paragraph (5) thereof in particular which is classified to section 7413(d)(5) of this title. Section 7413 of this title was subsequently amended generally by Pub. L. 101-549, title VII, §701, Nov. 15, 1990, 104 Stat. 2672, see note above. Section 117(b) of Pub. L. 95-95 added a new section 119 of act July 14, 1955, which is classified to section 7419 of this title.

CODIFICATION

Section was formerly classified to section 1857c-5 of this title.

PRIOR PROVISIONS

A prior section 110 of act July 14, 1955, was renumbered section 117 by Pub. L. 91-604 and is classified to section 7417 of this title.

AMENDMENTS

1990—Subsec. (a)(1). Pub. L. 101-549, §101(d)(8), substituted "3 years (or such shorter period as the Administrator may prescribe)" for "nine months" in two places.

Subsec. (a)(2). Pub. L. 101-549, §101(b), amended par. (2) generally, substituting present provisions for provisions setting the time within which the Administrator was to approve or disapprove a plan or portion thereof and listing the conditions under which the plan or portion thereof was to be approved after reasonable notice and hearing.

Subsec. (a)(3)(A). Pub. L. 101-549, §101(d)(1), struck out subpar. (A) which directed Administrator to approve any revision of an implementation plan if it met certain requirements and had been adopted by the State after reasonable notice and public hearings.

Subsec. (a)(3)(D). Pub. L. 101-549, §101(d)(1), struck out subpar. (D) which directed that certain implementation plans be revised to include comprehensive measures and requirements.

Subsec. (a)(4). Pub. L. 101-549, §101(d)(2), struck out par. (4) which set forth requirements for review procedure.

Subsec. (c)(1). Pub. L. 101-549, §102(h), amended par. (1) generally, substituting present provisions for provisions relating to preparation and publication of regulations setting forth an implementation plan, after opportunity for a hearing, upon failure of a State to make required submission or revision.

Subsec. (c)(2)(A). Pub. L. 101-549, §101(d)(3)(A), struck out subpar. (A) which required a study and report on necessity of parking surcharge, management of parking supply, and preferential bus/carpool lane regulations to achieve and maintain national primary ambient air quality standards.

Subsec. (c)(2)(C). Pub. L. 101-549, §101(d)(3)(B), struck out subpar. (C) which authorized suspension of certain regulations and requirements relating to management of parking supply.

Subsec. (c)(4). Pub. L. 101-549, §101(d)(3)(C), struck out par. (4) which permitted Governors to temporarily suspend measures in implementation plans relating to retrofits, gas rationing, and reduction of on-street parking.

Subsec. (c)(5)(B). Pub. L. 101-549, §101(d)(3)(D), struck out “(including the written evidence required by part D),” after “include comprehensive measures”.

Subsec. (d). Pub. L. 101-549, §101(d)(4), struck out subsec. (d) which defined an applicable implementation plan for purposes of this chapter.

Subsec. (e). Pub. L. 101-549, §101(d)(5), struck out subsec. (e) which permitted an extension of time for attainment of a national primary ambient air quality standard.

Subsec. (f)(1). Pub. L. 101-549, §412, inserted “or of any requirement under section 7651j of this title (concerning excess emissions penalties or offsets)” in subpar. (A) and in last sentence.

Subsec. (g)(1). Pub. L. 101-549, §101(d)(6), substituted “12 months of submission of the proposed plan revision” for “the required four month period” in closing provisions.

Subsec. (h)(1). Pub. L. 101-549, §101(d)(7), substituted “5 years after November 15, 1990, and every three years thereafter” for “one year after August 7, 1977, and annually thereafter” and struck out at end “Each such document shall be revised as frequently as practicable but not less often than annually.”

Subsecs. (k) to (n). Pub. L. 101-549, §101(c), added subsecs. (k) to (n).

Subsec. (o). Pub. L. 101-549, §107(c), added subsec. (o).

Subsec. (p). Pub. L. 101-549, §108(d), added subsec. (p). 1981—Subsec. (a)(3)(C). Pub. L. 97-23 inserted reference to extensions of compliance in decrees entered under section 7413(e) of this title (relating to iron- and steel-producing operations).

1977—Subsec. (a)(2)(A). Pub. L. 95-95, §108(a)(1), substituted “(A) except as may be provided in subparagraph (I)(i) in the case of a plan” for “(A)(i) in the case of a plan”.

Subsec. (a)(2)(B). Pub. L. 95-95, §108(a)(2), substituted “transportation controls, air quality maintenance plans, and preconstruction review of direct sources of air pollution as provided in subparagraph (D)” for “land use and transportation controls”.

Subsec. (a)(2)(D). Pub. L. 95-95, §108(a)(3), substituted “it includes a program to provide for the enforcement of emission limitations and regulation of the modification, construction, and operation of any stationary source, including a permit program as required in parts C and D and a permit or equivalent program for any major emitting facility, within such region as necessary to assure (i) that national ambient air quality standards are achieved and maintained, and (ii) a procedure” for “it includes a procedure”.

Subsec. (a)(2)(E). Pub. L. 95-95, §108(a)(4), substituted “it contains adequate provisions (i) prohibiting any stationary source within the State from emitting any air pollutant in amounts which will (I) prevent attainment or maintenance by any other State of any such national primary or secondary ambient air quality standard, or (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deterioration of air quality or to protect visibility, and (ii) insuring compliance with the requirements of section 7426 of this title, relating to interstate pollution abatement” for “it contains adequate provisions for intergovernmental cooperation, including measures necessary to insure that emissions of air pollutants from sources located in any air quality control region will not interfere with the attainment or maintenance of such primary or secondary standard in any portion of such region outside of such State or in any other air quality control region”.

Subsec. (a)(2)(F). Pub. L. 95-95, §108(a)(5), added cl. (vi).

Subsec. (a)(2)(H). Pub. L. 95-190, §14(a)(1), substituted “1977,” for “1977”.

Pub. L. 95-95, §108(a)(6), inserted “except as provided in paragraph (3)(C),” after “or (ii)” and “or to otherwise comply with any additional requirements established under the Clean Air Act Amendments of 1977” after “to achieve the national ambient air quality primary or secondary standard which it implements”.

Subsec. (a)(2)(I). Pub. L. 95-95, §108(b), added subpar. (I).

Subsec. (a)(2)(J). Pub. L. 95-190, §14(a)(2), substituted “; and” for “, and”.

Pub. L. 95-95, §108(b), added subpar. (J).

Subsec. (a)(2)(K). Pub. L. 95-95, §108(b) added subpar. (K).

Subsec. (a)(3)(C). Pub. L. 95-95, §108(c), added subpar. (C).

Subsec. (a)(3)(D). Pub. L. 95-190, §14(a)(4), added subpar. (D).

Subsec. (a)(5). Pub. L. 95-95, §108(e), added par. (5).

Subsec. (a)(5)(D). Pub. L. 95-190, §14(a)(3), struck out “preconstruction or premodification” before “review”.

Subsec. (a)(6). Pub. L. 95-95, §108(e), added par. (6).

Subsec. (c)(1). Pub. L. 95-95, §108(d)(1), (2), substituted “plan which meets the requirements of this section” for “plan for any national ambient air quality primary or secondary standard within the time prescribed” in subpar. (A) and, in provisions following subpar. (C), directed that any portion of a plan relating to any measure described in first sentence of 7421 of this title (relating to consultation) or the consultation process required under such section 7421 of this title not be required to be promulgated before the date eight months after such date required for submission.

Subsec. (c)(3) to (5). Pub. L. 95-95, §108(d)(3), added pars. (3) to (5).

Subsec. (d). Pub. L. 95-95, §108(f), substituted “and which implements the requirements of this section” for “and which implements a national primary or secondary ambient air quality standard in a State”.

Subsec. (f). Pub. L. 95-95, §107(a), substituted provisions relating to the handling of national or regional energy emergencies for provisions relating to the postponement of compliance by stationary sources or classes of moving sources with any requirement of applicable implementation plans.

Subsec. (g). Pub. L. 95-95, §108(g), added subsec. (g) relating to publication of comprehensive document.

Pub. L. 95-95, §107(b), added subsec. (g) relating to Governor’s authority to issue temporary emergency suspensions.

Subsec. (h). Pub. L. 95-190, §14(a)(5), redesignated subsec. (g), added by Pub. L. 95-95, §108(g), as (h). Former subsec. (h) redesignated (i).

Subsec. (i). Pub. L. 95-190, §14(a)(5), redesignated subsec. (h), added by Pub. L. 95-95, §108(g), as (i). Former subsec. (i) redesignated (j) and amended.

Subsec. (j). Pub. L. 95-190 §14(a)(5), (6), redesignated subsec. (i), added by Pub. L. 95-95, §108(g), as (j) and in subsec. (j) as so redesignated, substituted “will enable such source” for “at such source will enable it”.

1974—Subsec. (a)(3). Pub. L. 93-319, §4(a), designated existing provisions as subpar. (A) and added subpar. (B).

Subsec. (c). Pub. L. 93-319, §4(b), designated existing provisions as par. (1) and existing pars. (1), (2), and (3) as subpars. (A), (B), and (C), respectively, of such redesignated par. (1), and added par. (2).

Statutory Notes and Related Subsidiaries

EFFECTIVE DATE OF 1977 AMENDMENT

Amendment by Pub. L. 95-95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95-95, set out as a note under section 7401 of this title.

PENDING ACTIONS AND PROCEEDINGS

Suits, actions, and other proceedings lawfully commenced by or against the Administrator or any other officer or employee of the United States in his official capacity or in relation to the discharge of his official

duties under act July 14, 1955, the Clean Air Act, as in effect immediately prior to the enactment of Pub. L. 95-95 [Aug. 7, 1977], not to abate by reason of the taking effect of Pub. L. 95-95, see section 406(a) of Pub. L. 95-95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

MODIFICATION OR RESCISSION OF RULES, REGULATIONS, ORDERS, DETERMINATIONS, CONTRACTS, CERTIFICATIONS, AUTHORIZATIONS, DELEGATIONS, AND OTHER ACTIONS

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95-95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95-95 [this chapter], see section 406(b) of Pub. L. 95-95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

MODIFICATION OR RESCISSION OF IMPLEMENTATION PLANS APPROVED AND IN EFFECT PRIOR TO AUG. 7, 1977

Nothing in the Clean Air Act Amendments of 1977 [Pub. L. 95-95] to affect any requirement of an approved implementation plan under this section or any other provision in effect under this chapter before Aug. 7, 1977, until modified or rescinded in accordance with this chapter as amended by the Clean Air Act Amendments of 1977, see section 406(c) of Pub. L. 95-95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

SAVINGS PROVISION

Pub. L. 91-604, §16, Dec. 31, 1970, 84 Stat. 1713, provided that:

“(a)(1) Any implementation plan adopted by any State and submitted to the Secretary of Health, Education, and Welfare, or to the Administrator pursuant to the Clean Air Act [this chapter] prior to enactment of this Act [Dec. 31, 1970] may be approved under section 110 of the Clean Air Act [this section] (as amended by this Act) [Pub. L. 91-604] and shall remain in effect, unless the Administrator determines that such implementation plan, or any portion thereof, is not consistent with applicable requirements of the Clean Air Act [this chapter] (as amended by this Act) and will not provide for the attainment of national primary ambient air quality standards in the time required by such Act. If the Administrator so determines, he shall, within 90 days after promulgation of any national ambient air quality standards pursuant to section 109(a) of the Clean Air Act [section 7409(a) of this title], notify the State and specify in what respects changes are needed to meet the additional requirements of such Act, including requirements to implement national secondary ambient air quality standards. If such changes are not adopted by the State after public hearings and within six months after such notification, the Administrator shall promulgate such changes pursuant to section 110(c) of such Act [subsec. (c) of this section].”

“(2) The amendments made by section 4(b) [amending sections 7403 and 7415 of this title] shall not be construed as repealing or modifying the powers of the Administrator with respect to any conference convened under section 108(d) of the Clean Air Act [section 7415 of this title] before the date of enactment of this Act [Dec. 31, 1970].”

“(b) Regulations or standards issued under this title II of the Clean Air Act [subchapter II of this chapter] prior to the enactment of this Act [Dec. 31, 1970] shall continue in effect until revised by the Administrator consistent with the purposes of such Act [this chapter].”

FEDERAL ENERGY ADMINISTRATOR

“Federal Energy Administrator”, for purposes of this chapter, to mean Administrator of Federal Energy Ad-

ministration established by Pub. L. 93-275, May 7, 1974, 88 Stat. 97, which is classified to section 761 et seq. of Title 15, Commerce and Trade, but with the term to mean any officer of the United States designated as such by the President until Federal Energy Administrator takes office and after Federal Energy Administration ceases to exist, see section 798 of Title 15, Commerce and Trade.

Federal Energy Administration terminated and functions vested by law in Administrator thereof transferred to Secretary of Energy (unless otherwise specifically provided) by sections 7151(a) and 7293 of this title.

§ 7411. Standards of performance for new stationary sources

(a) Definitions

For purposes of this section:

(1) The term “standard of performance” means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

(2) The term “new source” means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.

(3) The term “stationary source” means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.

(4) The term “modification” means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

(5) The term “owner or operator” means any person who owns, leases, operates, controls, or supervises a stationary source.

(6) The term “existing source” means any stationary source other than a new source.

(7) The term “technological system of continuous emission reduction” means—

(A) a technological process for production or operation by any source which is inherently low-polluting or nonpolluting, or

(B) a technological system for continuous reduction of the pollution generated by a source before such pollution is emitted into the ambient air, including precombustion cleaning or treatment of fuels.

(8) A conversion to coal (A) by reason of an order under section 2(a) of the Energy Supply and Environmental Coordination Act of 1974 [15 U.S.C. 792(a)] or any amendment thereto, or any subsequent enactment which supersedes such Act [15 U.S.C. 791 et seq.], or (B) which qualifies under section 7413(d)(5)(A)(ii)¹

¹ See References in Text note below.

Attachment 7

agreement, the parties must determine their net premiums on a net consideration basis as described in § 1.848-2(f)(5).

(D) *Examples.* The principles of this section are illustrated by the following examples.

Example 1. On July 1, 1991, an insurance company (L1) transfers a block of individual life insurance contracts to an unrelated insurance company (L2) under an arrangement whereby L2 becomes solely liable to the policy holder under the contracts reinsured. The tax reserves on the reinsured contracts are \$100,000. Under the assumption reinsurance agreement, L1 pays L2 \$83,000 for assuming the life insurance contracts. Under paragraph (c)(3) of this section, since the increase in L2's tax reserves (\$100,000) exceeds the net consideration transferred by L1 (\$83,000), the reinsurance agreement provides for a ceding commission. The ceding commission equals \$17,000 (\$100,000-\$83,000). Under paragraph (c)(3) of this section, L1 reduces its gross amount of premiums and other consideration for the 1991 taxable year under section 848(d)(1)(B) by the \$100,000 premium incurred for reinsurance, and L2 includes the \$100,000 premium for reinsurance in its gross amount of premiums and other consideration under section 848(d)(1)(A). L1 treats the \$17,000 ceding commission as non-premium related income and section 803(a)(3).

Example 2. On July 1, 1991, a life insurance company (L1) transfers a block of individual life insurance contracts to an unrelated insurance company (L2) under an arrangement whereby L2 becomes solely liable to the policyholder under the contracts reinsured. The tax reserves on the reinsured contracts are \$100,000. Under the assumption reinsurance agreement, L1 pays L2 \$100,000 for assuming the contracts, and L2 pays L1 a \$17,000 ceding commission. Under paragraph (c)(1) of this section, L1 reduces its gross amount of premiums and other consideration under section 848(d)(1)(B) by \$100,000. L2 includes \$100,000 in its gross amount of premiums and other consideration under section 848(d)(1)(A). Under paragraph (c)(3) of this section, since the increase in L2's tax reserves (\$100,000) exceeds the net consideration transferred by L1, the reinsurance agreement provides for a ceding commission. The ceding commission equals \$17,000 (\$100,000 increase in L2's tax reserves less \$83,000 net consideration transferred by L1). L1 treats the \$17,000 ceding commission as non-premium related income under section 803(a)(3).

Example 3. On July 1, 1991, a life insurance company (L1) transfers a block of individual life insurance contracts to an unrelated insurance company (L2) under an arrangement whereby L2 becomes solely liable to the policyholder under the contracts reinsured. Under the assumption reinsurance agreement, L1 transfers assets of \$105,000 to L2. The tax reserves on the reinsured contracts are \$100,000. Under paragraph (c)(1) of this section, L1 reduces its gross amount of premiums and other consideration

under section 848(d)(1)(B) by \$105,000, and L2 increases its gross amount of premiums and other consideration under section 848(d)(1)(A) by \$105,000. Since the net consideration transferred by L1 exceeds the increase in L2's tax reserves, there is no ceding commission under paragraph (c)(3) of this section.

Example 4. (i) On June 30, 1991, a life insurance company (L1) reinsures 40% of certain individual life insurance contracts to be issued after that date with an unrelated insurance company (L2) under an agreement whereby L1 remains directly liable to the policyholders with respect to the contracts reinsured. The agreement provides that L2 is credited with 40% of any premiums received with respect to the reinsured contracts, but must indemnify L1 for 40% of any claims, expenses, and policyholder dividends. During the period from July 1 through December 31, 1991, L1 has the following income and expense items with respect to the reinsured policies:

Item	Income	Expense
Premiums	\$8,000	.....
Benefits paid	\$1,000
Commissions	6,000
Policyholder dividends	500
Total	7,500

(ii) Under paragraphs (b) and (c)(2) of this section, L1 includes \$8,200 in its gross amount of premiums and other consideration under section 848(d)(1)(A) (\$8,000 gross premiums on the reinsured contracts plus \$200 of policyholder dividends reimbursed by L2 (\$500 x 40%). L1 reduces its gross amount of premiums and other consideration by \$3,200 (40% x \$8,000) as premiums and other consideration incurred for reinsurance under section 848(d)(1)(B). The benefits and commissions incurred by L1 with respect to the reinsured contracts do not reduce L1's gross amount of premiums and other consideration under section 848(d)(1)(B). L2 includes \$3,200 in its gross amount of premiums and other consideration (40% x \$8,000) and is treated as having paid return premiums of \$200 (the amount of reimbursable dividends paid to L1). L2 is also treated as having incurred the following expenses with respect to the reinsured contracts: \$400 as benefits paid (40% x \$1,000) and \$2,400 as commissions expense (40% x \$6,000). Under paragraph (b) of this section, these expenses do not reduce L2's gross amount of premiums and other consideration under section 848(d)(1)(A).

Example 5. On December 31, 1991, an insurance company (L1) terminates a reinsurance agreement with an unrelated insurance company (L2). The termination applies to a reinsurance agreement under which L1 had ceded 40% of its liability on a block of individual life insurance contracts to L2. Upon termination of the reinsurance agreement, L2 makes a final payment of \$116,000 to L1 for assuming full liability under the contracts. The tax reserves attributable to L2's portion of the reinsured contracts are \$120,000. Under paragraph (c)(4) of this section, L2 reduces its gross amount of premiums and other consideration

under section 848(d)(1)(B) by \$120,000. L1 includes \$120,000 in its gross amount of premiums and other consideration under section 848(d)(1)(A).

Example 6. (i) On June 30, 1991, an insurance company (L1) reinsures 40% of its existing life insurance contracts with an unrelated life insurance company (L2) under a modified coinsurance agreement. For the period July 1, 1991 through December 31, 1991, L1 reports the following income and expense items with respect to L2's 40% share of the reinsured contracts:

Item	Income	Expense
Premiums	\$10,000	.....
Benefits paid	\$4,000
Policyholder dividends	500
Reserve adjustment	1,500
Total	6,000

(ii) Pursuant to paragraph (c)(5) of this section, L1 reduces its gross amount of premiums and other consideration under section 848(d)(1)(B) by the \$4,000 net consideration for the modified coinsurance agreement (\$10,000-\$6,000). L2 includes the \$4,000 net consideration in its gross amount of premiums and other consideration under section 848(d)(1)(A).

PART 602—OMB CONTROL NUMBERS UNDER THE PAPERWORK REDUCTION ACT

Par. 38. The authority citation for part 602 continues to read as follows:

Authority: 26 U.S.C. 7805.

Par. 39. Section 602.101 (c) is amended by adding the following entries in the table to read as follows:

§ 602.101 OMB Control Numbers.

CFR part or section where identified and described	Current OMB control number
1.848-2(g)(8)	1545-1287
1.848-2(h)(3)	1545-1287
1.848-2(i)(4)	1545-1287
.....

Michael P. Dolan,
Acting Commissioner of Internal Revenue.

Approved: November 16, 1992.

Fred T. Goldberg, Jr.,
Assistant Secretary of the Treasury.
[FR Doc. 92-30943 Filed 12-28-92; 8:45am]

BILLING CODE 4830-01-m

DEPARTMENT OF THE INTERIOR

Bureau of Mines

30 CFR Part 609

RIN 1032-AA02

Payments Required for Owners of Private Lands Upon Which the Bureau of Mines Performs Exploration or Development Work To Investigate Known Coal Deposits

AGENCY: Bureau of Mines, Interior.

ACTION: Final rule; rescission.

SUMMARY: This document rescinds the Federal Government's regulations that stipulate that a "reasonable percentage" of the value of coals produced by a private owner be paid to the Federal Government as compensation for the exploration and development efforts of the Bureau of Mines. This regulation is no longer applicable to Bureau programs.

EFFECTIVE DATE: December 29, 1992.

FOR FURTHER INFORMATION CONTACT: John D. Ford, U.S. Department of the Interior, U.S. Bureau of Mines, Branch of Management Analysis, 810 7th Street NW., Washington, DC 20241, Tel: 202-501-9253.

SUPPLEMENTARY INFORMATION: The current 30 CFR part 609, Payments Required from Owners of Private Lands Upon Which the Bureau of Mines Performs Exploration or Development Work to Investigate Known Coal Deposits is a result of a directive established in fiscal year 1947 by the Interior Department Appropriation Act. At that time, the Bureau investigated known coal deposits on Federal, State, and private lands. When on private lands, the Federal Government required a "reasonable percentage" of the value of coals produced by the private owner as compensation for the exploration and development efforts. This regulation, as described above, no longer has application to Bureau programs. Under the authority of the President's memorandum of January 28, 1992, regarding reducing the burden of Government regulations, this regulation is rescinded.

The Department of the Interior has determined this document is not a major rule under Executive Order 12291 and certifies this document does not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

In accordance with the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Bureau of Mines certifies that this final

rule does not have a significant economic effect on a substantial number of small entities.

This final rule to rescind 30 CFR part 609 is determined not to have federalism effects under Executive Order 12612 as it has no direct causal effect on the relative roles of Federal and State Governments.

This final rule does not contain collections of information that require approval by the Office of Management and Budget under 44 U.S.C. 3501 *et seq.*

The Department of the Interior has determined that this final rule does not constitute a major Federal action significantly affecting the quality of the human environment under The National Environmental Policy Act of 1969.

Author: Michael L. Kaas, Chief, Division of Resource Evaluation, U.S. Bureau of Mines.

The policy of the Department of the Interior is, whenever practicable, to afford the public an opportunity to participate in the rulemaking process. A proposed rule was published in the Federal Register, Vol. 57, No. 183, Monday, September 21, 1992, on pages 43411-43412. Accordingly, interested persons were asked to submit written comments, suggestions, or objections regarding its content. No comments were received during the 30-day comment period.

The Department has certified to the Office of Management and Budget that this final rule meets the applicable standards provided in sections 2(a) and 2(b) of Executive Order 12778.

List of Subjects in 30 CFR Part 609

Coal, Mines.

Accordingly, in exercise of authority delegated (5 U.S.C. 302) by the Secretary of the Interior to the Assistant Secretary, 30 CFR chapter VI is amended by removing part 609.

Dated: November 5, 1992.

John M. Sayre,

Assistant Secretary—Water and Science.

[FR Doc. 92-31370 Filed 12-28-92; 8:45 am]

BILLING CODE 4310-53-M

30 CFR Part 651

RIN 1032-AA03

Administration of Grants

AGENCY: Bureau of Mines, Interior.

ACTION: Final rule, rescission.

SUMMARY: 30 CFR part 651 requires innovation in the submission of research and development proposals to further Bureau programs as authorized by statute. These requirements are also

contained in 48 CFR chapter 15, part 1515, subpart 1515.5. Since there is no need these requirements be contained in both locations, this part is rescinded.

EFFECTIVE DATE: December 29, 1992.

FOR FURTHER INFORMATION CONTACT:

John D. Ford, U.S. Department of the Interior, U.S. Bureau of Mines, Branch of Management Analysis, 810 7th Street NW., Washington, DC 20241, Tel: 202-501-9253.

SUPPLEMENTARY INFORMATION: Under the authority of the President's memorandum of January 28, 1992, regarding reducing the burden of Government regulation, this regulation is rescinded.

The Department of the Interior has determined that this document is not a major rule under Executive Order 12291 and certifies this document does not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

In accordance with the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Bureau of Mines certifies that this final rule does not have a significant economic effect on a substantial number of small entities.

This final rule to rescind 30 CFR part 651 is determined not to have federalism effects under Executive Order 12612 as it has no direct causal effect on the relative roles of Federal and State Governments.

This final rule does not contain collections of information that require approval by the Office of Management and Budget under 44 U.S.C. 3501 *et seq.*

The Department of the Interior has determined that this final rule does not constitute a major Federal action significantly affecting the quality of the human environment under The National Environmental Policy Act of 1969.

Author: Doynes W. Teets, Chief, Division of Procurement, U.S. Bureau of Mines.

The policy of the Department of the Interior is, whenever practicable, to afford the public an opportunity to participate in the rulemaking process. A proposed rule was published in the Federal Register, Vol. 57, No. 183, Monday, September 21, 1992, on page 43412. Accordingly, interested persons were asked to submit written comments, suggestions, or objections regarding its content. No comments were received during the 30-day comment period.

The Department has certified to the Office of Management and Budget that this final rule meets the applicable standards provided in sections 2(a) and 2(b) of Executive Order 12778.

List of Subjects in 30 CFR Part 651

Grant programs—environmental protection, Grant programs—health, Mine safety and health, Reporting and recordkeeping requirements, Waste treatment and disposal.

Accordingly, in exercise of authority delegated (5 U.S.C. 302) by the Secretary of the Interior to the Assistant Secretary, 30 CFR chapter VI is amended by removing part 651.

Dated: November 5, 1992.

John M. Sayre,

Assistant Secretary—Water and Science.

[FR Doc. 92-31371 Filed 12-28-92; 8:45 am]

BILLING CODE 4310-53-M

LIBRARY OF CONGRESS**37 CFR Part 201**

[Docket No. RM 92-7]

Cable and Satellite Carrier Royalty Interest Regulations (Amendments)

AGENCY: Copyright Office; Library of Congress.

ACTION: Final rule.

SUMMARY: The Copyright Office amends §§ 201.11(h)(2) and 201.17(i)(2)(i) of its regulations to adopt the Department of the Treasury's published interest rates for late and underpaid royalties made pursuant to section 111 and section 119 of the Copyright Act. The Office also makes technical amendments to §§ 201.11(h)(3) and 201.17(i)(2)(ii).

EFFECTIVE DATE: December 29, 1992.

FOR FURTHER INFORMATION CONTACT: Dorothy Schrader, General Counsel, Copyright Office, Library of Congress, Washington, DC 20540. Telephone: (202) 707-8380.

SUPPLEMENTARY INFORMATION:**1. Background**

On April 10, 1989, the Copyright Office announced that it would be assessing interest against late and underpaid royalties made pursuant to the cable compulsory license. See 54 FR 14217 (1989). The Office made a similar announcement on July 3, 1989 for late payments and underpayments made pursuant to the satellite carrier compulsory license. See 54 FR 27873 (1989). The regulations provide, *inter alia*, the means for determining the beginning and end of the accrual period, the minimum charge assessable, and the method for determining the applicable interest rate.

With regards to determination of an interest rate, the Office provided:

The Copyright Office does not wish to penalize cable systems for late and amended filings, but rather wishes to compensate copyright owners for the present value loss of royalties which should have been deposited on a timely basis. Therefore, to achieve this equitable result, the Office chose a rate which would most closely approximate the interest earned on royalty payments made within the accounting period filing dates.

As part of its standard practice, the Copyright Office makes a deposit of royalty funds recently received with the U.S. Treasury on the first business day after the close of an accounting filing period. The interest rate paid on that deposit is readily obtainable from the U.S. Treasury within a day or so of the deposit. The Office feels that making the Treasury rate applicable to all underpayments which resulted from cable carriage during that accounting period, most closely equals the amount of interest the underpaid royalties would have earned had they been paid in accordance with the accounting period filing deadlines. The one drawback of adopting such an interest rate is that it is not a fixed predetermined rate.

54 FR at 14220. See also 54 FR at 27874-75. The Office subsequently adopted a regulation which set the interest rate for an accounting period as the rate paid by the Treasury on the first investment of royalties made after the close of the filing period for that accounting period. See § 201.17(i)(2)(i). See also, § 201.11(h)(2).

The Copyright Office also adopted a regulation for the cable and satellite carrier license setting the minimum amount of interest that would be assessed. The regulation provides:

Interest is not required to be paid on any royalty underpayment from a particular accounting period if the sum of that underpayment is less than or equal to five dollars (\$5.00).

§ 201.17(i)(2)(ii). See also § 201.11(h)(3).

2. Policy Decision of the Copyright Office

The Copyright Office has found the procedure for setting the interest rate for late payments and underpayments from particular accounting periods to present several problems. First, the Office has noticed a significant disparity between the interest rate appearing on Treasury securities purchased after the close of an accounting filing period and the actual yield those securities produce. This has resulted in the setting of an interest rate pursuant to §§ 201.11(h)(2) and 201.17(i)(2)(i) which is often higher than the interest yield the royalties would have produced had they been deposited with the Office on time. Second, the Office has faced the administrative problem, particularly with section 119 royalties, of not having sufficient funds to make an investment immediately following the close of the accounting

filing period. This has caused problems with the setting of the interest rate. Furthermore, the Copyright Office is often forced to purchase short-term Treasury bills, as opposed to Treasury notes, which contain a discount rate rather than an interest rate, further complicating the setting of an appropriate interest rate.

As the Copyright Office noted in the preamble to the interest regulation for the cable compulsory license, the Office "does not wish to penalize cable systems for late and amended filings, but rather wishes to compensate copyright owners for the present value loss of royalties which should have been deposited on a timely basis." 54 FR at 14220. In order to further this goal, the Office chose a system for establishing a rate of interest to be assessed against late payments and underpayments that it felt would most closely match the amount of interest copyright owners would have earned had all royalties been submitted on time for each individual accounting period. The Office therefore concluded that the "interest rate applicable under the interest regulation adopted herein shall be the interest rate paid by the Treasury on the cable royalty funds deposited by the Copyright Office on the first business day after the close of the filing deadline for the accounting period with respect to which the underpayment occurs." *Id.* at 14220. See also 54 FR at 27875.

The current system for establishing the applicable interest rate has proved administratively difficult for several reasons. First, as noted above, the interest rate obtained from the Treasury on securities purchased the first business day after the close of the filing period has often differed greatly from the effective yield of those securities. For example, when the Office purchases a Treasury note on the day following the close of the filing period, the note may state on its face that it will pay a 9.125% interest rate over the two year term of the note. However, as is often the case, the Copyright Office is forced to purchase notes which have been issued well prior to the purchase date by the Office, and have actually been held by others. The notes are typically held for up to six months or less, at which time the funds are available to the Copyright Royalty Tribunal for distribution. The notes are therefore held for a far shorter period of time than the term of the note. In the above example, a two year note paying 9.125% over that period which is only held for a six month period will yield an amount that is far less than 9.125%. A cable system which makes a late payment therefore must, under the

current regulations, pay a 9.125% interest assessment when, if it had submitted its royalties on time, copyright owners would have received a lesser yield. This result frustrates the Office's stated goal of not penalizing cable systems and satellite carriers for late payments, but rather providing copyright owners the funds they would have received had the royalties been paid on time.

Second, the Copyright Office has encountered the administrative difficulty, particular with satellite carrier royalties, in making deposits of royalties with the Treasury the day after the close of the filing period. It is often the case that the majority of royalties arrive well in advance of the final day of the filing period, necessitating earlier deposits. The Copyright Office does not wish to hold funds from deposit for any period of time, since copyright owners will lose the interest on those funds, nor will it deposit relatively insignificant amounts on a daily basis. The problem therefore arises of having a sufficiently large, recently received royalty pool to be deposited on the day after the close of the filing period so that the appropriate interest rate may be established.

Third, the Copyright Office is faced with the problem of not always being able to purchase Treasury securities which carry an interest rate. It is often the case that the Office is forced to purchase Treasury bills, rather than notes, which are sold at a discount rate, rather than an interest rate. This situation arises when the royalty funds are to be turned over to the Copyright Royalty Tribunal at a time period of less than six months from the date of investment. Since the bills do not carry an interest rate, the question becomes how to calculate the appropriate interest rate for regulation purposes.

Finally, due to such circumstances as the necessity of purchasing Treasury bills as opposed to notes, it is often difficult for the Copyright Office to quickly provide cable and satellite operators with the applicable interest rate for the most recent accounting period. This delay, while perhaps only for a period of several days, has serious implications for Form 3 systems submitting large royalty payments a day or two late.

To correct the above-stated problems, the Copyright Office has decided to amend its regulations to adopt the Department of the Treasury's method for determining the percentage rate charge for late payments. Section 8025.40 of the Treasury Financial Manual states:

The minimum annual rate of interest to be charged will be calculated by Treasury as an average of current value of funds to Treasury and will be published in the Federal Register each year by October 31, to become effective January 1.

Described as the Current Value of Funds Rate, this Treasury Department rate is subject to quarterly revisions if the annual average changes by 2 percent, and such revisions are published in the Federal Register. The applicable interest rate for an accounting period shall be the Current Value of Funds Rate in effect on the first business day after the close of an accounting filing period.

The Copyright Office finds the Current Value of Funds Rate to be the superior means of calculating the appropriate cable and satellite interest rate for several reasons. First, the rate more accurately reflects what the market is currently paying on investment funds than the current system, thereby producing a rate which approximates yield on investment. This eliminates disparities currently experienced between interest rate assessed and yield on funds received by copyright owners. Second, the Current Value of Funds Rate solves the problem of lack of deposits on the day after the close of a filing period, and the problem faced by the purchase of Treasury bills carrying only a discount rate. Finally, the rate is easily determinable well in advance of the close of an accounting filing period and is available to all through the Federal Register. The Office therefore amends its regulations to adopt the Treasury's method of calculating interest to be effective beginning with the current 1992/2 accounting period and for all accounting periods thereafter.

The Copyright Office also amends §§ 201.11(h)(3) and 201.17(10)(2)(ii) by adding "or late payment" after the word "underpayment" and by removing the second "underpayment" and replacing it with the words "interest charge." Both sections should read:

Interest is not required to be paid on any royalty underpayment or late payment from a particular accounting period if the interest charge is less than or equal to five dollars (\$5.00).

Since this regulation makes technical adjustments to the method used in calculating interest on late and underpaid royalties and since the amendments make it easier to establish the applicable interest rate, the regulation is issued in final form and takes effect for late payments and underpayments related to royalties due for the 1992/2 accounting period and for all accounting periods thereafter. The

Copyright Office has already set the interest rates for accounting periods earlier than 1992/2 under the superseded regulation, and those established rates are unaffected by this amendment of the regulation. That is, the interest rates already set under the superseded regulation will apply to any late payments or underpayments related to royalties due for any accounting period before 1992/2.

With respect to the Regulatory Flexibility Act, the Copyright Office takes the position that this Act does not apply to Copyright Office rulemaking. The Copyright Office is a department of the Library of Congress, which is part of the legislative branch. Neither the Library of Congress nor the Copyright Office is an "agency" within the meaning of the Administrative Procedure Act of June 11, 1946, as amended (title 5, of U.S. Code, subchapter II and chapter 7). The Regulatory Flexibility Act consequently does not apply to the Copyright Office since that Act affects only those entities of the Federal Government that are agencies as defined in the Administrative Procedure Act.¹

Alternatively, if it is later determined by a court of competent jurisdiction that the Copyright Office is an "agency" subject to the Regulatory Flexibility Act, the Register of Copyrights has determined and hereby certifies that this regulation will have no significant impact on small businesses.

List of Subjects in 37 CFR Part 201

Cable television; Cable compulsory license.

Final Regulation

In consideration of the foregoing, the Copyright Office is amending part 201 of 37 CFR, chapter II, as set forth below.

PART 201—[AMENDED]

1. The authority section for part 201 continues to read as follows:

Authority: Sec. 702, 90 Stat. 2541, 17 U.S.C. 702; § 201.7 is also issued under 17 U.S.C. 408, 409, and 410; § 201.16 is also issued under 17 U.S.C. 116; § 201.24 is also issued under Public Law 101-850, 104 Stat. 5089, 5134; § 201.6 is also issued under 17 U.S.C. 708; § 201.17 is also issued under 17

¹ The Copyright Office was not subject to the Administrative Procedure Act before 1978, and it is now subject to it only in areas specified by section 701(d) of the Copyright Act (i.e., "all actions taken by the Register of Copyrights under this title (17)," except with respect to the making of copies of copyright deposits (17 U.S.C. 706(b)). The Copyright Act does not make the Office an "agency" as defined in the Administrative Procedure Act. For example, personnel actions taken by the Office are not subject to APA-FOIA requirements.

U.S.C. 111; § 201.19 is also issued under 17 U.S.C. 115.

PART 201.11—[AMENDED]

2. Sections 201.11(h) (2) and (3) are revised to read as follows:

§ 201.11 Satellite carrier statements of account covering statutory licenses for secondary transmissions for private home viewing.

(h)(1) * * *

(2)(i) The interest rate applicable to a specific accounting period beginning with the 1992/2 period shall be the Current Value of Funds Rate, as established by section 8025.40 of the Treasury Financial Manual and published in the Federal Register, in effect on the first business day after the close of the filing deadline for that accounting period. Cable operators wishing to obtain the interest rate for a specific accounting period may do so by consulting the Federal Register for the applicable Current Value of Funds Rate, or by contacting the Licensing Division of the Copyright Office.

(ii) The interest rate applicable to a specific accounting period earlier than the 1992/2 period shall be the rate fixed by the Licensing Division of the Copyright Office pursuant to 37 CFR 201.11(h) in effect on June 30, 1992.

(3) Interest is not required to be paid on any royalty underpayment or late payment from a particular accounting period if the interest charge is less than or equal to five dollars (\$5.00).

§ 201.17 [Amended]

3. Sections 201.17(i)(2) (i) and (ii) are revised and (i)(2)(iii) is added to read as follows:

§ 201.17 Statements of account covering compulsory licenses for secondary transmissions by cable systems.

(i)(1) * * *

(2) * * *

(i) The interest rate applicable to a specific accounting period beginning with the 1992/2 period shall be the Current Value of Funds Rate, as established by section 8025.40 of the Treasury Financial Manual and published in the Federal Register, in effect on the first business day after the close of the filing deadline for that accounting period. Cable operators wishing to obtain the interest rate for a specific accounting period may do so by consulting the Federal Register for the applicable Current Value of Funds Rate, or by contacting the Licensing Division of the Copyright Office.

(ii) The interest rate applicable to a specific accounting period earlier than the 1992/2 period shall be the rate fixed by the Licensing Division of the Copyright Office pursuant to 37 CFR 201.17(i) in effect on June 30, 1992.

(iii) Interest is not required to be paid on any royalty underpayment or late payment from a particular accounting period if the interest charge is less than or equal to five dollars (\$5.00).

Dated: December 3, 1992.

Ralph Oman,
Register of Copyrights.

Approved by:
James H. Billington,
The Librarian of Congress.
[FR Doc. 92-31286 Filed 12-28-92; 8:45 am]
BILLING CODE 1410-06-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[IL 16-1-5140; FRL 4545-5]

Approval and Promulgation of Implementation Plans; Illinois

AGENCY: U.S. Environmental Protection Agency (USEPA).

ACTION: Final rule.

SUMMARY: USEPA is approving three revisions to the Illinois State Implementation Plan (SIP) addressing the control of emissions of total suspended particulates (TSP) from fuel combustion sources. These revisions pertain to the incorporation of new TSP rules to replace those remanded by the courts, as well as procedures for granting adjusted opacity standards. USEPA's action is based upon a request incorporating all three revisions, which was submitted by the State to satisfy the requirements of Part D of the Clean Air Act (Act).

DATES: This action will be effective March 1, 1993 unless notice is received within 30 days that someone wishes to submit adverse or critical comments. If the effective date is delayed, timely notice will be published in the Federal Register.

ADDRESSES: Copies of the SIP revision request and USEPA's analysis are available for inspection at the following address: (It is recommended that you telephone Randolph O. Cano at (312) 886-6036, before visiting the Region 5 office.) U.S. Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604.

Written comments should be sent to: J. Elmer Bortzer, Chief, Regulation Development Section, Regulation Development Branch (AR-18J) U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604.

A copy of today's revision to the Illinois SIP is available for inspection at: U.S. Environmental Protection Agency, Public Information Reference Unit, 401 M Street, SW., Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT: Randolph O. Cano, Regulation Development Branch, Regulation Development Section (AR-18J), U.S. Environmental Protection Agency, Region 5, Chicago, Illinois 60604 (312) 886-6036.

SUPPLEMENTARY INFORMATION: USEPA revised the National Ambient Air Quality Standard (NAAQS) for particulate matter on July 1, 1987, (52 FR 24634), and replaced the TSP ambient air quality standard. The revised standard is expressed in terms of particulate matter with a nominal diameter of 10 micrometers or less (PM₁₀). However, at the State's option, USEPA continues to process TSP SIP revisions which were in process at the time the new (PM₁₀) standard was promulgated. In a policy document published on July 1, 1987, (52 FR at 24679, column 2), USEPA stated that it would regard its approval of existing TSP rules as necessary interim particulate matter plans during the period preceding the approval of State plans specifically aimed at PM₁₀. Section 110(1) of the 1990 Clean Air Act Amendments (CAAA), 42 U.S.C. 7410, prohibits USEPA from approving SIP revisions that result in the relaxation of control requirements in effect in nonattainment areas before November 15, 1990, if such revisions "would interfere with any applicable requirement concerning attainment or reasonable further progress (as defined in section 171), or any other applicable requirement of this Act." If the SIP revision is judged to include more stringent provisions than are in the existing plan, USEPA's general policy is to approve it. Regulations in the TSP SIP cannot be relaxed, however, without a demonstration that the revision will not interfere with attainment and maintenance of the PM₁₀ NAAQS. It is USEPA's judgement that the revisions in this action would increase the stringency of the plan and are, therefore, not likely to interfere with the attainment and maintenance of the PM₁₀ standard as well. Thus, USEPA is approving this SIP revision.

On May 31, 1972 (37 FR 10862), USEPA approved the incorporation of Illinois Pollution Control Board (IPCB) rule 203(g)(1) and rule 202(b) into the Illinois SIP. These rules were vacated and remanded by the Illinois Appellate Court on September 22, 1978 and, therefore, are no longer federally enforceable as part of the Illinois SIP. Rule 203(g)(1) addressed particulate-emission from fuel combustion emission sources. Rule 202(b) addresses visual emission standards for existing sources.

Because these regulations were vacated, USEPA issued a notice of deficiency regarding the Illinois SIP (on July 12, 1979, (44 FR 40723)). Today's rulemaking concerns regulations adopted to replace the TSP fuel combustion regulations remanded by the Court.

On March 13, 1986, the Illinois Environmental Protection Agency (IEPA) submitted certain proposed regulations to USEPA then being considered by the IPCB to replace the regulations vacated and remanded by the Illinois Appellate Court. In submitting these proposed regulations, the State requested USEPA to initiate proposed rulemaking on these regulations using parallel processing. USEPA did not take action on the March 13, 1986, submittals. On July 2, 1986, the IPCB adopted final regulations to replace rule 203(g)(1), those being rules 212.201 through 212.204, and 212.209. The final adopted regulations were submitted to USEPA on July 30, 1986, with a request to incorporate them into the SIP. On June 30, 1988, the IPCB finally adopted regulations to replace rule 202(b), those being rules 212.113, and 212.121 through 212.126. These regulations were submitted to USEPA on July 22, 1988, with a request to incorporate them into the SIP. Also submitted July 22, 1988, were procedural rules, those being rules 106.501 through 106.507, adopted by the IPCB, intended to establish procedures for considering source requests for an adjusted opacity standard pursuant to § 212.126.

It should be noted that subsequent to the invalidation of rule 203(g)(1) and 202(b) by the Illinois Appellate Court, the State of Illinois recodified all of its environmental regulations into title 35 of the Illinois Administrative Code (IAC). The regulations being considered to replace rule 203(g)(1) and rule 202(b) are, respectively, §§ 212.201 through 212.204 and 212.209 and 212.113, 212.121 through 212.126 of 35 IAC Subtitle B: Air Pollution, Chapter I: Pollution Control Board USEPA's description and evaluation of these

regulations will utilize the revised numbering scheme.

Description and Evaluation of Rules

Boilers Rules

Section 212.201 Existing Sources Using Solid Fuel Exclusively Located in the Chicago Area

This section provides an emission limit of 0.10 lbs/million British Thermal Units (Btu). This is the same limit that was approved in 1972. USEPA considers this rule to represent Reasonably Available Control Technology (RACT) for TSP sources in Illinois.

Section 212.202 Existing Sources Using Solid Fuel Exclusively Located Outside the Chicago Area

This section provides the following emission limits:

Actual heat input of sources in million Btu/hr (H)	Emission limit in pounds per million Btu
Less than or equal to 10	1.0
Greater than 10 but less than 20 ..	5.18H-0.175
Greater than or equal to 250	0.1

These are the same limits that were approved in 1972. USEPA believes that these rules represent RACT. They would apply both in attainment and nonattainment areas.

Section 212.203 Existing Controlled Sources Using Solid Fuel Exclusively

This section allows for degradation of control at sources subject to section 212.201 and 212.202. Emissions from these sources would in no case exceed 0.20 lbs per million Btu. The rule approved in 1972 would allow a source to degrade up to 0.05 lbs per million Btu from original design or acceptance performance test conditions. Section 212.203 would additionally allow a source to degrade up to 0.05 lbs per million Btu from the most recent stack test submitted prior to April 1, 1985. This rule would apply in attainment and nonattainment areas alike. USEPA considers these Illinois rules, even with this relaxation, to represent RACT. Granting a relaxed emission limit would redefine RACT for a particular facility.

This rule, in effect, sets up a generic procedure for the State agency to provide an alternate emission limit for sources subject to § 212.201 or 212.202. As a general practice USEPA is reluctant to approve SIP provisions which grant the state "director discretion" to allow sources to modify their emission limits without first obtaining Federal approval through the SIP rulemaking process. USEPA's concern is that if source emission limits can be relaxed without

Federal SIP approval it is possible that the SIP could be modified so that the attainment and maintenance of the National Ambient Air Quality Standards the SIP was intended to protect is jeopardized. USEPA would not be given an opportunity to rulemake on all such modifications. Several factors lessen USEPA's concerns. First, in all instances the degeneration cannot exceed .05 lbs/MMBtu. The relaxed emission limits cannot exceed .20/lbs per MMBtu. USEPA believes that even these relaxed emission limits are reflective of RACT for in the process of granting a relaxed emission limit the State redefines RACT as it pertains to the subject facility. Further, all such relaxations should be incorporated in an operating permit. On December 17, 1992, (57 FR 59928) USEPA approved the Illinois Operating Permit program for the purpose of issuing federally enforceable operating permits. Prior to issuing an operating permit, the State must give USEPA the opportunity to review the permit to ensure that the respective permit is federally enforceable. USEPA will therefore be able to use its review of State operating permits to further ensure that the NAAQS are protected.

Section 212.204 New Sources Using Solid Fuel Exclusively

This section would provide an emission limit of 0.10 lbs per million Btu in any one hour period for new solid fuel sources. This is the same limit that was approved as representing RACT in 1972 and is still approvable as RACT. Under the Clean Air Act's regulatory scheme new sources would also be subject to any applicable emission limits required by Part D, or section 112. These include lowest achievable emission rate (LAER), new source performance standards (NSPS) and, national emission standards for hazardous air pollutants (NESHAPS).

Section 212.209 Village of Winnetka Generating Station

This section would provide as a variance a temporary emission limit of 0.25 lbs per million Btu for the Village of Winnetka Generating Stations if the Village files a petition to establish site-specific particulate standards within 60 days of the effective date of this rule. This variance would be effective until January 1, 1988, or until a final determination is made by the Illinois Pollution Control Board on the site-specific rulemaking, whichever occurs sooner. (The provisions of § 212.209 are moot since the variance period ended on January 1, 1988.)

USEPA believes that §§ 212.201, 212.202, 212.203 and 212.204 are

approvable because they represent RACT. As § 212.209 is moot by its own terms, no determination is made as to its approvability.

Opacity Rules

Section 212.113 Incorporations by Reference

This section was revised to incorporate all of part 60 of title 40 of the Code of Federal Regulations (1987) (which was the most current version available at the time the State modified this Section). In addition, language was added to clarify that no future additions were being incorporated by reference at this time. This additional qualification is consistent with the legal requirements for incorporation by reference at both the State and Federal level. It is simply impossible to incorporate by reference something that is not yet in existence.

Section 212.121 Opacity Standards

This section provides that, for the purpose of subpart B: Visible Emissions of part 212: Visible and Particulate Matter Emissions, all visible emission opacity standards shall be considered equivalent to corresponding Ringleman Chart readings as described under the definition of opacity in § 211.122. An additional change to this Section is that the term "visible" replaces the term "visual". USEPA approves the incorporation of this section into the SIP because the change to the rule is non-substantive.

Section 212.122 Limitation for Certain New Sources

This Section, which provides emission limits for new sources with actual heat input greater than 250 MMBtu/hr, was approved for incorporation into the Illinois SIP on May 31, 1972 (37 FR 10862) as PCB rule 202(a)(1). Today USEPA is incorporating the recordified rule number, 35 IAC 212.122 into the SIP.

Section 212.123 Limitation for All Other Sources

This Section has been revised to clarify that no person shall cause or allow emission of smoke, or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission source other than those sources subject to § 212.122. This Section also contains an exception for smoke or other particulate matter from any such emission source, which allows opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period. The more opaque emissions shall occur from only one such emission source, located

within 305 meters or 1,000 feet radius from the center point from any other such emission source, owned or operated by the same person. It is further provided that the periods of more opaque emissions are limited to three times in a 24 hour period. USEPA is granting approval of the incorporation of this section into the SIP.

Section 212.124 Exceptions

This section provides for exceptions during startup, malfunction, and breakdown, as provided in an operating permit issued in accordance with 35 IAC 201. Part 201 contains the permit and general provisions. Section 212.124 also provides that sources which have obtained an adjusted opacity standard pursuant to § 212.126 are subject to that standard rather than the limitations of § 212.122 or 212.123. Finally § 212.124 clearly defines the criteria for a source's use of compliance with the particulate regulations as a defense to a violation of the applicable opacity standards. USEPA approves the incorporation of this section into the SIP.

Section 212.125 Determination of Violations

This Section provides three methods for determining violations: visual observation, use of an approved calibrated smoke evaluation device or, use of an approved smoke monitor, which were approved by IPCB for incorporation into the Illinois SIP on May 31, 1972 (37 FR 10862) as PCB rule 202(c). Today USEPA is incorporating the recordified rule number 35 IAC 212.125 into the SIP.

Section 212.126 Adjusted Opacity Standards Procedures

This Section provides detailed procedures a source can follow to obtain an adjusted opacity standard, including a detailed testing methodology. Four limits on alternate opacity limitations are also set forth; they must be contained in an operating permit; must substitute for the otherwise applicable limit; must not allow an opacity greater than 60 percent; and, must allow opacity for one, six minute averaging period in any sixty minute period, to exceed the adjusted opacity standard. USEPA approves the incorporation of this Section in the SIP.

The Illinois opacity rules as discussed above incorporate guidance provided by USEPA in its September 23, 1986, comments to IEPA. The regulations are clear and enforceable. The procedures in § 212.126 Adjusted Opacity Standards Procedures allows the IPCB to modify the pertinent SIP emission requirements without USEPA

rulemaking. It should be noted here that opacity is used as an indirect measure of compliance with particulate emission limits by a point source. Even without an opacity limit, compliance with the particulate limit is required. Further, such compliance can be more accurately measured through the use of a stack test. USEPA normally objects to this practice because the State could modify the SIP in such a way as to interfere with attainment and maintenance of the NAAQS. However, because USEPA has approved the Illinois operating permit program for the purpose of issuing federally enforceable operating permits, and operating permits will be the vehicle for issuing Adjusted Opacity Standards, such concerns are minimized. USEPA intends to use its overview of the Illinois operating permit program to review operating permits prior to their issuance; and, through its authority under section 105 of the Act grant process, to ensure attainment and maintenance of the NAAQS. For the above cited reasons, USEPA approves the incorporation of these opacity rules into the SIP.

Air Adjusted Standards Procedures

As part of its June 30, 1988, submittal the State submitted Adjusted Standard Procedures which are part of IPCB's procedural results. These procedures are contained in 35 IAC Subtitle A: General Provisions; Chapter I: Pollution Control Board; part 106: Hearings Pursuant to Specific Rules; subpart E: Air Adjusted Standard Procedures; § 106.501 through 106.507.

Section 106.501 Scope and Applicability

This Section clarifies that subpart E only applies whenever an adjusted standard is requested pursuant to 35 IAC 212.126 Adjusted Opacity Standard Procedures.

Section 106.502 Joint Single Petitions

This Section provides that any person may initiate an adjusted standard proceeding by filing a petition jointly with the IEPA, or on its own.

Section 106.503 Request to Agency to Join as Co-Petitioner

This Section allows IEPA to act in any adjusted standard proceeding as a petitioner. Any person may request IEPA assistance in initiating a petition for an adjusted standard. IEPA may require the requestor to submit relevant information. IEPA must promptly notify the requestor of its decision whether or not to become a co-petitioner. The basis for not becoming a co-petitioner must be given to the requestor. IEPA's decision

is discretionary and not appealable to the IPCB.

Section 106.504 Contents of Petition

This Section specifies what information must be included in a petition.

Section 106.505 Response and Reply

This Section requires IEPA to file a response within 45 days of a petition being filed in which IEPA is not a competitor. This response must include IEPA's recommendations concerning IPCB's proposed action on the petition. The petitioner is allowed 15 days to file a reply to the IEPA response.

Section 106.506 Notice and Conduct of Hearing

This Section requires the IPCB to hold at least one public hearing prior to granting an adjusted standard. The public notification process must conform to the pertinent Federal requirements.

Section 106.507 Opinions and Orders

This Section requires the IPCB to issue an Opinion and Order stating the relevant facts and rationale for the final IPCB determination. The IPCB may issue other orders as it deems appropriate. This Section also requires the Clerk of the IPCB to maintain a record of all Opinions and Orders for public inspection. This Section also provides that decisions of the IPCB are appealable pursuant to section 41 of the Illinois Environmental Protection Act, which provides for judicial review of IPCB decisions in the Appellate Court for the District in which the cause of action arose.

USEPA believes that these Air Adjusted Standards Procedures are well defined and provide for adequate review of petitions for an adjusted standard in that both the public and IEPA are afforded an opportunity to comment on all petitions. These comments must also be addressed in the IPCB Opinion and Order. For these reasons, USEPA approves the incorporation of these procedural rules into the SIP.

USEPA has reviewed IEPA's submittals of July 30, 1986, and July 22, 1988, for conformance with the provisions of the 1990 CAAA enacted on November 15, 1990. USEPA has determined that these actions conform with those requirements irrespective of the fact that the submittal preceded the date of enactment.

Because USEPA considers today's actions noncontroversial and routine, we are approving them today without prior proposal. The action will become effective on March 1, 1993. However, if

we receive notice by January 28, 1993 that someone wishes to submit adverse comments, then USEPA will publish: (1) A notice that withdraws the action, and (2) a notice that begins a new rulemaking by proposing the action and establishing a comment period.

Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future request for revision to any SIP. Each request for revision to the SIP shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

This action has been classified as a Table 2 action by the Regional Administrator under the procedures published in the Federal Register on January 19, 1989, (54 FR 2214-2225). On January 6, 1989, the Office of Management and Budget (OMB) waived Table Two and Three SIP revisions (54 FR 2222) from the requirements of Section 3 of Executive Order 12291 for a period of 2 years. USEPA has submitted a request for a permanent waiver for Table 2 and Table 3 SIP revisions. The OMB has agreed to continue the temporary waiver until such time as it rules on USEPA's request.

Under the Regulatory Flexibility Act, 5 U.S.C. 600 et seq., USEPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities. 5 U.S.C. 603 and 604. Alternatively, USEPA may certify that the rule will not have a significant impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

SIP approvals under section 110 and subchapter I, part D of the CAA do not create any new requirements, but simply approve requirements that the State is already imposing. Therefore, because the Federal SIP-approval does not impose any new requirements, it does not have a significant impact on any small entities affected. Moreover, due to the nature of the Federal-State relationship under the CAA, preparation of a regulatory flexibility analysis would constitute Federal inquiry into the economic reasonableness of State actions. The CAA forbids USEPA to base its actions concerning SIPs on such grounds. *Union Electric Co v. U.S., E.P.A.*, 427 U.S. 246, 256-66 (S.Ct. 1976); 42 U.S.C. 7410 (a)(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the

appropriate circuit by March 1, 1993. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall be not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Air pollution control, Incorporation by reference, Intergovernmental relations, Particulate matter.

Dated: December 2, 1992.

David Kee,

Acting Regional Administrator.

For the reasons set out in the preamble title 40, Chapter I of the Code of Federal Regulations is amended as follows.

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

Subpart O—Illinois

Authority: 42 U.S.C. 7401, 7671(q)

2. Section 52.720 is amended by adding paragraph (c)(94) to read as follows:

§ 52.720 Identification of plan.

* * * * *

(c) * * *

(94) On July 30, 1986, the State submitted particulate boiler rules intended to replace rule 203(g)(1) which was vacated by the Courts. No action is taken on § 212.209 because the variance which it authorized has expired. On July 22, 1988, the State submitted opacity rules intended to replace rule 202(b) which had been vacated by the Courts. Also on July 22, 1988, the State submitted Illinois Pollution Control Board procedural rules for considering Air Adjusted Standard Procedures.

(i) Incorporation by reference.

(A) Title 35: Environmental Protection, Illinois Administrative Code, Subtitle B: Air Pollution; Chapter 1: Pollution Control Board; part 212 Visible and Particulate Matter Emissions; subpart E: Particulate Matter Emission from Fuel Combustion Emission Sources; §§ 212.201, 212.202, 212.203 and 212.204. Amended or added at 10 Ill Reg. 12637, effective July 9, 1986.

(B) Title 35: Environmental Protection, Illinois Administrative Code,

Subtitle B: Air Pollution; Chapter 1:
Pollution Control Board; part 212
Visible and Particulate Matter
Emissions; subpart B: Visible Emissions.
Amended or added at 12 Ill. Reg 12492,
effective July 13, 1988.

(C) Title 35: Environmental
Protection, Illinois Administrative Code;
Subtitle A: General Provisions; Chapter
1: Pollution Control Board; part 106:
Hearings Pursuant to Specific Rules;
subpart E: Air Adjusted Standards

Procedures. Added at 12 Ill. Reg 12484,
effective July 13, 1988.
[FR Doc. 92-31265 Filed 12-28-92; 8:45 am]
BILLING CODE 6560-50-M

Attachment 8

States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

C. Petitions for Judicial Review

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by September 4, 2012. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of

such rule or action. This action pertaining to Maryland's Regional Haze Plan for the first implementation period, through 2018 may not be challenged later in proceedings to enforce its requirements. See section 307(b)(2) of the CAA.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

Dated: June 13, 2012.
W.C. Early,
Acting Regional Administrator, Region III.
Therefore, 40 CFR part 52 is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart V—Maryland

■ 2. In § 52.1070, the table in paragraph (e) is amended by adding the entry for the Maryland Regional Haze Plan at the end of the table to read as follows:

§ 52.1070 Identification of plan.

* * * * *
(e) * * *

Name of non-regulatory SIP revision	Applicable geographic area	State submittal date	EPA approval date	Additional explanation
Maryland Regional Haze Plan	Statewide	2/13/12	7/6/2012	[Insert page number where the document begins].

[FR Doc. 2012-16417 Filed 7-5-12; 8:45 am]
BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R05-OAR-2011-0598; FRL-9683-6]

Approval and Promulgation of Air Quality Implementation Plans; Illinois; Regional Haze

AGENCY: Environmental Protection Agency (EPA).
ACTION: Final rule.

SUMMARY: EPA is approving revisions to the Illinois State Implementation Plan, submitted on June 24, 2011, addressing regional haze for the first implementation period. EPA received comments disputing its proposed finding regarding best available retrofit technology, but EPA continues to believe that Illinois' plan limits power plant emissions as well as would be achieved by directly requiring best available retrofit technology. Therefore, EPA finds that the Illinois regional haze plan satisfactorily addresses Clean Air Act section 169A and Regional Haze Rule requirements for states to remedy any existing and prevent future anthropogenic impairment of visibility at mandatory Class I areas. EPA is also approving two state rules and

incorporating two permits into the state implementation plan.

DATES: This final rule is effective on August 6, 2012.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2011-0598. All documents in the docket are listed on the www.regulations.gov web site. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 AM to 4:30 PM, Monday through Friday, excluding Federal holidays. We recommend that you telephone John Summerhays, Environmental Scientist, at (312) 886-6067 before visiting the Region 5 office.

FOR FURTHER INFORMATION CONTACT: John Summerhays, Environmental Scientist, Attainment Planning and Maintenance Section, Air Programs Branch (AR-18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard,

Chicago, Illinois 60604, (312) 886-6067, summerhays.john@epa.gov.

SUPPLEMENTARY INFORMATION: This supplementary information section is arranged as follows:

- I. Synopsis of Proposed Rule
- II. Comments and Responses
- III. What action is EPA taking?
- IV. Statutory and Executive Order Reviews

I. Synopsis of Proposed Rule

Illinois submitted a plan on June 24, 2011, to address the requirements of Clean Air Act section 169A and the Regional Haze Rule, as codified in Title 40 Code of Federal Regulations Part 51.308 (40 CFR 51.308).

EPA published a notice of proposed rulemaking evaluating Illinois' submittal on January 26, 2012, at 77 FR 3966. This notice described the nature of the regional haze problem and the statutory and regulatory background for EPA's review of Illinois' regional haze plan. The notice provided a lengthy delineation of the requirements that Illinois intended to meet, including requirements for mandating BART, consultation with other states in establishing goals representing reasonable progress in mitigating anthropogenic visibility impairment, and adoption of limitations as necessary to implement a long-term strategy for reducing visibility impairment.

Of particular interest were EPA's findings regarding BART. States are required to address the BART

requirements for sources with significant impacts on visibility, which Illinois defined as having at least 0.5 deciview impact on a Class I area. Using modeling performed by the Lake Michigan Air Directors Consortium (LADCO), Illinois identified 10 power plants and two refineries as having sufficient impact to warrant being subject to a requirement representing BART.¹

Seven of the power plants that were identified as being subject to the requirement for BART are addressed in one of two sets of provisions of Illinois' rules known respectively as the Combined Pollutant Standards (CPS), 35 Ill. Administrative Code 225.233, and the Multi-Pollutant Standards (MPS), 35 Illinois Administrative Code 225.293–225.299. These provisions are included in Illinois' mercury rules. These rules offer the affected utilities (Midwest Generation, Dynegy, and Ameren) a choice of limitations, either to include 1) specific mercury emission limitations effective in 2015 with no limits on emissions of sulfur dioxide (SO₂) or nitrogen oxides (NO_x) or 2) work practice requirements for installation of mercury control equipment in conjunction with limits on SO₂ and NO_x emissions. Illinois' submittal includes letters from the affected companies choosing the option that includes SO₂ and NO_x emission limits, which pursuant to Illinois' rules establishes these limits as enforceable limits. In the case of Midwest Generation, three of its power plants meet the criteria for being subject to BART, and six plants are governed by the SO₂ and NO_x limits in the Multi-Pollutant Standards. In the case of Dynegy, one of its power plants meets the criteria for being subject to BART, and four coal-fired power plants are governed by the SO₂ and NO_x limits in the (CPS). In the case of Ameren, three of its power plants meet the criteria for being subject to BART, and five coal-fired plants are governed by the SO₂ and NO_x limits in the (CPS). In the notice of proposed rulemaking, EPA proposed to conclude that the emission reductions from the (MPS) and the (CPS) would be greater than the reductions that would occur with unit-specific implementation of BART on the subset of these sources that meet the criteria for being subject to BART. Therefore, EPA proposed to find that the (MPS) and the (CPS) suffice to address

the BART requirement for the power plants of these three utilities.

Illinois also developed source-specific limits to mandate BART for three additional power plants. These limits are adopted into two permits, one for Kincaid Generation's Kincaid Station and one for City Water, Light, and Power's (CWLP) Dallman Station and Lakeside Station. CWLP shutdown Lakeside Station in 2009, and the CWLP permit requires that the Lakeside Station never resume operation. Finally, Illinois found that Federal consent decrees regulating emissions from the two refineries with units subject to BART (facilities owned by ExxonMobil and Citgo) mandate control at the refineries in Illinois at least as much as would be required as BART. EPA proposed to conclude that Illinois satisfied BART requirements for the affected Illinois power plants and refineries.

As stated in the notice of proposed rulemaking, Illinois did not rely on the Clean Air Interstate Rule (CAIR) for its BART determinations. Illinois is in the CAIR region. However, it used its state rules, permits, and consent decrees to achieve emission reductions that satisfy BART. This means that Illinois is not reliant on CAIR and, thus, it has avoided the issues of other CAIR region states that relied on CAIR. For similar reasons, Illinois' satisfaction of regional haze rule requirements is not contingent on the Cross-State Air Pollution Rule (CSAPR) and thus is not affected by the stay of that rule.

II. Comments and Responses

EPA received comments from three commenters on its proposed rulemaking on the Illinois regional haze plan. These commenters included ExxonMobil, the U.S. Forest Service, and the Environmental Law and Policy Center (ELPC).

ExxonMobil comments that section 169A(b)(2)(A) requires sources to implement BART *as determined by the state* (emphasis in the original), and agrees with Illinois' and EPA's conclusion that "emission limits established by the consent decrees may be relied upon by Illinois for addressing the BART requirement for these facilities." While EPA has the responsibility to evaluate whether it believes that states have made appropriate determinations as to what restrictions constitute BART, EPA appreciates the comment supporting its position, which EPA has no reason to change, that the Federal consent decrees for ExxonMobil and Citgo adequately mandate BART for the two Illinois refineries.

The U.S. Forest Service wrote to express its appreciation to Illinois for addressing prior Forest Service comments and to express support for EPA's proposed approval of Illinois' plan.

ELPC sent extensive comments objecting that control requirements for power plants in Illinois do not suffice to meet the BART requirements and leave Illinois short of meeting reasonable progress requirements. These comments are addressed in detail in the discussion that follows.

Comment: ELPC argues that "the plain language of the Clean Air Act precludes alternatives to BART." Since the Illinois plan establishes limits that govern the collective emissions of multiple power plants owned by pertinent utilities, the plan relies on an alternative to BART as described in 40 CFR 51.308(e)(2) rather than mandating BART on a source-specific basis. ELPC states that BART at BART-eligible sources is expressly mandated in Clean Air Act section 169A(b)(2)(A). ELPC acknowledges that the Clean Air Act authorizes limited exemptions from BART, in cases which EPA determines pursuant to section 169A(c)(1) that "the source does not either by itself or in combination with other sources 'emit any air pollutant which may reasonably be anticipated to cause or contribute to a significant impairment of visibility in any mandatory class I federal area.'" ELPC observes that "[n]owhere in Section 169A did Congress contemplate or sanction sweeping alternative programs" such as Illinois uses to address BART for many of its BART-subject power plants "in lieu of source specific BART."

ELPC acknowledges that EPA promulgated regulations reflecting its interpretation that BART requirements may be satisfied by alternative programs, and ELPC acknowledges that "the DC Circuit Court of Appeals has upheld [these] regulations." Nevertheless, "because these [court rulings] cannot be reconciled with the plan language of the Clean Air Act," ELPC urges that "EPA should not rely on [this interpretation] to exempt Illinois from implementing BART."

Response: In several previous rules, EPA has concluded that Clean Air Act section 169A may reasonably be interpreted to provide that the requirement for BART may be satisfied by an alternative program that provides greater visibility protection in lieu of limitations that directly mandate BART for individual sources determined to be subject to the BART requirement. See 40 CFR 51.308(e), 64 FR 35741–35743 (July 1, 1999), and 70 FR 39136 (July 6, 2005).

¹ The notice of proposed rulemaking lists 10 EGUs as being subject to BART (including two facilities owned by City Water Light and Power (CWLP)) but states that only 9 EGUs are subject to BART. This is because CWLP shut down the Lakeside plant that was subject to BART in 2009.

As ELPC acknowledges, the Court of Appeals for the District of Columbia Circuit supports that interpretation, *Center for Energy and Economic Development v. EPA*, 398 F.3d 653, 660 (D.C. Cir. 2005) (“*CEED*”) (finding reasonable EPA’s interpretation of CAA section 169(a)(2) as requiring BART only as necessary to make reasonable progress), as has the Ninth Circuit, *Central Arizona Water Conservation District v. EPA*, 990 F.2d 1531, 1543 (9th Cir. 1993) Therefore, EPA views Illinois’ approach as an acceptable means of addressing the BART requirement in section 169A.

Comment: ELPC comments that “Illinois was required, but failed, to make a BART determination for each source subject to BART in the state.” ELPC lists the elements of a BART analysis that a state “*must submit*” (emphasis in original) pursuant to 40 CFR 51.308(e)(2), and ELPC states that Illinois has failed to make the BART determination based on source-specific information that EPA’s regulations require. “Rather than make a BART determination for each individual source subject to BART that would be covered by Illinois’ proposed alternative,” ELPC objects that the state “simply compared projected emissions reductions [from the adopted restrictions] to presumptive BART emissions.” ELPC comments that “[b]ecause Illinois entirely failed to use source-specific information or undertake a comprehensive five factor analysis to determine BART, its proposed Regional Haze State Implementation Plan (SIP) may not be approved.

Response: The primary requirement, as specified in Clean Air Act section 169A, is for sources to procure, install, and operate BART. In some cases this requirement is met with an analysis of potential controls considering five factors set out in EPA’s regional haze rule (a “five-factor analysis”). 40 CFR 51.308(e)(1)(ii)(A). As noted above, EPA has determined that this requirement can be met by a state establishing an alternative set of emission limits which mandate greater reasonable progress toward visibility improvement than direct application of BART on a source-by-source basis.

In promulgating the 1999 regional haze regulations, EPA stated that to demonstrate that emission reductions of an alternative program would result in greater emission reductions, “the State

must estimate the emission reductions that would result from the use of BART-level controls. To do this, the State could undertake a source-specific review of the sources in the State subject to BART, or it could use a modified approach that simplifies the analysis.” 64 FR 35742 (July 1, 1999).

In guidance published on October 13, 2006, EPA offered further clarification for states for assessing alternative strategies, in particular regarding the benchmark definition of BART to use in judging whether the alternative is better. See 71 FR 60612. In this rulemaking, EPA stated in the preamble that the presumptive BART levels given in the BART guidelines would be a suitable baseline against which to compare alternative strategies where the alternative has been designed to meet a requirement other than BART. 71 FR at 60619; *see also* 40 CFR 51.308(e)(2)(i)(C). Illinois’ analysis is fully consistent with EPA’s conclusions in this rulemaking.

Nevertheless, EPA undertook further analysis comparing Illinois’ strategy against more stringent definitions of BART. In brief, EPA found that the alternative restrictions imposed by Illinois can be demonstrated to provide greater emission reductions and greater visibility improvement than even very conservative definitions of BART, even without a full analysis of the emission levels that constitute BART. The demonstration is discussed below, in the context of response to comments addressing the magnitude of controls at Illinois power plants.

Comment: ELPC believes that the pertinent requirements in Illinois’ plan “will not achieve greater reasonable progress toward natural visibility conditions than BART.” Furthermore, “the MPS/CPS contains absolutely no requirements for specific control equipment to be installed or operated at any source subject to BART in Illinois.” ELPC identifies several examples of BART units that are expected to comply with the MPS or CPS with controls that are less effective than BART-level controls. ELPC also finds it problematic that “requirements for 2017 for Ameren exceed presumptive BART requirements for NO_x at one of the three plants subject to BART, and far exceed presumptive SO₂ BART limits at *all three* (emphasis in original) Ameren plants subject to BART.” ELPC raises similar concerns in relation to specified Midwest Generation (MWG) plants. For

this reason, “and because Ameren and MWG need not meet even those weak requirements at their plants subject to BART, the MPS/CPS is not ‘better’ than presumptive BART limits.”

Response: ELPC appears to misunderstand the applicable test for alternate strategies for addressing BART. In particular, ELPC appears to believe that under the alternative approach, Illinois must require BART-level controls at each unit subject to BART. In fact, the underlying principle of EPA’s guidance on alternative measures is to offer states the flexibility to require less control at BART units than BART-level control, provided the states provide additional control at non-BART units that more than compensates for any degree to which control at BART units falls short of BART. Illinois is using precisely this flexibility. Irrespective of the degree to which control at individual power plant BART units may be less stringent than the limits that for those particular units would be defined as BART, Illinois is requiring control across a universe of sources that includes many sources that are not subject to BART, thereby providing reductions that under EPA’s rules and BART guidelines on alternative measures can compensate for any shortfall in control at BART units.

In response to these comments, EPA conducted further analysis of whether Illinois’ requirements, addressing a substantial number of sources, can be expected to provide greater reasonable progress toward visibility protection than application of BART to the more limited number of units subject to a requirement for BART. EPA’s analysis did not rely on a full five-factor analysis of BART at each BART-subject unit. Instead of using presumptive limits, EPA used emission limits described in EPA’s RACT/BACT/LAER Clearinghouse as being applied to new sources. These limits, namely 0.06 pounds per million British Thermal Units (#/MMBTU) for NO_x and also 0.06 #/MMBTU for SO₂, are as stringent and are probably more stringent than would generally be expected to be met at existing power plants, due to the design constraints that are sometimes inherent in controlling emissions at an existing facility.

A more complete description of EPA’s analysis is provided in the technical support document being placed in the docket for this rule. Table 1 provides a summary of the results of this analysis.

TABLE 1—EMISSION REDUCTIONS MANDATED BY ILLINOIS’ PLAN AND CONSERVATIVE ESTIMATES OF BART REDUCTIONS

Company	BART units	Total units	NO _x reductions (tons/year)		SO ₂ reductions (tons/year)	
			IL Plan	Lowest BART	IL Plan	Lowest BART
Ameren	5	24	24,074	23,849	111,997	74,349
Dynegy	3	10	23,867	18,551	47,378	22,444
MWG	9	19	37,819	28,061	61,292	38,963
CWLP	3	3	5,375	5,560	4,875	5,619
Kincaid	2	2	16,874	18,970	12,827	15,730
Totals	22	58	108,009	94,991	238,369	157,105

This table shows that the reductions from Illinois’ plan, including reductions from the MPS, the CPS, and the permits for CWLP and Kincaid Generation, provide significantly greater emission reductions, especially for SO₂ but also for NO_x, than even very conservative definitions of BART for the BART-subject units. While Illinois’ limits for the CWLP and Kincaid facilities viewed individually are subject to limits at approximately presumptive levels, and thus mandate less reduction than would be mandated by conservative definitions of BART, this analysis indicates that the collective emission reductions from Illinois power plants are greater than those that would be achieved by requiring achievement of even very conservative limits at the units that are subject to a BART requirement.

An additional point to be addressed is whether Illinois’ plan, achieving greater emission reductions overall than application of BART on BART-subject units, can be expected also to achieve greater visibility protection than application of BART on BART-subject units. In general, Illinois’ power plants are substantial distances from any Class I area. The least distance from any BART-subject Illinois power plant to any Class I area is from Dynegy’s Baldwin power plant to the Mingo Wilderness Area, a distance of about 140 kilometers. The CWLP and Kincaid facilities are in the middle of the State; for example, Kincaid Station is about 300 kilometers from the Mingo Wilderness Area. Given these distances, and given that the averaging in Illinois’ plan (averaging among Illinois plants of an individual company) is only authorized within the somewhat limited region within which each utility’s plants are located, a reallocation of emission reductions from one plant to another is unlikely to change the impact of those emission reductions significantly. Consequently, in these circumstances, EPA is confident that the significantly greater emission reductions that Illinois mandates will yield greater progress toward visibility protection as

compared to the benefits of a conservative estimate of BART.

Comment: ELPC comments that the “MPS/CPS does not require that all necessary emissions reductions take place during the first long-term strategy for regional haze.”

Response: EPA does not prohibit reductions after the BART compliance deadline (in 2017); Illinois is only required to mandate at least measures that will achieve greater reasonable progress by the BART compliance deadline. While the MPS and the CPS establish a series of progressively more stringent limits extending to 2017 and beyond, both Illinois’ analysis and the EPA analysis discussed above (summarized in Table 1) evaluate satisfaction of BART requirements by considering the emission limits in effect in 2017. The conclusion of that analysis is that the reductions necessary to meet BART requirements occur by the deadline for such reductions to occur. The fact that Illinois’ plan requires additional reductions after 2017 is not a shortcoming of Illinois’ plan.

Comment: ELPC expects the affected utilities to use the reductions mandated here to comply with CSAPR. ELPC concludes that these reductions cannot be considered surplus and thus are not creditable for meeting BART requirements.

Response: Under 40 CFR 51.308(e)(2), the alternative measures need only be surplus to reductions from measures adopted to meet requirements of the Clean Air Act as of the baseline date of the SIP, i.e. 2002. (See 40 CFR 51.308(e)(2)(iv).) In addition, 40 CFR 51.308(e) expressly provides that the BART requirements may be met by compliance with a trading program of adequate stringency even without establishment of state-specific limits. Therefore, the existence of a trading program, and influence that the state limits have on a utility’s strategy for complying with the trading program requirements, cannot be grounds for disapproving a state plan that satisfies

alternative BART requirements without reliance on the trading program.

Comment: ELPC expresses a number of concerns about the BART analysis for Kincaid Station. ELPC particularly expresses concern that the company analyzes wet flue gas desulfurization for a scenario based on a relatively high sulfur Illinois coal but analyzes dry sorbent injection based on a low sulfur western coal, biasing the comparison toward a conclusion that use of the control that is least effective at removing SO₂ nevertheless achieves the lowest emissions of SO₂.

Response: EPA agrees that use of higher sulfur coal in the scenario of wet flue gas desulfurization creates a mismatch in comparing this control to the other control options. However, ELPC does not demonstrate that a more appropriate comparison would yield a different result. Indeed, given how much more expensive wet flue gas desulfurization has been estimated to be for this facility as compared to dry sorbent injection (company estimates of annualized costs of \$125 million versus \$25 million), EPA believes that a revised BART analysis that used the same fuel for all scenarios, and thus achieved lower emissions with wet flue gas desulfurization, would still show that wet flue gas desulfurization is not cost-effective for this facility. Therefore, EPA continues to believe that Illinois made the appropriate BART determination for this facility.

Comment: ELPC objects to the use of annual average limits, expressing concern that annual average limits allow individual days of concern to have excessive visibility impairment.

Response: EPA’s BART guidance establishes presumptive averaging times of 30 days or shorter, but EPA also finds Illinois’ limits to be approvable. While a limit expressed as an annual average is inherently less stringent than the same limit expressed as a 30-day average, EPA believes that Illinois provides adequate compensation in part by setting some limits below presumptive levels and in part by

limiting several units that are not subject to a BART requirement.

A useful perspective is to examine the metrics by which regional haze is evaluated. These metrics are averages of visibility across 20 percent of the days of the year, in particular across the 20 percent of days with the worst visibility and across the 20 percent of days with the best visibility. (See 64 FR 35734) Twenty percent of 365 days in a year is 73 days. Furthermore, the days that have better or worse visibility are distributed throughout the year, so that allowance of greater variability in daily or monthly emissions would not necessarily yield worse (or better) visibility. Thus, while a 30-day average limit would be better suited to assuring appropriate mitigation of visibility impairment, EPA finds Illinois' annual average limitations to be adequately commensurate with the averaging time inherent in the visibility metrics being addressed.

Another facet of the use of annual rather than 30-day or shorter averages is stringency. Given normal variability in emissions, an annual average limitation is by definition less stringent than a 30-day or shorter average limitation set at the same level. In some contexts, especially those involving short-term air quality standards, EPA would not accept an annual average limitation without a demonstration that the limitation suffices to mandate that short-term average emission levels must remain below some definable, adequate level. However, different criteria are warranted in the context of regional haze, for which the relevant emissions are the emissions on the 20 percent of days with worst visibility and the 20 percent of days with best visibility. Examining the stringency of the particular limitations that Illinois has adopted, and considering degree of variability in 73-day average emissions that might be expected with an annual average emission limit, EPA finds that Illinois' annual average limitations are sufficiently stringent to conclude that emissions on a 30-day average basis can be expected to provide the visibility improvement that Illinois is required to provide.

Comment: ELPC comments that Illinois' long-term strategy must be disapproved. ELPC expresses particular concern that Illinois' plan does not mandate emission reductions for two power plants, specifically Ameren's Joppa plant and Southern Illinois Power Company's Marion plant, which ELPC believes must be mandated "to achieve the reasonable progress goals for Class I areas affected by the state." ELPC notes that "Illinois claimed that existing or

soon-to-be-implemented regulatory program"—in particular, the MPS/CPS and CSAPR—"would require sufficient emissions reductions on the 15 most significant sources so as to ensure achievement of reasonable progress goals in impacted Class I areas." ELPC acknowledges that the Joppa Plant is addressed to the extent that Ameren's plants are collectively limited under the MPS, but ELPC observes that Ameren has the choice to comply with the MPS "without making any reductions at Joppa," even though the plant has "a Q/D ratio" (dividing emissions by distance to the nearest Class I area) that is "nearly three times larger than any other evaluated source." ELPC also objects that CSAPR "also does not ensure emission reductions at either Joppa or Marion, because (1) the rule is under legal challenge, is currently stayed, and may never go into effect, (2) "does not require emission reductions at particular plants," and (3) by restricting annual emissions does not necessarily limit emissions in seasons when the most degradation in visibility may occur.

Response: Achievement of the applicable reasonable progress goals is not contingent on Illinois limiting emissions from the Joppa or Marion plants in particular. Given the distances of the sources in Illinois from affected Class I areas, the least of which is about 120 kilometers from the Joppa plant to Mingo Wilderness Area, the impact on visibility is primarily dependent on the total emission reductions and not on the geographical distribution of those reductions. That is, even if Ameren for example were to opt to control its Coffeen plant (about 240 kilometers from Mingo Wilderness Area) more than its Joppa plant, the net effect on visibility would likely be similar.

EPA recognizes that CSAPR is under challenge and is currently stayed. However, Illinois is not relying on additional reductions from CSAPR to provide its appropriate contribution toward achieving reasonable progress in visibility protection. Therefore, the litigation status of CSAPR is not germane to the approvability of Illinois' regional haze plan.

III. What action is EPA taking?

EPA is approving Illinois' regional haze plan as satisfying the applicable requirements in 40 CFR 51.308. Most notably, EPA concludes that Illinois has satisfied the requirements for BART in 40 CFR 51.308(e) and has adopted a long-term strategy that reduces emissions in Illinois that, in combination with similar reductions elsewhere, EPA expects to suffice to

achieve the reasonable progress goals at Class I areas affected by Illinois.

In this action, EPA is also approving a set of rules and two permits for incorporation into the state implementation plan. Specifically, EPA is approving the following rules: Title 35 of Illinois Administrative Code Rules 225.233 (paragraphs a, b, e, and g), 225.291, 225.292, 225.293, 225.295, 225.296 (except paragraph d), and 225 Appendix A. While the rules provide the SO₂ and NO_x limits as one of two options that the affected utilities may choose between, EPA is incorporating into the SIP Illinois' submittal of letters from the affected utilities choosing the option including the SO₂ and NO_x limits, which under the approved rules makes these limits permanently enforceable. Therefore, these SO₂ and NO_x limits are state enforceable and, with this SIP approval, now become federally enforceable as well. EPA also considers the limits of the state permits and the refinery consent decrees to be enforceable. While Illinois adopted the above rules as part of a state rulemaking which mostly addressed mercury emissions, the mercury provisions are not germane to this rulemaking, Illinois did not submit the mercury-related rules, and the limited set of rules that Illinois submitted suffice to mandate the SO₂ and NO_x emission controls that are pertinent to this action.

IV. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Clean Air Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);

- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);

- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);

- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);

- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and

- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by September 4, 2012. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time

within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: May 29, 2012.

Susan Hedman,

Regional Administrator, Region 5.

40 CFR part 52 is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart O—Illinois

■ 2. Section 52.720 is amended by adding paragraph (c)(192) to read as follows:

§ 52.720 Identification of plan.

* * * * *

(c) * * *

(192) On June 24, 2011, Laurel Kroack, Illinois Environmental Protection Agency, submitted Illinois' regional haze plan to Cheryl Newton, Region 5, EPA. This plan includes a long-term strategy with emission limits for mandating emission reductions equivalent to the reductions from implementing best available retrofit technology and with emission reductions to provide Illinois' contribution toward achievement of reasonable progress goals at Class I areas affected by Illinois. The plan specifically includes regulations establishing Multi-Pollutant Standards and Combined Pollutant Standards, along with letters from the affected electric utilities establishing the applicability and enforceability of the option that includes sulfur dioxide and nitrogen oxide emission limits. The plan also includes permits establishing sulfur dioxide and nitrogen oxide emission limits for three additional electric generating plants and two consent decrees establishing sulfur dioxide and nitrogen oxide emission limits for two refineries.

(i) Incorporation by reference.

(A) The following sections of Illinois Administrative Code, Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter 1: Pollution

Control Board, Subchapter c: Emission Standards and Limitations for Stationary Sources, Part 225, Control of Emissions from Large Combustion Sources, published at 33 IL Reg 10427, effective June 26, 2009, are incorporated by reference:

(1) Subpart B: Control Of Mercury Emissions From Coal-Fired Electric Generating Units, Section 225.233 Multi-Pollutant Standards (MPS), only subsections (a), (b), (e), and (g), Section 225.291 Combined Pollutant Standard: Purpose, Section 225.292 Applicability of the Combined Pollutant Standard, Section 225.293 Combined Pollutant Standard: Notice of Intent, Section 225.295 Combined Pollutant Standard: Emissions standards for NO_x and SO₂, and Section 225.296 Combined Pollutant Standard: Control Technology Requirements for NO_x, SO₂, and PM Emissions, except for 225.296(d).

(2) Section 225.Appendix A Specified EGUs for Purposes of the CPS (Midwest Generation's Coal-Fired Boilers as of July 1, 2006).

(B) Joint Construction and Operating Permit: Application Number 09090046, Issued on June 23, 2011, to City Water, Light & Power, City of Springfield.

(C) Joint Construction and Operating Permit: Application Number 09050022, Issued on June 24, 2011, to Kincaid Generation, LLC.

(ii) Additional material.

(A) Letter from Guy Gorney, Midwest Generation to Dave Bloomberg, Illinois EPA, dated December 27, 2007, choosing to be subject to provisions of the Multi-Pollutant Standards that include emission limits for sulfur dioxide and nitrogen oxides.

(B) Letter from R. Alan Kelley, Ameren, to Jim Ross, Illinois EPA, dated December 27, 2007, choosing to be subject to provisions of the Combined Pollutant Standards that include emission limits for sulfur dioxide and nitrogen oxides.

(C) Letter from Keith A. McFarland, Dynegy, to Raymond Pilapil, Illinois EPA, dated November 26, 2007, choosing to be subject to provisions of the Combined Pollutant Standards that include emission limits for sulfur dioxide and nitrogen oxides.

[FR Doc. 2012-16557 Filed 7-5-12; 8:45 am]

BILLING CODE 6560-50-P

Attachment 9

**ENVIRONMENTAL PROTECTION
AGENCY**

40 CFR Part 52

[EPA-HQ-OAR-2012-0322; FRL-9782-2]

RIN 2060-AR68

State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The EPA is proposing to take action on a petition for rulemaking filed by the Sierra Club with the EPA Administrator on June 30, 2011 (the Petition). The Petition includes interrelated requests concerning the treatment of excess emissions in state rules by sources during periods of startup, shutdown, or malfunction (SSM). The EPA is proposing to grant in part and to deny in part the request in the Petition to rescind its policy interpreting the Clean Air Act (CAA) to allow states to have appropriately drawn state implementation plan (SIP) provisions that provide affirmative defenses to monetary penalties for violations during periods of SSM. The EPA is also proposing either to grant or to deny the Petition with respect to the specific existing SIP provisions related to SSM in each of 39 states identified by the Petitioner as inconsistent with the CAA. Further, for each of those states where the EPA proposes to grant the Petition concerning specific provisions, the EPA also proposes to find that the existing SIP provision is substantially inadequate to meet CAA requirements and thus under CAA authority proposes a "SIP call." For those states for which the EPA proposes a SIP call, the EPA also proposes a schedule for the states to submit a corrective SIP revision. Finally, the EPA is also proposing to deny the request in the Petition that the EPA discontinue reliance on interpretive letters from states to clarify any potential ambiguity in SIP submissions, even in circumstances where the EPA may determine that this approach is appropriate and has adequately documented that approach in a rulemaking action. This action reflects the EPA's current SSM Policy for SIPs.

DATES: *Comments.* Comments must be received on or before March 25, 2013.

Public Hearing. If anyone contacts the EPA requesting a public hearing by

March 11, 2013, we will hold a public hearing on March 12, 2013.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2012-0322, by one of the following methods:

- *http://www.regulations.gov:* Follow the online instructions for submitting comments.
- *Email:* a-and-r-docket@epa.gov.
- *Fax:* (202) 566-9744.
- *Mail:* Attention Docket ID No. EPA-HQ-OAR-2012-0322, U.S. Environmental Protection Agency, EPA West (Air Docket), 1200 Pennsylvania Avenue NW., Mail Code: 6102T, Washington, DC 20460. Please include a total of two copies.
- *Hand Delivery:* U.S. Environmental Protection Agency, EPA West (Air Docket), 1301 Constitution Avenue Northwest, Room 3334, Washington, DC 20004, Attention Docket ID No. EPA-HQ-OAR-2012-0322. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2012-0322. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or email. The www.regulations.gov Web site is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through www.regulations.gov, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any CD you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, avoid any form of encryption, and be free of any defects or viruses. For additional

information about the EPA's public docket visit the EPA Docket Center homepage at www.epa.gov/epahome/dockets.htm. For additional instructions on submitting comments, go to section I.C of the **SUPPLEMENTARY INFORMATION** section of this document.

Docket. All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically at www.regulations.gov or in hard copy at the U.S. Environmental Protection Agency, Air Docket, EPA/DC, EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

Public Hearing: If a public hearing is held, it will be held on March 12, 2013, at the EPA Ariel Rios East building, Room 1153, 1301 Constitution Avenue, Washington, DC 20460. The public hearing will convene at 9 a.m. (Eastern Standard Time) and continue until the later of 6 p.m. or 1 hour after the last registered speaker has spoken. People interested in presenting oral testimony or inquiring as to whether a hearing is to be held should contact Ms. Pamela Long, Air Quality Planning Division, Office of Air Quality Planning and Standards (C504-01), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone (919) 541-0641, fax number (919) 541-5509, email address long.pam@epa.gov, at least 5 days in advance of the public hearing (*see DATES*). People interested in attending the public hearing must also call Ms. Long to verify the time, date, and location of the hearing. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning the proposed action. The EPA will make every effort to accommodate all speakers who arrive and register. A lunch break is scheduled from 12:30 p.m. until 2 p.m. Because this hearing is being held at U.S. government facilities, individuals planning to attend the hearing should be prepared to show valid picture identification to the security staff in order to gain access to the meeting room. In addition, you will need to

obtain a property pass for any personal belongings you bring with you. Upon leaving the building, you will be required to return this property pass to the security desk. No large signs will be allowed in the building, cameras may only be used outside of the building, and demonstrations will not be allowed on federal property for security reasons. The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral comments and supporting information presented at the public hearing. If a hearing is held on March 12, 2013, written comments on the proposed rule must be postmarked by April 11, 2013. Commenters should notify Ms. Long if they will need specific equipment, or if

there are other special needs related to providing comments at the hearing. The EPA will provide equipment for commenters to show overhead slides or make computerized slide presentations if we receive special requests in advance. Oral testimony will be limited to 5 minutes for each commenter. The EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email or CD) or in hard copy form. The hearing schedule, including lists of speakers, will be posted on the EPA's Web site at www.epa.gov/air/urbanair/sipstatus/. Verbatim transcripts of the hearings and written statements will be included in the docket for the rulemaking. The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearing to run either ahead of schedule or behind schedule.

FOR FURTHER INFORMATION CONTACT: If you have questions concerning the public hearing, please contact Ms. Pamela Long, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Air Quality Planning Division, (C504-01), Research Triangle Park, NC 27711, telephone (919) 541-0641, fax number (919) 541-5509, email address: long.pam@epa.gov (preferred method for registering). Questions concerning this proposed rule should be addressed to Ms. Lisa Sutton, U.S. EPA, Office of Air Quality Planning and Standards, State and Local Programs Group, (C539-01), Research Triangle Park, NC 27711, telephone number (919) 541-3450, email at sutton.lisa@epa.gov.
SUPPLEMENTARY INFORMATION: For questions related to a specific SIP, please contact the appropriate EPA Regional Office:

EPA regional office	Contact for regional office (person, mailing address, telephone No.)	State
I	Alison Simcox, Environmental Scientist, EPA Region 1, 5 Post Office Square, Suite 100, Boston, MA 02109-3912, (617) 918-1684.	Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont.
II	Paul Truchan, EPA Region 2, 290 Broadway, 25th Floor, New York, NY 10007-1866, (212) 637-3711.	New Jersey, New York, Puerto Rico, and Virgin Islands.
III	Harold Frankford, EPA Region 3, 1650 Arch Street, Philadelphia, PA 19103-2029, (215) 814-2108.	District of Columbia, Delaware, Maryland, Pennsylvania, Virginia, and West Virginia.
IV	Joel Huey, EPA Region 4, Atlanta Federal Center, 61 Forsyth Street SW., Atlanta, GA 30303-8960, (404) 562-9104.	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.
V	Christos Panos, Air and Radiation Division (AR-18J), EPA Region 5, 77 West Jackson Boulevard, Chicago, IL 60604-3507, (312) 353-8328.	Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin.
VI	Alan Shar (6PD-L), EPA Region 6, Fountain Place 12th Floor, Suite 1200, 1445 Ross Avenue, Dallas, TX 75202-2733, (214) 665-6691.	Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.
VII	Lachala Kemp, EPA Region 7, Air Planning and Development Branch, 11201 Renner Boulevard, Lenexa, KS 66219, (913) 551-7214. Alternate contact is Ward Burns, (913) 551-7960.	Iowa, Kansas, Missouri, and Nebraska.
VIII	Adam Clark, Air Quality Planning Unit (8P-AR) Air Program, Office of Partnership and Regulatory Assistance, EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129, (303) 312-7104.	Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.
IX	Lisa Tharp, EPA Region 9, Air Division, 75 Hawthorne Street (AIR-8), San Francisco, CA 94105, (415) 947-4142.	Arizona; California; Hawaii and the Pacific Islands; Indian Country within Region 9 and Nevada.
X	Donna Deneen, Environmental Engineer, Office of Air, Waste and Toxics (AWT-107), EPA Region 10, 1200 Sixth Avenue, Suite 900, Seattle, WA 98101, (206) 553-6706.	Alaska, Idaho, Oregon, and Washington.

I. General Information

A. Does this action apply to me?

Entities potentially affected by this rule include states, U.S. territories, local authorities, and eligible tribes that are currently administering, or may in the future administer, the EPA-approved implementation plans ("air agencies").¹

¹ The EPA respects the unique relationship between the U.S. government and tribal authorities and acknowledges that tribal concerns are not interchangeable with state concerns. Under the CAA and EPA regulations, a tribe may, but is not

required to, apply for eligibility to have a tribal implementation plan (TIP). For convenience, we refer to "air agencies" in this rulemaking collectively when meaning to refer in general to states, the District of Columbia, U.S. territories, local air permitting authorities, and eligible tribes that are currently administering, or may in the future administer, EPA-approved implementation plans. The EPA notes that the petition under evaluation does not identify any specific provisions related to tribal implementation plans. We therefore refer to "state" or "states" rather than "air agency" or "air agencies" when meaning to refer to one, some, or all of the 39 states identified in the Petition. We also use "state" or "states" rather than "air agency" or "air agencies" when quoting or

The EPA's action on the Petition is potentially of interest to all such entities because the EPA is evaluating issues related to basic CAA requirements for SIPs. Through this rulemaking, the EPA is both clarifying and applying its interpretation of the CAA with respect to SIP provisions applicable to excess emissions during SSM events. In addition, the EPA may find specific SIP

paraphrasing the CAA or other document that uses that term even when the original referenced passage may have applicability to tribes as well.

provisions in states identified in the Petition to be substantially inadequate to meet CAA requirements, pursuant to CAA section 110(k)(5), and thus those states will potentially be affected by this rulemaking directly. For example, if a state's existing SIP provision allows an automatic exemption for excess emissions during periods of startup, shutdown, or malfunction, such that these excess emissions do not constitute a violation of the otherwise applicable emission limitations of the SIP, then the EPA may determine that the SIP provision is substantially inadequate because the provision is inconsistent with fundamental requirements of the CAA. This rule may also be of interest to the public and to owners and operators of industrial facilities that are subject to emission limits in SIPs, because it may require changes to state rules covering excess emissions. When finalized, this action will embody the EPA's updated SSM Policy for SIP provisions relevant to excess emissions during SSM events.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this proposal notice will also be available on the World Wide Web. Following signature by the EPA Assistant Administrator, a copy of this notice will be posted on the EPA's Web site, under SSM SIP Call 2013, at www.epa.gov/air/urbanair/sipstatus. In addition to this notice, other relevant documents are located in the docket, including a copy of the Petition and copies of each of the four guidance documents pertaining to excess emissions issued by the EPA in 1982, 1983, 1999, and 2001, which are discussed in more detail later in this proposal notice.

C. What should I consider as I prepare my comments?

1. *Submitting CBI.* Do not submit this information to the EPA through www.regulations.gov or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in CD that you mail to the EPA, mark the outside of the CD as CBI and then identify electronically within the CD the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in

40 CFR part 2. Send or deliver information identified as CBI only to the following address: Roberto Morales, OAQPS Document Control Officer (C404-02), U.S. EPA, Research Triangle Park, NC 27711, Attention Docket ID No. EPA-HQ-OAR-2012-0322.

2. *Tips for preparing your comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date, and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

D. How is the preamble organized?

The information presented in this preamble is organized as follows:

- I. General Information
 - A. Does this action apply to me?
 - B. Where can I get a copy of this document and other related information?
 - C. What should I consider as I prepare my comments?
 - D. How is the preamble organized?
 - E. What is the meaning of key terms used in this notice?
- II. Overview of Proposed Rule
 - A. How is the EPA proposing to respond to the Petition?
 - B. What did the Petitioner request?
 - C. To which air agencies does this proposed rulemaking apply and why?
 - D. What is the EPA proposing for any state that receives a finding of substantial inadequacy and a SIP call?
 - E. What are potential impacts on affected states and sources?
 - F. What happens if an affected state fails to meet the SIP submission deadline?
 - G. What happens in an affected state in the interim period starting when the EPA promulgates the final SIP call and ending when the EPA approves the required SIP revision?
- III. Statutory, Regulatory, and Policy Background

- IV. Proposed Action in Response to Request To Rescind the EPA Policy Interpreting the CAA To Allow Appropriate Affirmative Defense Provisions
 - A. Petitioner's Request
 - B. The EPA's Response
- V. Proposed Action in Response to Request for the EPA's Review of Specific Existing SIP Provisions for Consistency With CAA Requirements
 - A. Petitioner's Request
 - B. The EPA's Response
- VI. Proposed Action in Response To Request That the EPA Limit SIP Approval to the Text of State Regulations and Not Rely Upon Additional Interpretive Letters From the State
 - A. Petitioner's Request
 - B. The EPA's Response
- VII. Clarifications, Reiterations, and Revisions to the EPA's SSM Policy
 - A. Applicability of Emission Limitations During Periods of Startup and Shutdown
 - B. Affirmative Defense Provisions During Periods of Malfunction
 - C. Affirmative Defense Provisions During Periods of Startup and Shutdown
 - D. Relationship Between SIP Provisions and Title V Regulations
 - E. Intended Effect of the EPA's Action on the Petition
- VIII. Legal Authority, Process, and Timing for SIP Calls
 - A. SIP Call Authority Under Section 110(k)(5)
 1. General Statutory Authority
 2. Substantial Inadequacy of Automatic Exemptions
 3. Substantial Inadequacy of Director's Discretion Exemptions
 4. Substantial Inadequacy of Improper Enforcement Discretion Provisions
 5. Substantial Inadequacy of Deficient Affirmative Defense Provisions
 - B. SIP Call Process Under Section 110(k)(5)
 - C. SIP Call Timing Under Section 110(k)(5)
- IX. What is the EPA proposing for each of the specific SIP provisions identified in the Petition?
 - A. Overview of the EPA's Evaluation of Specific SIP Provisions
 1. Automatic Exemption Provisions
 2. Director's Discretion Exemption Provisions
 3. State-Only Enforcement Discretion Provisions
 4. Adequacy of Affirmative Defense Provisions
 5. Affirmative Defense Provisions Applicable to a "Source or Small Group of Sources"
 - B. Affected States in EPA Region I
 1. Maine
 2. New Hampshire
 3. Rhode Island
 - C. Affected States in EPA Region II
 1. New Jersey
 2. [Reserved]
 - D. Affected States in EPA Region III
 1. Delaware
 2. District of Columbia
 3. Virginia
 4. West Virginia
 - E. Affected States and Local Jurisdictions in EPA Region IV
 1. Alabama

2. Florida
3. Georgia
4. Kentucky
5. Kentucky: Jefferson County
6. Mississippi
7. North Carolina
8. North Carolina: Forsyth County
9. South Carolina
10. Tennessee
11. Tennessee: Knox County
12. Tennessee: Shelby County
- F. Affected States in EPA Region V
 1. Illinois
 2. Indiana
 3. Michigan
 4. Minnesota
 5. Ohio
- G. Affected States in EPA Region VI
 1. Arkansas
 2. Louisiana
 3. New Mexico
 4. Oklahoma
- H. Affected States in EPA Region VII
 1. Iowa
 2. Kansas
 3. Missouri
 4. Nebraska
 5. Nebraska: Lincoln-Lancaster
- I. Affected States in EPA Region VIII
 1. Colorado
 2. Montana
 3. North Dakota
 4. South Dakota
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- J. Affected States and Local Jurisdictions in EPA Region IX
 1. Arizona
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- K. Affected States in EPA Region X
 1. Alaska
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- X. Statutory and Executive Order Reviews
 - A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review
 - B. Paperwork Reduction Act
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 - E. Executive Order 13132—Federalism
 - F. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments
 - G. Executive Order 13045—Protection of Children From Environmental Health Risks and Safety Risks
 - H. Executive Order 13211—Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use
 - I. National Technology Transfer and Advancement Act
 - J. Executive Order 12898—Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
 - K. Determination Under Section 307(d)
 - L. Judicial Review
- XI. Statutory Authority

E. What is the meaning of key terms used in this notice?

For the purpose of this notice, the following definitions apply unless the context indicates otherwise:

The terms *Act* or *CAA* mean or refer to the Clean Air Act.

The term *affirmative defense* means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding. By demonstrating that the elements of an affirmative defense have been met, a source may avoid a civil penalty but cannot avoid injunctive relief.

The terms *air agency* and *air agencies* mean or refer to states, the District of Columbia, U.S. territories, local air permitting authorities with delegated authority from the state, and tribal authorities.

The term *automatic exemption* means a generally applicable provision in a SIP that would provide that if certain conditions existed during a period of excess emissions, then those exceedances would not be considered violations of the applicable emission limitations.

The term *director's discretion provision* means, in general, a regulatory provision that authorizes a state regulatory official unilaterally to grant exemptions or variances from applicable emission limitations or control measures, or to excuse noncompliance with applicable emission limitations or control measures, in spite of SIP provisions that would otherwise render such conduct by the source a violation.

The term *EPA* refers to the United States Environmental Protection Agency.

The term *excess emissions* means the emissions of air pollutants from a source that exceed any applicable SIP emission limitations.

The term *malfunction* means a sudden and unavoidable breakdown of process or control equipment.

The term *NAAQS* means national ambient air quality standard or standards. These are the national primary and secondary ambient air quality standards that the EPA establishes under CAA section 109 for criteria pollutants for purposes of protecting public health and welfare.

The term *Petition* refers to the petition for rulemaking titled, "Petition to Find Inadequate and Correct Several State Implementation Plans under Section 110 of the Clean Air Act Due to Startup,

Shutdown, Malfunction, and/or Maintenance Provisions," filed by the Sierra Club with the EPA Administrator on June 30, 2011.

The term *Petitioner* refers to the Sierra Club.

The term *shutdown* means, generally, the cessation of operation of a source for any reason.

The term *SIP* means or refers to a State Implementation Plan. Generally, the State Implementation Plan is the collection of state statutes and regulations approved by the EPA pursuant to CAA section 110 that together provide for implementation, maintenance, and enforcement of a national ambient air quality standard (or any revision thereof) under section 109 for any air pollutant in each air quality control region (or portion thereof) within a state. In some parts of this notice, statements about SIPs in general also apply to tribal implementation plans in general even though not explicitly noted.

The term *SSM* refers to startup, shutdown, or malfunction at a source. It does not include periods of maintenance at such a source. An SSM event is a period of startup, shutdown, or malfunction during which there are exceedances of the applicable emission limitations and thus excess emissions.

The term *SSM Policy* refers to the cumulative guidance that EPA has issued concerning its interpretation of CAA requirements with respect to treatment of excess emissions during periods of startup, shutdown, and malfunction at a source. The most comprehensive statement of the EPA's SSM Policy prior to this proposed rulemaking is embodied in a 1999 guidance document discussed in more detail in this proposal. When finalized, this action will embody the EPA's updated SSM Policy for SIP provisions relevant to excess emissions during SSM events.

The term *startup* means, generally, the setting in operation of a source for any reason.

II. Overview of Proposed Rule

A. How is the EPA proposing to respond to the Petition?

The EPA is proposing to take action on a petition for rulemaking that the Sierra Club (the Petitioner) filed with the EPA Administrator on June 30, 2011 (the Petition). The Petition concerns how air agency rules in EPA-approved SIPs treat excess emissions during periods of startup, shutdown, or malfunction of industrial process or emission control equipment. Many of these rules were added to SIPs and

approved by the EPA in the years shortly after the 1970 amendments to the CAA, which for the first time provided for the system of clean air plans that were to be prepared by air agencies and approved by the EPA. At that time, it was widely believed that emission limitations set at levels representing good control of emissions during periods of normal operation could in some cases not be met with the same emission control strategies during periods of startup, shutdown, maintenance, or malfunction. Accordingly, it was common for state plans to include provisions for special, more lenient treatment of excess emissions during such periods. Many of these provisions took the form of absolute or conditional statements that excess emissions from a source, when they occur outside of the source's normal operations, were not to be considered violations of the air agency rules, *i.e.*, exemptions.

Excess emission provisions for startup, shutdown, maintenance, and malfunctions were often included as part of the original SIPs that the EPA approved in 1971 and 1972. In the early 1970s, because the EPA was inundated with proposed SIPs and had limited experience in processing them, not enough attention was given to the adequacy, enforceability, and consistency of these provisions. Consequently, many SIPs were approved with broad and loosely-defined provisions to control excess emissions. Starting in 1977, however, the EPA discerned and articulated to air agencies that exemptions for excess emissions during such periods were inconsistent with certain requirements of the CAA. The EPA also realized that such provisions allow opportunities for sources to repeatedly emit pollutants during such periods in quantities that could cause unacceptable air pollution in nearby communities with no legal pathway for air agencies, the EPA, or the courts to require the sources to make reasonable efforts to reduce these emissions. The EPA has been more careful after 1977 not to give new approval to SIP rules that are inconsistent with the CAA and has issued several guidance memoranda to advise states on how to avoid impermissible provisions² as they

expand and revise their SIPs. The EPA has also found several SIPs to be deficient because of problematic SSM provisions and called upon the affected states to amend their SIPs. However, in light of the other priority work facing both air agencies and the EPA, the EPA has not to date initiated a broad effort to get all states to remove impermissible provisions from their SIPs and to adopt other, approvable approaches for addressing excess emissions when appropriate. Public interest groups, including the Petitioner, have sued the EPA in several state-specific cases concerning SIP issues, and they have been urging the EPA to give greater priority to addressing the issue of SSM provisions in SIPs. In one of these SIP cases, the EPA entered into a settlement agreement requiring it to respond to the Petition from the Sierra Club. A copy of the settlement agreement is provided in the docket for this rulemaking.³

As alluded to earlier in this notice, there are available CAA-consistent approaches that can be incorporated into SIPs to address excess emissions during SSM events. While automatic exemptions and director's discretion exemptions from otherwise applicable emission limitations are not consistent with the CAA, SIPs may include criteria and procedures for the use of enforcement discretion by air agency personnel and appropriately defined affirmative defenses. In this action, the EPA is articulating a policy that reflects this principle and is reviewing the SIPs from 39 states to determine whether specific provisions identified in the Petition are consistent with the EPA's SSM Policy and the CAA. In some cases, this review involves a close reading of the provision in the SIP and its context to discern whether it is in fact an exemption, a statement regarding enforcement discretion by the air agency, or an affirmative defense. Each state will ultimately decide how to address any SIP inadequacies identified by the EPA once the EPA takes final action. Recognizing that for some states, the EPA's response to this Petition entails reviewing SIP provisions that may date back several decades, the EPA will work closely with each of the affected states to develop approvable SIPs consistent with the guidance articulated in the final action. Section IX of this notice presents the EPA's analysis of each SIP provision at issue. The EPA's review also hinges on

interpretation of several relevant sections of the CAA. While the EPA has already developed and has been implementing the SSM Policy that is based on its interpretation of the CAA, this action provides the EPA an opportunity to invite public comment on this SSM Policy and its basis in the CAA. To that end, this notice contains a detailed clarifying explanation of the SSM Policy (including proposed revisions to it). Also, supplementary to this notice, the EPA is providing a memorandum to summarize the legal and administrative context for the proposed action, and the EPA invites public comment on the memorandum, which is available in the docket for this rulemaking.⁴ This notice, and the final notice for this action after considering public comment, will also clarify for the affected states how they can resolve the identified deficiencies in their SIPs, as well as provide all air agencies guidance and model language as they further develop their SIPs in the future.

In summary, the EPA proposes to agree with the Petitioner that many of the identified SIP provisions are not permissible under the CAA. However, in several cases we are proposing to find that an identified SIP provision is actually one of the permissible approaches. Of the 39 states covered by the Petition, the EPA is proposing to make SIP calls for 36 states.

The EPA is aware of other SSM-related SIP provisions that were not identified in the Petition but that may be inconsistent with the EPA's interpretation of the CAA. The EPA may address these other provisions later in a separate notice-and-comment action.

B. What did the Petitioner request?

The Petition includes three interrelated requests concerning the treatment in SIPs of excess emissions by sources during periods of startup, shutdown, or malfunction.

First, the Petitioner argued that SIP provisions providing an affirmative defense for monetary penalties for excess emissions in judicial proceedings are contrary to the CAA. Thus, the Petitioner advocated that the EPA should rescind its interpretation of the CAA expressed in the SSM Policy that allows appropriately drawn affirmative defense provisions in SIPs. The Petitioner made no distinction between affirmative defenses for excess emissions related to malfunction, startup, or shutdown. Further, the Petitioner requested that the EPA issue a SIP call requiring states to eliminate

² The term "impermissible provision" as used throughout this notice is generally intended to refer to a SIP provision identified by the Petitioner that the EPA believes to be inconsistent with requirements of the CAA. As described later in this notice (see section VIII.A), the EPA is proposing to find a SIP "substantially inadequate" to meet CAA requirements where the EPA determines that the SIP includes an impermissible provision.

³ See, Settlement Agreement executed Nov. 30, 2011, to address a lawsuit filed by Sierra Club and WildEarth Guardians in the United States District Court for the Northern District of California: *Sierra Club et al. v. Jackson*, No. 3:10-cv-04060-CRB (N.D. Cal.).

⁴ See, Memorandum, "Statutory, Regulatory, and Policy Context for this Rulemaking," Feb. 4, 2013.

all such affirmative defense provisions in existing SIPs. As explained later in this proposal, the EPA is proposing to grant in part and to deny in part this request. The EPA does not agree with the Petitioner that appropriately drawn affirmative defense provisions for violations due to excess emissions that result from malfunctions are contrary to the CAA, and thus the EPA is proposing to deny the request to revise its interpretation of the CAA concerning affirmative defenses for malfunctions. However, the EPA is proposing to revise its SSM Policy with respect to affirmative defenses for violations due to excess emissions that occur during startup and shutdown, in order to distinguish between planned events that are within the source's control and unplanned events that are not. The EPA believes that SIP provisions should encourage compliance during events that are within the source's control, and thus affirmative defenses for excess emissions during planned startup and shutdown are inappropriate, unlike those for excess emissions during malfunctions.

Second, the Petitioner argued that many existing SIPs contain impermissible provisions, including automatic exemptions from applicable emission limitations during SSM events, director's discretion provisions that provide discretionary exemptions from applicable emission limitations during SSM events, enforcement discretion provisions that appear to bar enforcement by the EPA or citizens for such excess emissions, and inappropriate affirmative defense provisions that are not consistent with the recommendations in the EPA's SSM Policy. The Petitioner identified specific provisions in SIPs of 39 states that it considered inconsistent with the CAA and explained the basis for its objections to the provisions. As explained later in this proposal, the EPA agrees with the Petitioner that some of these existing SIP provisions are legally impermissible and thus proposes to find such provisions "substantially inadequate"⁵ to meet CAA requirements. Among the reasons for EPA's proposed action is to eliminate provisions that interfere with enforcement in a manner prohibited by the CAA. Simultaneously, the EPA proposes to issue a SIP call to the states in question requesting corrective SIP submissions to revise their SIPs accordingly. For the remainder of the identified provisions, however, the EPA

disagrees with the contentions of the Petitioner and thus proposes to deny the Petition with respect to those provisions and to take no further action. The EPA's action on this portion of the Petition will assure that these SIPs comply with the fundamental requirements of the CAA with respect to the treatment of excess emissions during periods of startup, shutdown, or malfunction. The majority of the SIP calls that EPA is proposing in this action implement the EPA's longstanding interpretation of the CAA through multiple iterations of its SSM Policy. In a few instances, however, the EPA is also proposing a SIP call to address the issue of affirmative defenses during periods of planned startup and shutdown, because the EPA is revising its prior interpretation of the CAA to distinguish between violations due to excess emissions that occur during malfunctions and violations due to excess emissions that occur during planned startup and shutdown, which are modes of normal source operation.

Third, the Petitioner argued that the EPA should not rely on interpretive letters from states to resolve any ambiguity, or perceived ambiguity, in state regulatory provisions in SIP submissions. The Petitioner reasoned that all regulatory provisions should be clear and unambiguous on their face and that any reliance on interpretive letters to alleviate facial ambiguity in SIP provisions can lead to later problems with compliance and enforcement. Extrapolating from several instances in which the basis for the original approval of a SIP provision related to excess emissions during SSM events was arguably not clear, the Petitioner contended that the EPA should never use interpretive letters to resolve such ambiguities. As explained later in this proposal, the EPA acknowledges the concern of the Petitioner that provisions in SIPs should be clear and unambiguous. However, the EPA does not agree with the Petitioner that reliance on interpretive letters in a rulemaking context is never appropriate. Thus, the EPA is proposing to deny the request that actions on SIP submissions never rely on interpretive letters. Instead, the EPA explains how proper documentation of reliance on interpretive letters in notice-and-comment rulemaking nevertheless addresses the practical concerns of the Petitioner.

The EPA solicits comment on its proposed response to the overarching issues in the Petition, and in particular on its proposed action with respect to each of the specific existing SIP provisions identified in the Petition as

inconsistent with the requirements of the CAA. Through this action on the Petition, the EPA is clarifying, restating, and revising its SSM Policy. When finalized, this action will embody the EPA's updated SSM Policy for SIP provisions relevant to excess emissions during SSM events.

C. To which air agencies does this proposed rulemaking apply and why?

In general, the proposal may be of interest to all air agencies because the EPA is clarifying, restating, and revising its longstanding SSM Policy with respect to what the CAA requires concerning SIP provisions relevant to excess emissions during periods of startup, shutdown, and malfunction. For example, the EPA is denying the Petitioner's request that the EPA rescind its interpretation of the CAA to allow appropriately drawn affirmative defense provisions applicable to malfunctions, as explained in EPA guidance documents on this topic. The EPA is clarifying or revising its prior guidance with respect to several issues in order to ensure that future SIP submissions, not limited to those that affected states make in response to this action, are fully consistent with the CAA. For example, the EPA is revising its prior guidance concerning whether the CAA allows affirmative defense provisions that apply during periods of planned startup and shutdown. This proposal also addresses the use of interpretive letters for purposes of EPA action on SIPs.

In addition, the proposal is directly relevant to the states with SIP provisions identified in the Petition that the Petitioner alleges are inconsistent with CAA requirements or with the EPA's guidance concerning SIP provisions relevant to excess emissions.

The EPA is proposing either to grant or to deny the Petition with respect to the specific existing SIP provisions in each of 39 states identified by the Petitioner as allegedly inconsistent with the CAA. The 39 states (comprising 46 state and local authorities and no tribal authorities) are listed in table 1, "List of States with SIP Provisions for Which the EPA Proposes Either to Grant or to Deny the Petition, in Whole or in Part." After evaluating the Petition, the EPA is proposing to grant the petition with respect to one or more provisions in 36 states of the 39 states listed, and these are the states for which the proposed action on petition, according to table 1, is either "Grant" or "Partially grant, partially deny." Conversely, the EPA is proposing to deny the petition with respect to all provisions that the Petitioner identified in 3 of the 39 states, and these (Idaho, Nebraska, and

⁵ The term "substantially inadequate" is used in the CAA and is discussed in detail in section VIII.A of this notice.

Oregon) are the states for which the proposed action on petition, according to table 1, is “Deny.”

For each of the states for which the EPA proposes to grant or partially to grant the Petition, the EPA proposes to find that one or more particular provisions in the state’s existing SIP identified by the Petitioner are substantially inadequate to meet the requirements of the CAA. Thus, the EPA

also proposes to promulgate a SIP call to each of those states, requiring the state to correct those particular SIP provisions, in accordance with the SIP call process of CAA section 110(k)(5). The SIP calls apply only to those specific provisions, and the scope of each of the SIP calls is limited to those provisions.

For each of the states for which the EPA proposes to deny or to partially

deny the Petition, the EPA proposes to find that particular provisions in the existing SIP identified by the Petitioner are consistent with the requirements of the CAA and thus not substantially inadequate to meet the requirements pursuant to CAA section 110(k)(5). Thus, the EPA proposes to take no action with respect to those states for those particular SIP provisions.

TABLE 1—LIST OF STATES WITH SIP PROVISIONS FOR WHICH THE EPA PROPOSES EITHER TO GRANT OR TO DENY THE PETITION, IN WHOLE OR IN PART

EPA region	State	Proposed action on petition
I	Maine	Grant.
	New Hampshire	Partially grant, partially deny.
	Rhode Island	Grant.
II	New Jersey	Partially grant, partially deny.
III	Delaware	Grant.
	District of Columbia	Partially grant, partially deny.
	Virginia	Grant.
IV	West Virginia	Grant.
	Alabama	Grant.
	Florida	Grant.
	Georgia	Grant.
	Kentucky	Grant.
	Mississippi	Grant.
	North Carolina	Grant.
V	South Carolina	Partially grant, partially deny.
	Tennessee	Grant.
	Illinois	Grant.
	Indiana	Grant.
	Michigan	Grant.
VI	Minnesota	Grant.
	Ohio	Partially grant, partially deny.
	Arkansas	Grant.
	Louisiana	Grant.
VII	New Mexico	Grant.
	Oklahoma	Grant.
	Iowa	Partially grant, partially deny.
VIII	Kansas	Grant.
	Missouri	Partially grant, partially deny.
	Nebraska	Deny.
	Colorado	Partially grant, partially deny.
	Montana	Grant.
	North Dakota	Grant.
IX	South Dakota	Grant.
	Wyoming	Grant.
X	Arizona	Partially grant, partially deny.
	Alaska	Grant.
	Idaho	Deny.
	Oregon	Deny.
	Washington	Grant.

For each state for which the proposed action on the Petition is either “Grant” or “Partially grant, partially deny,” the EPA proposes to find that certain specific provisions in each state’s SIP are substantially inadequate to meet CAA requirements for the reason that these provisions are inconsistent with the CAA with regard to how the state treats excess emissions from sources during periods of startup, shutdown, and malfunction. The EPA believes that certain specific provisions in these SIPs fail to meet fundamental statutory

requirements intended to protect the NAAQS, prevention of significant deterioration (PSD) increments, and visibility. Equally importantly, the EPA believes that the same provisions may undermine the ability of states, the EPA, and the public to enforce emission limitations in the SIP that have been relied upon to ensure attainment or maintenance of the NAAQS or to meet other CAA requirements.

For each state for which the proposed action on the Petition is either “Grant” or “Partially grant, partially deny,” the

EPA is also proposing in this rulemaking to call for a SIP revision as necessary to correct the identified provisions. The SIP revisions that the EPA is proposing to require will rectify a number of different types of defects in existing SIPs, including automatic exemptions from emission limitations, impermissible director’s discretion provisions, enforcement discretion provisions that purport to bar enforcement by the EPA or through a citizen suit, and affirmative defense provisions that are inconsistent with

CAA requirements. A corrective SIP revision addressing automatic or impermissible discretionary exemptions will ensure that excess emissions during periods of startup, shutdown, and malfunction are treated in accordance with CAA requirements. Similarly, a corrective SIP revision addressing ambiguity in who may enforce against violations of these emission limitations will also ensure that CAA requirements to provide for enforcement are met. A SIP revision to rectify deficiencies in affirmative defense provisions will assure that such defenses are only available when sources have met the criteria that justify their being shielded from monetary penalties in an enforcement action. The particular provisions for which the EPA is requiring SIP revisions are summarized in section IX of this notice. Many of these provisions were added to the respective SIPs many years ago and have not been the subject of action by the state or the EPA since.

D. What is the EPA proposing for any state that receives a finding of substantial inadequacy and a SIP call?

If the EPA finalizes a finding of substantial inadequacy and issues a SIP call for any state, the EPA's final action will establish a deadline by which the state must make a SIP submission to rectify the deficiency. Pursuant to CAA section 110(k)(5), the EPA has authority to set a SIP submission deadline up to 18 months from the date of the final finding of substantial inadequacy. Accordingly, the EPA is proposing that if it promulgates a final finding of substantial inadequacy and a SIP call for a state, the EPA will establish a date 18 months from the date of promulgation of the final finding for the state to respond to the SIP call. If, for example, the EPA's final findings are signed and disseminated in August 2013, then the SIP submission deadline for each of the states subject to the final SIP call would fall in February 2015. Thereafter, the EPA will review the adequacy of that new SIP submission in accordance with the CAA requirements of sections 110(a), 110(k), 110(l), and 193, including the EPA's interpretation of the CAA reflected in the SSM Policy as clarified and updated through this rulemaking. The EPA believes that states should be provided the maximum time allowable under CAA section 110(k)(5) in order to have sufficient time to make appropriate SIP revisions following their own SIP development process. Such a schedule will allow for the necessary SIP development process to correct the deficiencies yet still

achieve the necessary SIP improvements as expeditiously as practicable.

E. What are potential impacts on affected states and sources?

The issuance of a SIP call would require an affected state to take action to revise its SIP. That action by the state may, in turn, affect sources as described below. The states that would receive a SIP call will in general have options as to exactly how to revise their SIPs. In response to a SIP call, a state retains broad discretion concerning how to revise its SIP, so long as that revision is consistent with the requirements of the CAA. Some provisions that may be identified in a final SIP call, for example an automatic exemption provision, would have to be removed entirely and an affected source could no longer depend on the exemption to avoid all liability for excess emissions. Some other provisions, for example a problematic enforcement discretion provision or affirmative defense provision, could either be removed entirely from the SIP or retained if revised appropriately, in accordance with the EPA's interpretation of the CAA as described in the EPA's SSM Policy. The EPA notes that if a state removes a SIP provision that pertains to the state's exercise of enforcement discretion, this removal would not affect the ability of the state to apply discretion in its enforcement program. It would make the exercise of such discretion case-by-case in nature.

In addition, affected states may choose to consider reassessing particular emission limitations, for example to determine whether those limits can be revised such that well-managed emissions during planned operations such as startup and shutdown would not exceed the revised emission limitation, while still protecting air quality. Such a revision of an emission limitation may need to be submitted as a SIP revision for EPA approval if the existing limit to be changed is already included in the SIP or if the existing SIP relies on the particular existing emission limit to meet a CAA requirement. In such instances, the EPA would review the SIP revision for consistency with all applicable CAA requirements. A state that chooses to revise particular emission limitations, in addition to removing the aspect of the existing provision that is inconsistent with CAA requirements, could include those revisions in the same SIP submission that addresses the SSM provisions identified in the SIP call, or it could submit them separately.

The implications for a regulated source in a given state, in terms of whether and how it would potentially have to change its equipment or practices in order to operate with emissions that comply with the revised SIP, will depend on the nature and frequency of the source's SSM events and how the state has chosen to revise the SIP to address excess emissions during SSM events. The EPA recognizes that after all the responsive SIP revisions are in place and are being implemented by the states, some sources may need to take steps to better control emissions so as to comply with emission limits continuously, as required by the CAA, or to increase durability of components and monitoring systems to detect and manage malfunctions promptly. If a state elects to have appropriately drawn affirmative defense provisions, however, such sources may not be liable for monetary penalties for any exceedances.

The EPA Regional Offices will work with states to help them understand their options and the potential consequences for sources as the states prepare their SIP revisions in response to the SIP calls.

F. What happens if an affected state fails to meet the SIP submission deadline?

If, in the future, the EPA finds that a state that is subject to a SIP call has failed to submit a complete SIP revision as required by the final rule, or the EPA disapproves such a SIP revision, then the finding or disapproval would trigger an obligation for the EPA to impose a federal implementation plan (FIP) within 24 months after that date. In addition, if a state fails to make the required SIP revision, or if the EPA disapproves the required SIP revision, then either event can also trigger mandatory 18-month and 24-month sanctions clocks under CAA section 179. The two sanctions that apply under CAA section 179(b) are the 2-to-1 emission offset requirement for all new and modified major sources subject to the nonattainment new source review program and restrictions on highway funding. More details concerning the timing and process of the SIP call, and potential consequences of the SIP call, are provided in section VIII.B of this notice.

G. What happens in an affected state in the interim period starting when the EPA promulgates the final SIP call and ending when the EPA approves the required SIP revision?

If the EPA issues a final SIP call to a state, that action alone will not cause

any automatic change in the legal status of the existing affected provision(s) in the SIP. During the time that the state takes to develop a SIP revision in accordance with the SIP call and the time that the EPA takes to evaluate and act upon the SIP revision pursuant to CAA section 110(k), the existing affected SIP provision(s) will remain in place. The EPA notes, however, that the state regulatory revisions that the state has adopted and submitted for SIP approval will most likely be already in effect at the state level during the pendency of the EPA's evaluation of and action upon the new SIP submission.

The EPA recognizes that in the interim period, there may continue to be instances of excess emissions that adversely impact attainment and maintenance of the NAAQS, interfere with PSD increments, interfere with visibility, and cause other adverse consequences as a result of the impermissible provisions. However, given the need to resolve these longstanding SIP deficiencies in a careful and comprehensive fashion, the EPA believes that providing sufficient time for these corrections to occur will ultimately be the best course to ensure the ultimate goal of eliminating the inappropriate SIP provisions and replacing them with provisions consistent with CAA requirements.

III. Statutory, Regulatory, and Policy Background

The Petition raised issues related to excess emissions from sources during periods of startup, shutdown, or malfunction, and to the correct approach to these excess emissions in SIPs. In this context, "excess emissions" are air emissions that exceed the otherwise applicable emission limitations in a SIP, *i.e.*, emissions that would be violations of such emission limitations. The question of how to address excess emissions correctly during startup, shutdown, and malfunction events has posed a challenge since the inception of the SIP program in the 1970s. The primary objective of state and federal regulators is to ensure that sources of emissions are subject to appropriate emission controls as necessary in order to attain and maintain the NAAQS, protect PSD increments, protect visibility, and meet other statutory requirements. Generally, this is achieved through enforceable emission limitations on sources that apply, as required by the CAA, continuously.

Several key statutory provisions of the CAA are relevant to the EPA's evaluation of the Petition. These provisions relate generally to the basic

legal requirements for the content of SIPs, the authority and responsibility of air agencies to develop such SIPs, and the EPA's authority and responsibility to review and approve SIP submissions in the first instance, as well as the EPA's authority to require improvements to SIPs if the EPA later determines that to be necessary for a SIP to meet CAA requirements. In addition, the Petition raised issues that pertain to enforcement of provisions in a SIP. The enforcement issues relate generally to what constitutes a violation of an emission limitation in a SIP, who may seek to enforce against a source for that violation, and whether the violator should be subject to monetary penalties as well as other forms of judicial relief for that violation.

The EPA has a longstanding interpretation of the CAA with respect to the treatment of excess emissions during periods of startup, shutdown, or malfunction in SIPs. This statutory interpretation has been expressed, reiterated, and elaborated upon in a series of guidance documents issued in 1982, 1983, 1999, and 2001. In addition, the EPA has applied this interpretation in individual rulemaking actions in which the EPA: (i) Approved SIP submissions that were consistent with the EPA's interpretation;⁶ (ii) disapproved SIP submissions that were not consistent with this interpretation;⁷ (iii) itself promulgated regulations in FIPs that were consistent with this interpretation;⁸ or (iv) issued a SIP call requiring a state to revise an impermissible SIP provision.⁹

The EPA's SSM Policy is a policy statement and thus constitutes guidance. As guidance, the SSM Policy does not bind states, the EPA, or other parties, but it does reflect the EPA's interpretation of the statutory requirements of the CAA. The EPA's evaluation of any SIP provision, whether prospectively in the case of a new provision in a SIP submission or retrospectively in the case of a previously approved SIP submission, must be conducted through a notice-and-comment rulemaking in which the

⁶ See, "Approval and Promulgation of Implementation Plans; Texas; Excess Emissions During Startup, Shutdown, Maintenance, and Malfunction Activities," 75 FR 68989 (Nov. 10, 2010).

⁷ See, "Approval and Promulgation of State Implementation Plans; Michigan," 63 FR 8573 (Feb. 20, 1998).

⁸ See, "Federal Implementation Plan for the Billings/Laurel, MT, Sulfur Dioxide Area," 73 FR 21418 (Apr. 21, 2008).

⁹ See, "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 76 FR 21639 (Apr. 18, 2011).

EPA will determine whether or not a given SIP provision is consistent with the requirements of the CAA and applicable regulations.¹⁰

The Petition raised issues related to excess emissions from sources during periods of startup, shutdown, and malfunction, and the consequences of failing to address these emissions correctly in SIPs. In broad terms, the Petitioner expressed concerns that the exemptions for excess emissions and the other types of alleged deficiencies in existing SIP provisions "undermine the emission limits in SIPs and threaten states' abilities to achieve and maintain the NAAQS, thereby threatening public health and public welfare, which includes agriculture, historic properties and natural areas."¹¹ The Petitioner asserted that such exemptions for SSM events are "loopholes" that can allow dramatically higher amounts of emissions and that these emissions "can swamp the amount of pollutants emitted at other times."¹² In addition, the Petitioner argued that these automatic and discretionary exemptions, as well as other SIP provisions that interfere with the enforcement structure of the CAA, undermine the objectives of the CAA.

The EPA notes that the alleged SIP deficiencies are not legal technicalities. Compliance with the applicable requirements is intended to achieve the air quality protection and improvement purposes and objectives of the CAA. The EPA believes that the results of automatic and discretionary exemptions in SIPs, and of other provisions that interfere with effective enforcement of SIPs, are real-world consequences that adversely affect public health.

As described earlier in this notice, the EPA invites public comment on a memorandum that supplements this notice and provides a more detailed discussion of the statutory, regulatory and policy background for the EPA's proposed action. The memorandum can be found in the docket for this rulemaking.¹³

IV. Proposed Action in Response To Request To Rescind the EPA Policy Interpreting the CAA To Allow Appropriate Affirmative Defense Provisions

A. Petitioner's Request

The Petitioner's first request was for the EPA to rescind its SSM Policy

¹⁰ See, generally, *Catawba County, North Carolina et al. v. EPA*, 571 F.3d 20, 33–35 (DC Cir. 2009) (upholding the EPA's process for developing and applying its guidance to designations).

¹¹ Petition at 2.

¹² Petition at 12.

¹³ See, Memorandum, "Statutory, Regulatory, and Policy Context for this Rulemaking," Feb. 4, 2013.

element interpreting the CAA to allow affirmative defense provisions in SIPs for excess emissions during SSM events.¹⁴ Related to this request, the Petitioner also asked the EPA: (i) To find that SIPs containing an affirmative defense to monetary penalties for excess emissions during SSM events are substantially inadequate because they do not comply with the CAA; and (ii) to issue a SIP call pursuant to CAA section 110(k)(5) to require each such state to revise its SIP.¹⁵ Alternatively, if the EPA denies these two related requests, the Petitioner requested the EPA: (i) To require states with SIPs that contain such affirmative defense provisions to revise them so that they are consistent with the EPA's 1999 SSM Guidance for excess emissions during SSM events; and (ii) to issue a SIP call pursuant to CAA section 110(k)(5) to states with provisions inconsistent with the EPA's interpretation of the CAA.¹⁶ The EPA interprets this latter request to refer to the specific SIP provisions that the Petitioner identified in a separate section of the Petition, titled, "Analysis of Individual States' SSM Provisions," including specific existing affirmative defense provisions.

The Petitioner requested that the EPA rescind its SSM Policy element interpreting the CAA to allow SIPs to include affirmative defenses for violations due to excess emissions during any type of SSM events because the Petitioner contended there is no legal basis for the policy. Specifically, the Petitioner cited to two statutory grounds, CAA sections 113(b) and (e), related to the type of judicial relief available in an enforcement proceeding and to the factors relevant to the scope and availability of such relief, that the Petitioner claimed would bar the approval of any type of affirmative defense provision in SIPs.

In the Petitioner's view, the CAA "unambiguously grants jurisdiction to the district courts to determine penalties that should be assessed in an enforcement action involving the violation of an emissions limit."¹⁷ The Petitioner first argued that in any judicial enforcement action in the district court, CAA section 113(b) provides that "such court shall have jurisdiction to restrain such violation, to require compliance, to assess such penalty, * * * and to award any other appropriate relief." The Petitioner reasoned that the EPA's SSM Policy is therefore fundamentally inconsistent

with the CAA because it purports to remove the discretion and authority of the federal courts to assess monetary penalties for violations if a source is shielded from monetary penalties under an affirmative defense provision in the approved SIP.¹⁸ The Petitioner concluded that the EPA's interpretation of the CAA in the SSM Policy element allowing any affirmative defenses is impermissible "because the inclusion of an affirmative defense provision in a SIP limits the courts' discretion—granted by Congress—to assess penalties for Clean Air Act violations."¹⁹

Second, in reliance on CAA section 113(e)(1), the Petitioner argued that in a judicial enforcement action in a district court, the statute explicitly specifies a list of factors that the court is to consider in assessing penalties.²⁰ That section provides that either the Administrator or the court:

* * * shall take into consideration (in addition to such other factors as justice may require) the size of the business, the economic impact of the penalty on the business, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation.

The Petitioner argued that the EPA's SSM Policy authorizes states to create affirmative defense provisions with criteria for monetary penalties that are inconsistent with the factors that the statute specifies and that the statute explicitly directs courts to weigh in any judicial enforcement action. In particular, the Petitioner enumerated those factors that it alleges the EPA's SSM Policy totally omits: (i) The size of the business; (ii) the economic impact of the penalty on the business; (iii) the violator's full compliance history; (iv) the economic benefit of noncompliance; and (v) the seriousness of the violation. By specifying particular factors for courts to consider, the Petitioner reasoned, Congress has already definitively spoken to the question of what factors are germane in assessing monetary penalties under the CAA for violations. The Petitioner concluded that the EPA has no authority to allow a state to include an affirmative defense provision in a SIP with different criteria to be considered in awarding monetary penalties because "[p]reventing the district courts from considering these

statutory factors is not a permissible interpretation of the Clean Air Act."²¹ The Petitioner drew no distinction between affirmative defenses for unplanned events such as malfunctions and planned events such as startup and shutdown.

B. The EPA's Response

The EPA has considered the concerns raised by the Petitioner regarding the legal basis under the CAA for any form of affirmative defense for violations due to excess emissions as contemplated in the EPA's SSM Policy. The EPA does not agree with the Petitioner's overarching argument that CAA section 113 prohibits any affirmative defense provisions in SIPs. However, the EPA has evaluated the broader legal basis that supports affirmative defense provisions in general and the specific affirmative defense provisions identified in the Petition in particular. Although the Petitioner did not distinguish between affirmative defense provisions for unplanned events such as malfunctions and affirmative defense provisions for planned events such as startup and shutdown, the EPA's evaluation of the legal basis for affirmative defense provisions indicates that the SSM Policy should differentiate between unplanned and planned events. Accordingly, the EPA is proposing to deny the Petition in part with respect to affirmative defenses for malfunction events and to grant the Petition in part with respect to affirmative defenses for planned startup and shutdown events. To address this issue fully, it is necessary: (i) To explain the legal and policy basis for affirmative defenses for malfunction events; (ii) to explain why that basis would not extend to startup and shutdown events; and (iii) to explain why the Petitioner's arguments with respect to CAA section 113 do not preclude affirmative defense provisions for malfunction events but support the distinction between unplanned and planned events.

The EPA proposes to deny the Petition with respect to affirmative defense provisions in SIPs applicable to sources during malfunctions. The EPA's SSM Policy has long recognized that there may be limited circumstances in which excess emissions are entirely beyond the control of the owner or operator. Thus, the EPA believes that an appropriately drawn affirmative defense provision recognizes that, despite diligent efforts by sources, such circumstances may create difficulties in meeting a legally required emission limitation continuously and that

¹⁴ Petition at 11.

¹⁵ *Id.*

¹⁶ Petition at 12.

¹⁷ Petition at 10.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ Petition at 11.

²¹ Petition at 11.

emission standards may be violated under limited circumstances beyond the control of the source.

In accordance with CAA section 302(k), SIPs must contain emission limitations that “limit the quantity, rate, or concentration of emissions of air pollutants on a continuous basis.”²² While “continuous” standards are required, there is also case law indicating that technology-based standards should account for the practical realities of technology. For example, in *Essex Chemical v. Ruckelshaus*, the court acknowledged that in setting standards under CAA section 111, “variant provisions” such as provisions allowing for upsets during startup, shutdown and equipment malfunction “appear necessary to preserve the reasonableness of the standards as a whole and that the record does not support the ‘never to be exceeded’ standard currently in force.”²³ Though intervening case law and amendments to the CAA call into question the relevance of this line of cases today, they support the EPA’s view that a system that incorporates some level of flexibility is reasonable and consistent with the overall intent of the CAA. An appropriately drawn affirmative defense provision simply provides for a defense to monetary penalties for violations that are proven to be beyond the control of the source. The EPA notes that the affirmative defense does not excuse a source from injunctive relief, *i.e.*, from being required to take further steps to prevent future upsets or malfunctions that cause harm to the public health. The EPA believes that affirmative defense provisions can supply flexibility both to ensure that emission limitations are “continuous” as required by CAA section 302(k), because any violations remain subject to a claim for injunctive relief, and to provide limited relief in actions for penalties for malfunctions that are beyond the control of the owner where the owner has taken necessary steps to minimize the likelihood and the extent of any such violation. This approach supports the reasonableness of the SIP emission limitations as a whole. SIP emission limitations must apply and be enforceable at all times. A narrow affirmative defense for malfunction events helps to meet this requirement by

²² Court decisions confirm that this requirement for continuous compliance prohibits exemptions for excess emissions during SSM events. *See, e.g., Sierra Club v. EPA*, 551 F.3d 1019, 1021 (D.C. Cir. 2008); *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1170 (10th Cir. 2012).

²³ *See*, 486 F.2d 427, 433 (D.C. Cir. 1973); *Portland Cement Association v. Ruckelshaus*, 486 F.2d 375 (D.C. Cir. 1973).

ensuring that even where there is a malfunction, the emission limitations are still applicable and enforceable through injunctive relief. Several courts have agreed with this approach.²⁴

Because the Petitioner questioned the legal basis for affirmative defense provisions in SIPs, the EPA wants to reiterate the basis for its recommendations concerning such provisions. Starting with the 1982 SSM Guidance, the EPA has made a series of recommendations concerning how states might address violations of SIP provisions consistent with CAA requirements in the event of malfunctions. In the 1982 SSM Guidance, the EPA recommended the exercise of enforcement discretion. Subsequently, in the 1983 SSM Guidance, the EPA expanded on this approach by recommending that a state could elect to adopt SIP provisions providing parameters for the exercise of enforcement discretion by the state’s personnel. In the 1999 SSM Guidance, the EPA recognized the use of an affirmative defense as a permissible method for addressing excess emissions that were beyond the control of the owner or operator of the source and recommended parameters that should be included as part of such an affirmative defense in order to ensure that it would be available only in certain narrow circumstances.

The EPA interprets the provisions in CAA section 110(a) to allow the use of narrowly tailored affirmative defense provisions in SIP provisions. In particular, CAA section 110(a) requires each state to have a SIP that provides for the attainment, maintenance, and enforcement of the NAAQS, protects PSD increments, protects visibility, and meets the other requirements of the CAA. These statutory provisions include the explicit requirements that SIPs contain emission limitations in accordance with section 110(a)(2)(A) and that these emission limitations must apply continuously in accordance with CAA section 302(k). The CAA is silent as to whether or not states may elect to create affirmative defense provisions in SIPs. In light of the ambiguity created by this silence, the EPA has interpreted the

²⁴ *See, Luminant Generation Co. v. EPA*, 699 F.3d 427 (5th Cir. 2012) (upholding the EPA’s approval of an affirmative defense applicable during malfunctions in a SIP submission as a permissible interpretation of the statute under *Chevron* step 2 analysis); *Mont. Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174, 1191–93 (9th Cir. 2012) (upholding the EPA’s creation of an affirmative defense applicable during malfunctions in a FIP); *Ariz. Public Service Co. v. EPA*, 562 F.3d 1116, 1130 (9th Cir. 2009) (upholding the EPA’s creation of an affirmative defense applicable during malfunctions in a FIP).

CAA to allow affirmative defense provisions in certain narrowly prescribed circumstances. While recognizing that there is some ambiguity in the statute, the EPA also recognizes that there are some limits imposed by the overarching statutory requirements such as the obligation that SIPs provide for the attainment and maintenance of the NAAQS. Thus, the EPA believes that in order for an affirmative defense provision to be consistent with the CAA, it: (i) Has to be narrowly drawn to address only those excess emissions that are unavoidable; (ii) cannot interfere with the requirement that the emission limitations apply continuously (*i.e.*, cannot provide relief from injunctive relief); and (iii) cannot interfere with the overarching requirements of the CAA, such as attaining and maintaining the NAAQS.²⁵

The EPA believes this interpretation is reasonable because it does not interfere with the overarching goals of title I of the CAA, such as attainment and maintenance of the NAAQS, and at the same time recognizes that, despite best efforts of sources, technology is fallible. The EPA disagrees with the suggestion that an affirmative defense will encourage lax behavior by sources and, in fact, believes the opposite. The potential relief from monetary penalties for violations in many cases may serve as an incentive for sources to be more diligent to prevent and to minimize excess emissions in order to be able to qualify for the affirmative defense. An underlying premise of an affirmative defense provision for malfunctions is that the excess emissions are entirely beyond the control of the owner or operator of the source. First, a malfunction is a sudden and unavoidable event that cannot be foreseen or planned for. As explained in the 1999 SSM Guidance, the EPA considers malfunctions to be “sudden, unavoidable, and unpredictable in nature.”²⁶ In order to establish an affirmative defense for a malfunction, the recommended criteria specify that the source, among other things, must have been appropriately designed, operated, and maintained to prevent such an event, and the source must have taken all practicable steps to prevent

²⁵ *See, e.g.*, “Approval and Promulgation of Implementation Plans; Texas; Excess Emissions During Startup, Shutdown, Maintenance, and Malfunction Activities; Notice of proposed rulemaking,” 75 FR 26892 at 26895 (May 13, 2010). In this proposed rule, the EPA explained 12 specific considerations that justified the proposed approval of the affirmative defense for unplanned events in the state’s SIP submission as consistent with the requirements of the CAA.

²⁶ *See*, 1999 SSM Guidance at Attachment p. 4.

and to minimize the excess emissions that result from the malfunction. Through the criteria recommended in the 1999 SSM Guidance for approvable affirmative defense provisions for malfunctions, the EPA reflected its view that approvable provisions should be narrowly drawn and should be restricted to events beyond the control of the owner or operator of the source.²⁷ The EPA recommends that states consider 10 specific criteria in such affirmative defense provisions.

Unlike the EPA's proposed response to the request to rescind its SSM Policy with respect to affirmative defenses for malfunctions, the EPA proposes to grant the Petition with respect to its interpretation of the CAA concerning affirmative defense for excess emissions during startup and shutdown events. Accordingly, the EPA is also proposing to issue a SIP call for SIP provisions identified in the Petition that provide an affirmative defense for excess emissions during planned events, such as startup and shutdown. The legal and factual rationale for an affirmative defense provision for malfunctions does not translate to planned events such as startup and shutdown. By definition, the owner or operator of a source can foresee and plan for startup and shutdown events. Because these events are planned and predictable, the EPA believes that air agencies should be able to establish, and sources should be able to comply with, the applicable emission limitations or other control measures during these periods of time. In addition, a source can be designed, operated, and maintained to control and to minimize emissions during such normal expected events. If sources in fact cannot meet the otherwise applicable emission limitations during planned events such as startup and shutdown, then an air agency can develop specific alternative requirements that apply during such periods, so long as they meet other applicable CAA requirements.

Providing an affirmative defense to sources for violations that they could reasonably anticipate and prevent is not consistent with the theory that supports allowing such affirmative defenses for malfunctions, *i.e.*, that where excess emissions are entirely beyond the control of the owner or operator of the source it is appropriate to provide limited relief to claims for monetary penalties. The EPA has previously made the distinction that excess emissions that occur during maintenance should not be accorded special treatment, because sources should be expected to

comply with emission limitations during maintenance activities as they are planned and within the control of the source.²⁸ The EPA believes that same rationale applies to periods of startup and shutdown.²⁹

The EPA acknowledges that its 1999 SSM Guidance explicitly recognized that states could elect to create affirmative defense provisions applicable to startup and shutdown events. However, the EPA has reevaluated the justification that could support an affirmative defense during these activities and now believes that the ability and obligation of sources to anticipate and to plan for routine events such as startup and shutdown negates the justification for relief from monetary penalties for violations during those events. Moreover, the EPA notes that the various criteria recommended for affirmative defenses for startup and shutdown to a large extent already mirrored those relevant for malfunctions, such as: (i) The event could not have been prevented through careful planning and design; (ii) the excess emissions were not part of a recurring pattern; and (iii) if the excess emissions resulted from bypassing a control measure, they were unavoidable to prevent loss of life, personal injury, or severe property damage.³⁰ As a practical matter, many startup and shutdown events that could have met these conditions recommended in the 1999 SSM Guidance are likely to have been associated with malfunctions, and the EPA explicitly stated that if the excess emissions "occur during routine startup or shutdown periods due to a malfunction, then those instances should be treated as malfunctions." The key distinction remains, however, that normal source operations such as startup and shutdown are planned and predictable events. For this reason, the EPA is proposing to revise its SSM Policy to reflect its interpretation of the CAA that affirmative defense provisions applicable during startup and shutdown are not appropriate.

²⁸ See, "Approval and Promulgation of Implementation Plans; Texas; Excess Emissions During Startup, Shutdown, Maintenance, and Malfunction Activities," 75 FR 68989 at 68992 (Nov. 10, 2010).

²⁹ In *Luminant Generation Co. v. EPA*, 699 F.3d 427 (5th Cir. 2012), the court upheld the EPA's disapproval of an affirmative defense provision in a SIP submission that pertained to "planned activities," which included startup, shutdown, and maintenance. The EPA disapproved this provision, in part because it provided an affirmative defense for maintenance. The court rejected challenges to the EPA's disapproval of this provision, holding that under *Chevron* step 2, the EPA's interpretation of the CAA was reasonable.

³⁰ See, 1999 SSM Guidance at Attachment 5-6.

Further support for distinguishing between malfunctions and planned events such as startup and shutdown is to be found in the Petitioner's argument that affirmative defense provisions in SIPs usurp the role of courts to decide liability and to assess penalties for violations under CAA section 113. The Petitioner views CAA sections 113(b) and 113(e) as statutory bars to any form of affirmative defense provision, regardless of the nature of the event. Rather than supporting the Petitioner's conclusion, however, the EPA believes that this argument illustrates why it is appropriate to allow affirmative defenses for malfunctions but not for planned events such as startup and shutdown.

At the outset, the EPA disagrees with the Petitioner's view that CAA section 113(b) explicitly precludes air agencies from adopting, and the EPA from approving, SIP emission limitations for sources that distinguish between conduct such that some violations should only be subject to injunctive relief rather than injunctive relief and monetary penalties. Section 110(a)(2)(A) of the CAA requires states to develop SIPs that "include enforceable emission limitations * * * as may be necessary or appropriate to meet the requirements of" the CAA. However, CAA section 302(k) defines "emission limitation" very broadly to require limits on "the quantity, rate, or concentration of emissions of air pollutants on a continuous basis." Significantly, the latter definition does not on its face preclude provisions devised by the state that may distinguish between violations based on the conduct of the source. The CAA is silent on whether or not a state may include an affirmative defense provision in its SIP. The EPA believes that the CAA thus provides states with discretion in developing plans that meet statutory and regulatory requirements, such as providing for attainment and maintenance of the NAAQS, as long as they are consistent with CAA requirements.³¹

The EPA believes that creating a narrowly tailored affirmative defense for malfunctions is within an air agency's

³¹ States have primary responsibility for developing SIPs in accordance with CAA section 107(a). An air agency's discretion to develop SIP provisions is not unbounded, however, and the EPA's responsibility under CAA section 110(k), section 110(l), and section 193, to review SIP submissions prospectively, and under CAA section 110(k)(5) retrospectively, is to determine whether the SIP provisions in fact meet all applicable statutory and regulatory requirements. Thus, for example, the EPA does not believe that an air agency has discretion to create an exemption for excess emissions during SSM events, because such exemption would conflict with fundamental CAA requirements for SIPs.

²⁷ *Id.* at 3-4.

authority, and that approving such a provision to make it part of the SIP is within the EPA's authority. An affirmative defense provision can be a means of striking a reasonable balance between the requirements of the CAA and the realities and limits of technology. Air agencies and the EPA must ensure continuous compliance but also recognize that, despite diligent efforts by sources, there may be limited unforeseen and unavoidable circumstances that create difficulties in meeting applicable emission limitations continuously.

The EPA's SSM Policy recognizes an approach under which air agencies may, if they elect, create two tiers of liability for violations due to excess emissions during periods of malfunction: (i) A lesser level of liability for violations for which the source could only be subject to injunctive relief (where it could meet the requirements for an affirmative defense with respect to penalties); and (ii) a higher level of liability for violations for which the source could be subject to both injunctive relief and monetary penalties (where it could not meet the requirements for an affirmative defense with respect to penalties).

The EPA also disagrees with the Petitioner's argument that the inclusion of penalty factors in CAA section 113(e) is a statutory bar to all affirmative defense provisions in SIPs. The EPA believes that these statutory factors apply only for violations for which the regulations approved into the SIP contemplate monetary penalties. A court, in determining whether there is a violation of the SIP provision, and whether the source has met the conditions for an affirmative defense, cannot change the forms of relief for violations provided in the approved SIP. Approval of the regulation into the SIP by the EPA thus affects the availability of monetary penalties for the violation in the first instance. The EPA reiterates, however, that such a provision would not be consistent with the requirements of the CAA if it did not preserve the availability for injunctive relief in the event of violations. Failure to provide in a SIP provision for any form of enforcement for excess emissions during SSM events would be equivalent to the type of provision that excused excess emissions during malfunction from compliance with standards under CAA section 112 that the court rejected in *Sierra Club v. EPA*.³² The EPA's longstanding position with regard to SIPs is that blanket exemptions from compliance are not consistent with the requirements such as attainment and

maintenance of the NAAQS because they eliminate much of the incentive that sources would otherwise have to minimize the likelihood of violations and to minimize the extent of a violation once it occurs. Elimination of potential availability of injunctive relief for violations would be fundamentally inconsistent with the requirement that there may be enforcement to cause the installation of control measures, changes of operation, or other changes necessary at the source in order to bring the source into compliance with the applicable emission limitations to meet CAA requirements.

The EPA likewise disagrees with the Petitioner's claim that the elements for establishing an affirmative defense in a SIP provision supplant the mandatory factors that Congress provided for determining the amount of penalties to be assessed in CAA section 113(e). Under CAA section 110(a)(2), states have the responsibility to devise enforceable emission limitations for sources and to develop a program for their implementation and enforcement. The CAA does not require that air agencies treat all violations equally. In devising its SIP, an air agency has authority to determine what constitutes a violation and to distinguish between different types of violations, within the bounds allowed by the CAA and applicable regulations. As the EPA has long recognized in its SSM Policy, circumstances surrounding a given violation may justify distinguishing between those where injunctive relief is appropriate versus those where both injunctive relief and monetary penalties are appropriate. Providing an affirmative defense to monetary penalties in certain circumstances does not negate the factors that Congress provided in CAA section 113(e). In the event that a source violates its emission limitations and fails to meet the requirements of an available defense in the SIP, then it is the court that determines the level of monetary penalties appropriate using the statutory factors in CAA section 113(e).

The EPA notes that the provisions of CAA section 304 relevant to citizen enforcement provide additional support for the view that air agencies can determine that certain violations should not be subject to monetary penalties. Section 304(a) explicitly provides that the court in an enforcement proceeding has jurisdiction to enforce emission limits, to issue orders, "and to apply any appropriate civil penalties." The EPA believes that monetary penalties that might otherwise be an available response to a violation cannot be "appropriate" if an air agency has

properly created an affirmative defense provision that eliminates such penalties for violations under specified circumstances in the SIP provision that is before the court. The mere fact that CAA section 113(b) includes penalties as a potential form of relief for violations in general does not mean that air agencies must construct SIP requirements that in all instances require monetary penalties.

As with CAA section 110(a) governing SIP provisions in general, neither CAA section 113(b) nor CAA 113(e) expressly addresses the availability of an affirmative defense. Thus, the EPA believes it is reasonable to interpret these specific provisions in light of the need to balance the requirement for continuous compliance with emission limitations in order to meet overarching goals of the statute such as attainment and maintenance of the NAAQS with the fact that even the most diligent source may not be able to meet emission limitations 100 percent of the time. The EPA has recognized that it is permissible for an air agency to provide narrowly drawn affirmative defense provisions in SIPs that provide relief from monetary penalties for violations that occur due to circumstances beyond the control of the source. When a source has been properly designed, operated, and maintained, and has taken action to prevent and to minimize the excess emissions, such relief may be warranted. Also, as with CAA section 110(a), the EPA does not believe that CAA section 113's silence with regard to affirmative defense provisions should be interpreted to allow broad use of such provisions during planned events that are within the control of the source. The enforcement provisions of the CAA must be read in light of the goals and purposes of the provisions with which they are meant to ensure compliance. As provided above, the EPA believes that the use of an affirmative defense is appropriate only in those narrow circumstances where it is necessary to harmonize the competing interests of the CAA regarding continuous compliance and the limits or fallibility of technology.

In summary, the EPA believes that the CAA provides air agencies in the first instance in their role as the developer of SIPs, and then the EPA in its role as approver of SIPs, some discretion in defining the substantive requirements that are necessary to attain and maintain the NAAQS, protect PSD increments, and protect visibility, or to meet other CAA requirements. Until the air agency takes action to create a SIP, or the EPA takes action to create a FIP, that imposes and defines the applicable emission

³² 551 F.3d 1019, 1021 (D.C. Cir. 2008).

limitations, there is no standard for a source to violate and thus no conduct for which a court could assess any penalties. The EPA believes that the CAA allows air agencies (or the EPA when it is promulgating a FIP) in defining emission standards to define narrowly drawn affirmative defenses that provide limited relief from monetary penalties but not for injunctive relief in specified circumstances. The EPA emphasizes that affirmative defense provisions for malfunctions need to be appropriately and narrowly drawn, and thus the SSM Policy makes recommendations for the types of criteria that would make such a provision consistent with the requirements of the CAA.

For the foregoing reasons, the EPA is proposing to grant the Petition in part, and to deny the Petition in part, with respect to the Petitioner's request that the EPA rescind its SSM Policy interpreting the CAA to allow affirmative defense provisions in SIPs for excess emissions during SSM events. In addition, the EPA is proposing to grant the Petition in part, and to deny the Petition in part, with respect to the Petitioner's request that the EPA issue SIP calls for those affirmative defense provisions in specific SIP provisions identified in the Petition. The EPA requests comment on this proposed action. As discussed in section VII.B of this notice, the EPA is also restating its recommended criteria for approvable affirmative defenses for malfunctions in SIP provisions consistent with CAA requirements. Further, as discussed in section IX of this notice, the EPA is proposing to grant or to deny the Petition with respect to the specific SIP provisions identified by the Petitioner as inconsistent with the CAA.

V. Proposed Action in Response to Request for the EPA's Review of Specific Existing SIP Provisions for Consistency With CAA Requirements

A. Petitioner's Request

The Petitioner's second request was for the EPA to find that SIPs "containing an SSM exemption or a provision that could be interpreted to affect EPA or citizen enforcement are substantially inadequate to comply with the requirements of the Clean Air Act."³³ In addition, the Petitioner requested that if the EPA finds such defects in existing SIPs, the EPA "issue a call for each of the states with such a SIP to revise it in conformity with the requirements or

otherwise remedy these defective SIPs."³⁴

In support of this request, the Petitioner expressed concern that many SIPs contain provisions that are inconsistent with the requirements of the CAA. According to the Petitioner, these provisions fall into two general categories: (1) Exemptions for excess emissions by which such emissions are not treated as violations; and (2) enforcement discretion provisions that may be worded in such a way that a decision by the state not to enforce against a violation could be construed by a court to bar enforcement by the EPA under CAA section 113, or by citizens under CAA section 304.

First, the Petitioner expressed concern that many SIPs have either automatic or discretionary exemptions for excess emissions that occur during periods of startup, shutdown, or malfunction. Automatic exemptions are those that, on the face of the SIP provision, provide that any excess emissions during such events are not violations even though the source exceeds the otherwise applicable emission limitations. These provisions preclude enforcement by the state, the EPA, or citizens, because by definition these excess emissions are defined as not violations. Discretionary exemptions or, more correctly, exemptions that may arise as a result of the exercise of "director's discretion" by state officials, are exemptions from an otherwise applicable emission limitation that a state may grant on a case-by-case basis with or without any public process or approval by the EPA, but that do purport to bar enforcement by the EPA or citizens. The Petitioner argued that "[e]xemptions that may be granted by the state do not comply with the enforcement scheme of title I of the Act because they undermine enforcement by the EPA under section 113 of the Act or by citizens under section 304."

The Petitioner explained that all such exemptions are fundamentally at odds with the requirements of the CAA and with the EPA's longstanding interpretation of the CAA with respect to excess emissions in SIPs. SIPs are required to include emission limitations designed to provide for the attainment and maintenance of the NAAQS and for protection of PSD increments. The Petitioner emphasized that the CAA requires that such emission limitations be "continuous" and that they be established at levels that achieve sufficient emissions control to meet the required CAA objectives when adhered to by sources. Instead, the Petitioner

contended, exemptions for excess emissions often result in real-world emissions that are far higher than the level of emissions envisioned and planned for in the SIP. Citing the EPA's own guidance and past administrative actions, the Petitioner explained that exemptions from otherwise applicable emission limitations can allow large amounts of additional emissions that are not accounted for in SIPs and that exemptions thus "create large loopholes to the Act's fundamental requirement that a SIP must provide for attainment and maintenance of the NAAQS and PSD increments."

Second, the Petitioner expressed concern that many SIPs have provisions that may have been intended to govern only the exercise of enforcement discretion by the state's own personnel but are worded in a way that could be construed to preclude enforcement by the EPA or citizens if the state elects not to enforce against the violation. The Petitioner contended that "any SIP provision that purports to vest the determination of whether or not a violation of the SIP has occurred with the state enforcement authority is inconsistent with the enforcement provisions of the Act." In support of this contention, the Petitioner quoted from the EPA's recent action to rectify such a provision in the Utah SIP:

* * * SIP provisions that give exclusive authority to a state to determine whether an enforcement action can be pursued for an exceedance of an emission limit are inconsistent with the CAA's regulatory scheme. EPA and citizens, and any court in which they seek to file an enforcement claim, must retain the authority to independently evaluate whether a source's exceedance of an emission limit warrants enforcement action.³⁵

After articulating these overarching concerns with existing SIP provisions, the Petitioner requested that the EPA evaluate specific SIP provisions identified in the separate section of the Petition titled, "Analysis of Individual States' SSM Provisions."³⁶ In that section, the Petitioner identified specific provisions in the SIPs of 39 states that the Petitioner believed to be inconsistent with the requirements of the CAA and explained in detail the basis for that belief. In the conclusion section of the Petition, the Petitioner

³⁵ See, "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision; Notice of proposed rulemaking," 75 FR 70888 at 70892-93 (Nov. 19, 2010) (proposed SIP call, *inter alia*, to rectify an enforcement discretion provision that in fact appeared to bar enforcement by the EPA or citizens if the state decided not to enforce).

³⁶ Petition at 17.

³³ Petition at 14.

³⁴ *Id.*

listed the SIP provisions in each state for which it seeks a specific remedy.

B. The EPA's Response

In general, the EPA agrees with key statements of the Petitioner. The EPA's longstanding interpretation of the CAA is that automatic exemptions from emission limitations in SIPs are impermissible because they are inconsistent with the fundamental requirements of the CAA. The EPA has reiterated this point in its guidance documents and in rulemaking actions numerous times. The EPA has also acknowledged that it previously approved some SIP provisions that provide such exemptions in error and encouraged states to rectify them.³⁷

The EPA also has a longstanding interpretation of the CAA that does not allow "director's discretion" provisions in SIPs if they provide unbounded discretion to allow what would amount to a case-specific revision of the SIP without meeting the statutory requirements of the CAA for SIP revisions. Moreover, the CAA would not allow approval of a SIP provision that provided director's discretion to create discretionary exemptions for violations when the CAA would not allow such exemptions in the first instance.

In addition, the EPA's longstanding interpretation of the CAA is that SIPs may contain provisions concerning "enforcement discretion" by the air agency's own personnel, but such provisions cannot bar enforcement by the EPA or through a citizen suit.³⁸ In the event such a provision could be construed by a court to preclude EPA or citizen enforcement, that provision would be at odds with fundamental requirements of the CAA pertaining to enforcement. Although the EPA does not agree with the Petitioner concerning all affirmative defense provisions in SIPs, the EPA does agree that such provisions have to meet CAA requirements.

The EPA also agrees that automatic exemptions, discretionary exemptions via director's discretion, ambiguous enforcement discretion provisions that may be read to preclude EPA or citizen enforcement, and inappropriate affirmative defense provisions can interfere with the overarching objectives of the CAA, such as attaining and maintaining the NAAQS, protection of PSD increments, and protection of visibility. Such provisions in SIPs can interfere with effective enforcement by air agencies, the EPA, and the public to

assure that sources comply with CAA requirements, contrary to the fundamental enforcement structure provided in CAA sections 113 and 304.

The EPA's agreement on these broad principles, however, does not necessarily mean that the EPA agrees with the Petitioner's views as to each of the specific SIP provisions identified as problematic in the Petition. The EPA has undertaken a comprehensive review of those specific SIP provisions to determine whether they are consistent with CAA requirements, and if they are not consistent, whether the provisions are substantially inadequate to meet CAA requirements and thus warrant action to rectify.

The EPA has carefully evaluated the concerns expressed by the Petitioner with respect to each of the identified SIP provisions and has considered the specific remedy sought by the Petitioner. In many instances, the EPA tentatively concurs with the Petitioner's analysis of the provision in question and accordingly is proposing to grant the Petition with respect to that provision and simultaneously proposing to make a finding of substantial inadequacy and to issue a SIP call to rectify the SIP inadequacy. In other instances, however, the EPA tentatively disagrees with the Petitioner's analysis of the provision and thus is proposing to deny the Petition with respect to that provision and to take no further action.

The EPA's evaluation of each of the provisions identified in the Petition is summarized in section IX of this notice. For the reasons discussed in section IX of this notice, the EPA is proposing to grant the Petition in part, and to deny the Petition in part, with respect to the specific existing SIP provisions for which the Petitioner requested a remedy. The EPA requests comment on the proposed actions on these specific SIP provisions.

VI. Proposed Action in Response To Request That the EPA Limit SIP Approval to the Text of State Regulations and Not Rely Upon Additional Interpretive Letters From the State

A. Petitioner's Request

The Petitioner's third request was that when the EPA evaluates SIP revisions submitted by a state, the EPA should require "all terms, conditions, limitations and interpretations of the various SSM provisions to be reflected in the unambiguous language of the SIPs themselves."³⁹ The Petitioner expressed concern that the EPA has previously

approved SIP submissions with provisions that "by their plain terms" do not appear to comply with the EPA's interpretation of CAA requirements embodied in the SSM Policy and has approved those SIP submissions in reliance on separate "letters of interpretation" from the state that construe the provisions of the SIP submission itself to be consistent with the SSM Policy.⁴⁰ Because of this reliance on interpretive letters, the Petitioner argued that "such constructions are not necessarily apparent from the text of the provisions and their enforceability may be difficult and unnecessarily complex and inefficient."⁴¹

In support of this request, the Petitioner alleged that past SIP approvals related to Oklahoma and Tennessee illustrate the practical problems that can arise from reliance on interpretive letters. With respect to Oklahoma, the Petitioner asserted that a 1984 approval of a SIP submission from that state addressing SSM provisions required two letters of interpretation from the state in order for the EPA to determine that the actual regulatory text in the SIP submission was sufficiently consistent with CAA requirements pertaining to SSM provisions.⁴² The Petitioner conceded that the **Federal Register** notices for the proposed and final actions to approve the Oklahoma SIP submission did quote from the state's letters but expressed concern that those letters were not actually "promulgated as part of the Oklahoma SIP."

With respect to Tennessee, the Petitioner pointed to a more recent action concerning the redesignation of the Knoxville area to attainment for the 1997 8-hour ozone NAAQS.⁴³ In this action, the EPA evaluated whether the SIP for that state met requirements necessary for redesignation from nonattainment to attainment in accordance with CAA section 107(d)(3).⁴⁴ Again, the Petitioner noted that in order to complete that redesignation action, the EPA had to request that both the state and the local air planning officials confirm officially that the existing SIP provisions do not in fact provide an exemption for excess

⁴⁰ Petition at 14.

⁴¹ Petition at 15.

⁴² See, "Revision to Oklahoma Regulation 1.5—Reports Required, Excess Emissions During Startup, Shutdown and Malfunction of Equipment," 49 FR 3084 (Jan. 25, 1984). At the time of the proposed and final action, the operative EPA guidance was the 1983 SSM Guidance.

⁴³ Petition at 15.

⁴⁴ See, "Redesignation of the Knoxville 1997 8-Hour Ozone Nonattainment Area to Attainment," 76 FR 12587 (Mar. 8, 2011).

³⁷ See, e.g., 1982 SSM Guidance at 1.

³⁸ See, e.g., 1983 SSM Guidance at Attachment p. 2.

³⁹ Petition at 16.

emissions during SSM events and that the provisions should not be interpreted to do so. The implication of the Petitioner's observation is that if the SIP provisions had been clear and unambiguous in the first instance, interpretive letters would not have been necessary.

By contrast, the Petitioner pointed to the more recent SIP call action for Utah in which the EPA itself noted that it was unclear why the EPA had originally approved a particular SIP provision relevant to SSM events.⁴⁵ Specifically, the Petitioner quoted the EPA's own statement that "thirty years later, it is not clear how EPA reached the conclusion that exemptions granted by Utah would not apply as a matter of federal law or whether a court would honor EPA's interpretation * * *"⁴⁶ The Petitioner argued that this situation where the EPA itself was unable to ascertain why a SIP provision was previously approved as meeting CAA requirements illustrates the concern that "the state's interpretation of its regulations may (or may not) be known by parties attempting to enforce the SIP decades after the provisions were created."⁴⁷

From these examples, the Petitioner drew the conclusion that reliance on letters of interpretation from the state, even if reflected in the **Federal Register** notice as part of the explicit basis for the SIP approval, is insufficient. The Petitioner argued that such interpretations, if they are not plain on the face of the state regulations themselves, should be set forth in the SIP as reflected in the Code of Federal Regulations. The Petitioner advocated that all parties should be able to rely on the terms of the SIP as reflected in the Code of Federal Regulations, or alternatively on the SIP as shown on an EPA Internet Web page, rather than having to rely on other interpretive letters that may be difficult to locate. The Petitioner's preferred approach,

however, was that "all terms, conditions, limitations and interpretations of the various SSM provisions be reflected in the unambiguous language of the SIPs themselves."

B. The EPA's Response

The EPA agrees with the core principle advocated by the Petitioner, *i.e.*, that the language of regulations in SIPs that pertain to SSM events should be clear and unambiguous. This is necessary as a legal matter but also as a matter of fairness to all parties, including the regulated entities, the regulators, and the public. In some cases, the lack of clarity may be so significant that amending the regulation may be warranted to eliminate the potential for confusion or misunderstanding about applicable legal requirements that could interfere with compliance or enforcement. Indeed, as noted by the Petitioner, the EPA has requested that states clarify ambiguous SIP provisions when the EPA has subsequently determined that to be necessary.⁴⁸

However, the EPA believes that the use of interpretive letters to clarify perceived ambiguity in the provisions in a SIP submission is a permissible, and sometimes necessary, approach under the CAA. Used correctly, and with adequate documentation in the **Federal Register** and the docket for the underlying rulemaking action, reliance on interpretive letters can serve a useful purpose and still meet the enforceability concerns of the Petitioner. Regulated entities, regulators, and the public can readily ascertain the existence of interpretive letters relied upon in the EPA's approval that would be useful to resolve any perceived ambiguity. By virtue of being part of the stated basis for the EPA's approval of that provision, the interpretive letters necessarily establish the correct interpretation of any arguably ambiguous SIP provision.

In addition, reliance on interpretive letters to address concerns about perceived ambiguity can often be the most efficient and timely way to resolve concerns about the correct meaning of regulatory provisions. Both air agencies and the EPA are required to follow time- and resource-intensive administrative processes in order to develop and evaluate SIP submissions. It is reasonable for the EPA to exercise its discretion to use interpretive letters to clarify concerns about the meaning of

regulatory provisions, rather than to require air agencies to reinitiate a complete administrative process merely to resolve perceived ambiguity in a provision in a SIP submission.⁴⁹ In particular, the EPA considers this an appropriate approach where reliance on such an interpretive letter allows the air agency and the EPA to put into place SIP provisions that are necessary to meet important CAA objectives and for which unnecessary delay would be counterproductive. For example, where an air agency is adopting emission limitations for purposes of attaining the NAAQS in an area, a timely letter from the air agency clarifying that an enforcement discretion provision is applicable only to air agency enforcement personnel and has no bearing on enforcement by the EPA or the public could help the area reach attainment more expeditiously than requiring the air agency to undertake a time-consuming administrative process to make a minor change in the regulatory text.

Thus, to the extent that the Petitioner intended the Petition on this issue to be a request for the EPA never to use interpretive letters as part of the basis for approval of any SIP submission, the EPA disagrees with the Petitioner and accordingly is proposing to deny the request. The EPA notes that it is already the EPA's practice to assure that any interpretive letters are correctly and adequately reflected in the **Federal Register** and are included in the rulemaking docket for a SIP approval.

There are multiple reasons why the EPA does not agree with the Petitioner with respect to the alleged inadequacy of using interpretive letters to clarify specific ambiguities SIP regulations, provided this process is done correctly. First, under section 107(a), the CAA gives air agencies both the authority and the primary responsibility to develop SIPs that meet applicable statutory and regulatory requirements. However, the CAA generally does not specify exactly how air agencies are to meet the requirements substantively, nor does the CAA specify that air agencies must use specific regulatory terminology, phraseology, or format, in provisions submitted in a SIP submission. Air agencies each have their own requirements and practices with respect to rulemaking, making flexibility toward

⁴⁹ CAA section 110(k) directs the EPA to act on SIP submissions and to approve those that meet statutory and regulatory requirements. Implicit in this authority is the discretion, through appropriate notice-and-comment rulemaking, to determine whether or not a given SIP provision meets such requirements, in reliance on the information that the EPA considers relevant for this purpose.

⁴⁵ Petition at 15–16.

⁴⁶ See, "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision; Notice of proposed rulemaking," 75 FR 70888 at 70890 (Nov. 19, 2010).

⁴⁷ Petition at 16. The Petitioner assumed that the original SIP action was one in which the EPA must have relied on an interpretive letter from the state as a basis for the prior SIP approval. In fact, however, the EPA recognized that the EPA statement in the prior final action approving the SIP revision in 1980 concerning federal law superseding incorrect state law embodied in the SIP was incorrect. Moreover, subsequent case law has illustrated that courts will not decide that CAA requirements automatically override existing SIP provisions, regardless of whether those SIP provisions met CAA requirements at the time of the approval or since. See, *Sierra Club, et al. v. Georgia Power Co.*, 443 F.3d 1346, 1354 (11th Cir. 2006).

⁴⁸ See, *e.g.*, "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 76 FR 21639 at 21648 (Apr. 18, 2011).

terminology on the EPA's part appropriate.

As a prime example relevant to the SSM issue, CAA section 110(a)(2)(A) requires that a state's SIP shall include "enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights) as well as schedules and timetables for compliance as may be necessary or appropriate to meet the applicable requirements of" the CAA. Section 302(k) of the CAA further defines the term "emission limitation" in important respects but nevertheless leaves room for variations of approach:

* * * a requirement established by the State or Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement related to the operation or maintenance of a source to assure continuous emissions reduction, and any design, equipment, work practice or operational standard promulgated under [the CAA].

Even this most basic requirement of SIPs, the inclusion of enforceable "emission limitations," allows air agencies discretion in how to structure or word the emission limitations, so long as the provisions meet fundamental legal requirements.⁵⁰ Thus, by the explicit terms of the statute and by design, air agencies generally have considerable discretion in how they elect to structure or word their state regulations submitted to meet CAA requirements in a SIP.

Second, under CAA section 110(k), the EPA has both the authority and the responsibility to assess whether a SIP submission meets applicable CAA and regulatory requirements. Given that air agencies have authority and discretion to structure or word SIP provisions as they think most appropriate so long as they meet CAA and regulatory requirements, the EPA's role is to evaluate whether those provisions in fact meet those legal requirements.⁵¹ Necessarily, this process entails the exercise of judgment concerning the specific text of regulations, with regard

⁵⁰ The EPA notes that notwithstanding discretion in wording in regulatory provisions, many words have specific recognized legal meaning whether by statute, regulation, case law, dictionary definition, or common usage. For example, the term "continuous" has a specific meaning that must be complied with substantively, however the state may elect to word its regulatory provisions.

⁵¹ See, e.g., *Luminant Generation Co. v. EPA*, 699 F.3d 427 (5th Cir. 2012) (upholding the EPA's disapproval in part of affirmative defense provision with unclear regulatory text); *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1170 (10th Cir. 2012) (upholding the EPA's issuance of a SIP call to clarify a provision that could be interpreted in a way inconsistent with CAA requirements).

both to content and to clarity. Because actions on SIP submissions are subject to notice-and-comment rulemaking, there is also the opportunity for other parties to identify SIP provisions that they consider problematic and to bring to the EPA's attention any concerns about ambiguity in the meaning of the SIP provisions under evaluation.

Third, careful review of regulatory provisions in a SIP submission can reveal areas of potential ambiguity. It is essential, however, that regulations are sufficiently clear that regulated entities, regulators, and the public can understand the SIP requirements. Where the EPA perceives ambiguity in draft SIP submissions, it endeavors to resolve those ambiguities through interactions with the air agency in question even in advance of the SIP submission. On occasion, however, there may still remain areas of regulatory ambiguity in a SIP submission's provisions that the EPA identifies, either independently or as a result of public comments on a proposed action, for which resolution is both appropriate and necessary as part of the rulemaking action.

In such circumstances, the ambiguity may be so significant as to require the air agency to revise the regulatory text in its SIP submission in order to resolve the concern. At other times, however, the EPA may determine that with adequate explanation from the state, the provision is sufficiently clear and complies with applicable CAA and regulatory requirements. In some instances, the air agency may supply that extra explanation in an official letter from the appropriate authority to resolve any potential ambiguity. When the EPA bases its approval of a SIP submission in reliance on the air agency's official interpretation of the provision, that reading is explicitly incorporated into the EPA's action and is memorialized as the proper intended reading of the provision.

For example, in the Knoxville redesignation action that the Petitioner noted, the EPA took careful steps to ensure that the perceived ambiguity was substantively resolved and fully reflected in the rulemaking record, *i.e.*, through inclusion of the interpretive letters in the rulemaking docket, quoting relevant passages from the letters in the **Federal Register**, and carefully evaluating the areas of potential ambiguity in response to public comments on a provision-by-provision basis.

Finally, the EPA notes that while it is possible to reflect or incorporate interpretive letters in the regulatory text of the CFR, there is no requirement to do so in all actions and there are other

ways for the public to have a clear understanding of the content of the SIP. First, for each SIP, the CFR contains a list or table of actions that reflects the various components of the approved SIP, including information concerning the submission of, and the EPA's action approving, each component. With this information, interested parties can readily locate the actual **Federal Register** notice in which the EPA will have explained the basis for its approval in detail, including any interpretive letters that may have been relied upon to resolve any potential ambiguity in the SIP provisions. With this information, the interested party can also locate the docket for the underlying rulemaking and obtain a copy of the interpretive letter itself. Thus, if there is any debate about the correct reading of the SIP provision, either at the time of the EPA's approval or in the future, it will be possible to ascertain the mutual understanding of the air agency and the EPA of the correct reading of the provision in question at the time the EPA approved it into the SIP. Most importantly, regardless of whether the content of the interpretive letter is reflected in the CFR or simply described in the **Federal Register** preamble accompanying the EPA's approval of the SIP submission, this mutual understanding of the correct reading of that provision upon which the EPA relied will be the reading that governs, should that later become an issue.

The EPA notes that the existence of, or content of, an interpretive letter that is part of the basis for the EPA's approval of a SIP submission is in reality analogous to many other things related to that approval. Not everything that may be part of the basis for the SIP approval in the docket, including the proposal or final preambles, the technical support documents, responses to comments, technical analyses, modeling results, or docket memoranda, will be restated *verbatim*, incorporated into, or referenced in the CFR. These background materials remain part of the basis for the SIP approval and remain available should they be needed for any purpose. To the extent that there is any question about the correct interpretation of an ambiguous provision in the future, an interested party will be able to access the docket to verify the correct meaning of SIP provisions.

With regard to the Petitioner's concern that either actual or alleged ambiguity in a SIP provision could impede an effective enforcement action, the EPA believes that its current process for evaluating SIP submissions and resolving potential ambiguities, including the reliance on interpretive

letters in appropriate circumstances with correct documentation in the rulemaking action, minimizes the possibility for any such ambiguity in the first instance. To the extent that there remains any perceived ambiguity, the EPA concludes that regulated entities, regulators, the public, and ultimately the courts, have recourse to the administrative record to shed light on and resolve any such ambiguity as explained above.

For the foregoing reasons, the EPA is proposing to deny the Petition on this issue concerning reliance on interpretive letters in actions on SIP submissions. The EPA requests comment on this proposed action.

VII. Clarifications, Reiterations, and Revisions to the EPA's SSM Policy

A. Applicability of Emission Limitations During Periods of Startup and Shutdown

The EPA's evaluation of the Petition indicates that there is a need to clarify the SSM Policy with respect to excess emissions that occur during periods of planned startup and shutdown or other planned events. The significant number of SIP provisions identified in the Petition that create automatic or discretionary exemptions from emission limitations during startup and shutdown suggests that there may be a misunderstanding concerning whether the CAA permits such exemptions. Although the EPA's stated position on this issue has been consistent since 1977, ambiguity in some statements in the EPA's guidance documents may have left the misimpression that such exemptions are consistent with the requirements of the CAA. Recent court decisions have indicated that such exemptions for excess emissions during periods of startup and shutdown are not in fact permissible under the CAA. Thus, in acting upon the Petition the EPA is clarifying its interpretation of the requirements of the CAA to forbid exemptions from otherwise applicable emission limitations for excess emissions during planned events such as startup and shutdown in SIP provisions.

The EPA believes that any misimpression that exemptions for excess emissions are permissible during planned events such as startup and shutdown may have begun with a statement in the 1983 SSM Guidance. In this guidance, the EPA distinguished between excess emissions during unforeseeable events like malfunctions and foreseeable events like startup and shutdown. In drawing distinctions

between these broad categories of events, the EPA stated:

Startup and shutdown of process equipment are part of the normal operation of a source and should be accounted for in the planning, design and implementation of operating procedures for the process and control equipment. Accordingly, it is reasonable to expect that careful and prudent planning and design will eliminate violations of emission limitations during such periods. However, for a few sources there may exist infrequent short periods of excess emissions during startup and shutdown which cannot be avoided. Excess emissions during these infrequent short periods *need not be treated as violations* providing the source adequately shows that the excess could not have been prevented through careful planning and design and that bypassing of control equipment was unavoidable to prevent loss of life, personal injury, or severe property damage (emphasis added).⁵²

The phrase "need not be treated as violations" may have been misunderstood to be a statement that the CAA would allow SIP provisions that provide an exemption for the resulting excess emissions, thereby defining the excess emissions as not a violation of the applicable emission limitations. The EPA did not intend to suggest that SIP provisions that included an actual exemption for excess emissions during startup and shutdown events would be consistent with the CAA; the EPA made this statement in the context of whether air agencies should exercise enforcement discretion and more specifically whether air agencies could elect to have SIP provisions that embodied their own exercise of enforcement discretion in such circumstances. As with any such SIP provisions addressing parameters of the air agency's own exercise of enforcement discretion, that exercise of discretion cannot purport to bar enforcement by the EPA or through a citizen suit for excess emissions that must be treated as violations to meet CAA requirements. Thus, the use of the phrase "need not be treated as violations" was at a minimum confusing because it seemed to go to the definition of what could constitute a "violation" in a SIP provision rather than to whether the air agency might or might not elect to exercise enforcement discretion in such circumstances.

The EPA believes that additional confusion may have resulted from ambiguity in the 1999 SSM Guidance. That document contained an entire section devoted to "source category specific rules for startup and shutdown." In explaining its intentions

in providing that section of the guidance, the EPA stated:

Finally, EPA is clarifying how excess emissions that occur during periods of startup and shutdown should be addressed. In general, because excess emissions that occur during these periods are reasonably foreseeable, they *should not be excused*. However, EPA recognizes that, for some source categories, even the best available emissions control systems might not be consistently effective during startup or shutdown periods. [For certain sources in certain areas] these technological limitations *may be addressed in the underlying standards themselves through narrowly-tailored SIP revisions* that take into account the potential impacts on ambient air quality caused by the inclusion of these allowances (emphasis added).⁵³

The phrase "may be addressed * * * in narrowly-tailored SIP revisions" may have been misunderstood to suggest that the CAA would allow SIP provisions that provide an actual exemption for the resulting excess emissions and thus not treat the emissions as a violation of the applicable emission limitations. The EPA did not intend to suggest that an exemption would be permissible; the EPA intended to suggest that the air agency might elect to design special emission limitations or other control measures that applied to the sources in question during startup and shutdown, as indicated by the earlier phrase that the excess emissions "should not be excused."

In addition, Section III.A of the 1999 SSM Guidance recommended very specific criteria that air agencies should consider including as part of any SIP provision that was intended to apply to sources during startup and shutdown in lieu of the otherwise applicable emission limitations.⁵⁴ In order to revise the otherwise applicable emission limitation in the SIP, the EPA recommended that in order to be approvable (*i.e.*, meet CAA requirements), the new special requirements applicable to the source during startup and shutdown should be narrowly tailored and take into account considerations such as the technological limitations of the specific source category and the control technology that is feasible during startup and shutdown. However, the 1999 SSM Guidance should have been clearer that the SIP revisions under discussion could not create an exemption for emissions during startup and shutdown, but rather specific emission limitations or control measures that would apply during those periods. Also unstated but implicit was the requirement that any such SIP

⁵³ See, 1999 SSM Guidance at 3.

⁵⁴ See, 1999 SSM Guidance at Attachment 3-4.

⁵² See, 1983 SSM Guidance at Attachment p. 3.

revision that would alter the existing applicable emission limitations for a source during startup and shutdown would be subject to the same requirements as any other SIP submission, *i.e.*, compliance with CAA sections 110(a), 110(k), 110(l), 193, and any other CAA provision substantively germane to the SIP revision.

The EPA concludes that the CAA does not allow SIP provisions that include exemptions from emission limitations during planned events such as startup and shutdown. Instead, the CAA would allow special emission limitations or other control measures or control techniques that are designed to minimize excess emissions during startup and shutdown. The EPA continues to recommend the seven specific criteria enumerated in Section III.A of the Attachment to the 1999 SSM Guidance as appropriate considerations for SIP provisions that apply to startup and shutdown. These criteria are:

- (1) The revision must be limited to specific, narrowly defined source categories using specific control strategies (*e.g.*, cogeneration facilities burning natural gas and using selective catalytic reduction);
- (2) Use of the control strategy for this source category must be technically infeasible during startup or shutdown periods;
- (3) The frequency and duration of operation in startup or shutdown mode must be minimized to the maximum extent practicable;
- (4) As part of its justification of the SIP revision, the state should analyze the potential worst-case emissions that could occur during startup and shutdown;
- (5) All possible steps must be taken to minimize the impact of emissions during startup and shutdown on ambient air quality;
- (6) At all times, the facility must be operated in a manner consistent with good practice for minimizing emissions, and the source must have used best efforts regarding planning, design, and operating procedures to meet the otherwise applicable emission limitation; and
- (7) The owner or operator's actions during startup and shutdown periods must be documented by properly signed, contemporaneous operating logs, or other relevant evidence.

The EPA's evaluation of the Petition also indicates that there is a need to reiterate the SSM Policy with respect to excess emissions that occur during other periods of normal source operation in addition to during periods of startup and shutdown. A number of SIP provisions identified in the Petition

create automatic or discretionary exemptions from otherwise applicable emission limitations during periods such as "maintenance," "load change," "soot blowing," "on-line operating changes," or other similar normal modes of operation. Like startup and shutdown, the EPA considers all of these to be phases of normal operation at a source, for which the source can be designed, operated, and maintained in order to meet the applicable emission limitations and during which a source should be expected to control and minimize emissions. Accordingly, exemptions for emissions during these periods of normal source operation are not consistent with CAA requirements. Excess emissions during planned and predicted periods should be treated as violations of the applicable emission limitations.

B. Affirmative Defense Provisions During Periods of Malfunction

The EPA's evaluation of the Petition indicates that it would be helpful to reiterate the SSM Policy with respect to affirmative defense provisions that would be consistent with CAA requirements for malfunctions. Many of the specific SIP provisions identified in the Petition may have been intended to operate as affirmative defenses, but nevertheless they have significant deficiencies. In particular, many of the SIP provisions at issue stipulate that if the source meets the conditions specified, then the excess emissions would not be considered violations for any purpose, not merely with respect to monetary penalties. This is contrary to the EPA's interpretation of the CAA. In addition, many of the SIP provisions identified in the Petition that resemble affirmative defense provisions do not have sufficiently robust criteria to assure that the affirmative defense is available only for events that are entirely beyond the control of the owner or operator of the source and events where the owner or operator of the sources has made all practicable efforts to comply.

After consideration of the issues raised by the Petition and the wide variety of existing SIP provisions the Petitioner alleged are deficient, the EPA wants to reiterate the criteria that it considers appropriate for approvable affirmative defense provisions in SIPs. In addition, to provide a clear illustration of regulatory text that embodies these criteria effectively, the EPA also wishes to provide an example of the regulatory provisions that the EPA employs in its own regulations to serve this purpose effectively and consistently with CAA requirements.

The criteria that the EPA recommends for approvable affirmative defense provisions for excess emissions for malfunctions consistent with CAA requirements remain essentially the same as stated in the 1999 SSM Guidance.⁵⁵ We repeat them here. Most importantly, a valid affirmative defense for excess emissions due to a malfunction can only be effective with respect to monetary penalties, not with respect to potential injunctive relief. Second, the affirmative defense should be limited only to malfunctions that are sudden, unavoidable, and unpredictable. Third, a valid affirmative defense provision must provide that the defendant has the burden of proof to demonstrate all of the elements of the defense to qualify. This demonstration has to occur in a judicial or administrative proceeding where the merits of the affirmative defense are independently and objectively evaluated. The specific criteria that the EPA recommends for an affirmative defense provision for malfunctions to be consistent with CAA requirements are:

- (1) The excess emissions were caused by a sudden, unavoidable breakdown of technology, beyond the control of the owner or operator;
- (2) The excess emissions (a) did not stem from any activity or event that could have been foreseen and avoided, or planned for, and (b) could not have been avoided by better operation and maintenance practices;
- (3) To the maximum extent practicable the air pollution control equipment or processes were maintained and operated in a manner consistent with good practice for minimizing emissions;
- (4) Repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;
- (5) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (6) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (7) All emission monitoring systems were kept in operation if at all possible;
- (8) The owner or operator's actions in response to the excess emissions were documented by properly signed,

⁵⁵ See, 1999 SSM Guidance at Attachment 3–4.

contemporaneous operating logs, or other relevant evidence;

(9) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(10) The owner or operator properly and promptly notified the appropriate regulatory authority.

One refinement to these recommendations from the 1999 SSM Guidance that should be highlighted is the EPA's view concerning whether affirmative defenses should be provided in the SIP in the case of geographic areas and pollutants "where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments." The EPA believes that such affirmative defenses may be permissible if there is no "potential" for exceedances. Such provisions may also be permissible if the affirmative defense alternatively requires the source to make an affirmative after-the-fact showing that the excess emissions that resulted from the violations did not in fact cause an exceedance of the NAAQS or PSD increments. The EPA has previously approved such provisions as meeting CAA requirements on a case-by-case basis in specific actions on SIP submissions, and in this action proposes to continue that approach under proper facts and circumstances.

In addition to the foregoing criteria for appropriate affirmative defense provisions, the EPA also recommends that air agencies consider the following regulatory language that the EPA is currently using for affirmative defense provisions when it issues new National Emissions Standards for Hazardous Air Pollutants (NESHAP) for purposes of CAA section 112.⁵⁶ Air agencies may wish to adapt this sample regulatory text for their own affirmative defense provisions in SIPs.

§ 63.456 Affirmative defense for violation of emission standards during malfunction.

In response to an action to enforce the standards set forth in §§ 63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.446(c), (d), and (e), 63.447(b) or § 63.450(d), the owner or operator may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all of the requirements in the affirmative defense. The

affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a standard, the owner or operator must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(ii) Could not have been prevented through careful planning, proper design, or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(3) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, [showing] that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance [report], deviation report, or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance [report], deviation report, or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may

be included in the second compliance [report], deviation report, or excess emission report due after the initial occurrence of the violation of the relevant standard. (Punctuation adjusted)

The EPA notes that this example regulatory text has some features that are not explicitly among the criteria recommended for SIP provisions in the SSM Policy, such as the requirement for a "root cause analysis" in subsection (a)(9) and an affirmative requirement to report the malfunction to the regulator by a set date and in a particular report, rather than merely a general duty to report the malfunction event to the regulator. The EPA considers such features useful because they serve important purposes related to the analysis, documentation, and memorialization of the facts concerning the malfunction, thereby facilitating better evaluation of the events and better evaluation of the source's qualification for the affirmative defense. The EPA believes that these specific features would be very useful and thus recommends that they be included in SIP provisions for affirmative defenses. However, these features need not be required, so long as the SIP provision otherwise provides that the owner or operator of the source will: (i) Bear the burden of proof to establish that the elements of the affirmative defense have been met; and (ii) properly and promptly notify the appropriate regulatory authority about the malfunction.

The EPA also wants to reiterate its views concerning appropriate affirmative defense provisions as they relate to malfunctions that occur during planned startup and shutdown and as they relate to startup and shutdown that occur as the result of or part of a malfunction. With respect to malfunctions that happen to occur during planned startup or shutdown, as the EPA articulated in the 1999 SSM Guidance, the excess emissions that occur as a result of the malfunction may be addressed by an appropriately drawn affirmative defense provision consistent with the recommended criteria for such provisions.⁵⁷ By definition, the malfunction would have been sudden, unavoidable, and unpredictable, and the source could not have precluded the event by better source design, operation and maintenance. The EPA interprets the CAA to allow narrowly drawn affirmative defense provision in SIPs in such circumstances.

Another question is how to treat the excess emissions that occur during a startup or shutdown that is necessitated

⁵⁶ See, "National Emission Standards for Hazardous Air Pollutants From the Pulp and Paper Industry," final rule, 77 FR 55698 (Sept. 11, 2012). Parameters for the affirmative defense are provided at p. 55712.

⁵⁷ See, 1999 SSM Guidance at attachment p. 6.

by the malfunction and are thus potentially components of the malfunction event. The EPA believes that drawing the distinction between what is directly caused by the malfunction itself and what is indirectly caused by the malfunction as a part of non-routine startup and shutdown must always be a case-specific enquiry, dependent upon the facts and circumstances of the specific event. It is foreseeable that a shutdown necessitated by a malfunction could be considered part of the malfunction event with the appropriate demonstration of the need to shut down differently than during a routine shutdown, during which a source should be expected to comply with applicable emission limitations. It is possible, however, that a routine shutdown may be achievable following a malfunction event, and a source should be expected to strive for this result. With respect to startups after a malfunction event, the EPA believes that such startups should not be considered part of the malfunction, because startups are within the control of the source. Malfunctions should have been resolved prior to startup, and the source should be designed, operated, and maintained so that it would meet emission limitations during startups. As a general matter, the EPA does not anticipate that there would be startups that would follow a malfunction that should be considered part of the malfunction event, but in this action the EPA is requesting that commenters address this issue if there could be circumstances that would justify such treatment.

Finally, the EPA reiterates that an affirmative defense provision in a SIP cannot extend to direct federal regulations such as New Source Performance Standards (NSPS) or NESHAP that the air agency may elect to adopt into its SIP, or to incorporate by reference into its SIP in order to receive delegation of federal authority. To the extent that any affirmative defense is warranted during malfunctions for these technology-based standards, the federal standards contained in the EPA's regulations already specify the appropriate affirmative defense. No additional or different affirmative defense provision applicable through a SIP provision would be warranted or appropriate.

C. Affirmative Defense Provisions During Periods of Startup and Shutdown

The EPA's evaluation of the Petition indicates that revisions to the SSM Policy are necessary with respect to

affirmative defense provisions during startup and shutdown periods. In the 1999 SSM Guidance, the EPA explicitly discussed the possibility of affirmative defenses in the context of startup and shutdown, and provided recommended criteria to ensure that any such affirmative defense provisions in a SIP submission would be appropriately narrowly drawn to comply with CAA requirements. As with affirmative defense provisions for malfunctions, the EPA then believed that achieving a balance between the requirement of the statute for emission limitations that apply continuously and the possibility that not all sources can comply 100 percent of the time justified such affirmative defenses during startup and shutdown as a means of providing some flexibility while still supporting the overall objectives of the CAA.

Review of the Petition and reconsideration of this question in light of recent case law concerning emission limitations and affirmative defenses has caused the EPA to alter its view on the appropriateness of affirmative defenses applicable to planned events such as startup and shutdown. The EPA believes that sources should be designed, maintained, and operated in order to comply with applicable emission limitations during normal operations. By definition, planned events such as startup and shutdown are phases of normal source operation. Because these events are modes of normal operation, the EPA believes that sources should be expected to comply with applicable emission limitations during such events.

Unlike malfunctions, startup and shutdown are not unexpected events and are not events that are beyond the control of the owner or operator of the source. Also unlike malfunctions, it is possible for the source to anticipate the amount of emissions during startup and shutdown, to take appropriate steps to limit those emissions as needed, and to remain in continuous compliance. In the event that a source in fact cannot comply with the otherwise applicable emission limitations during normal modes of source operation due to technological limitations, then it may be appropriate for the state to provide special emission limitations or control measures that apply to the source during startup and shutdown.

The EPA acknowledges that the availability of an affirmative defense for planned startup and shutdown as contemplated in the 1999 SSM Guidance may have provided extra incentive for sources to take extra precautions to minimize emissions during startup and shutdown in order to

be eligible for the affirmative defense in the event of a violation. However, sources should not need extra incentive to comply during normal modes of operation such as startup and shutdown, as they should be designed, operated, and maintained in order to comply with applicable emission limitations at all times, and certainly during planned and predictable events. By logical extension, the theory that an affirmative defense should be available during planned startup and shutdown could apply to all phases of normal source operation, which would not be appropriate.

The EPA believes that providing affirmative defenses for violations that occur as a result of planned events within the control of the owner or operator of the source is inconsistent with the requirements of CAA sections 113 and 304, which provide for potential civil penalties for violations of SIP requirements. The distinction that makes affirmative defenses appropriate for malfunctions is that by definition those events are unforeseen and could not have been avoided by the owner or operator of the source, and the owner or operator of the source will have taken steps to prevent the violation and to minimize the effects of the violation after it occurs. In such circumstances, the EPA interprets the CAA to allow narrowly drawn affirmative defense provisions that may shield owners or operators of sources from civil penalties, when their conduct justifies this relief.

Such is not the case with planned and predictable events, such as startup and shutdown, during which the owners or operators of sources should be expected to comply with applicable emission limitations and should not be accorded relief from civil penalties if they fail to do so. Providing an affirmative defense for monetary penalties for violations that result from planned events is inconsistent with the basic premise that the excess emissions were beyond the control of the owner or operator of the source and thus is diametrically opposed to the intended purpose of such an affirmative defense to encourage better compliance even by sources for which 100-percent compliance is not possible. The EPA notes that enforcement discretion may still be warranted in such circumstances, but the elimination of potential civil penalties is not appropriate. For these reasons, the EPA is proposing to rescind its prior interpretation of the CAA that would

allow affirmative defense provisions during planned startup and shutdown.⁵⁸

D. Relationship Between SIP Provisions and Title V Regulations

The EPA's review of the Petition has highlighted an area of potential ambiguity or conflict between the SSM Policy applicable to SIP provisions and the EPA's regulations applicable to title V permit provisions. The EPA has promulgated regulations in 40 CFR part 70 applicable to state operating permit programs and in 40 CFR part 71 applicable to federal operating permit programs.⁵⁹ Under each set of regulations, the EPA has provided that permits may contain, at the permitting authority's discretion, an "emergency provision."⁶⁰ The relationship between such an "emergency provision" in a permit applicable to a source and the SIP provisions applicable to the same source with respect to excess emissions during a malfunction event warrants explanation.

The regulatory parameters applicable to such emergency provisions in operating permits are the same for both state operating permit programs regulations and the federal operating permit program regulations. The definition of emergency is identical in the regulations for each program:

An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation or operator error.⁶¹

Thus, the definition of "emergency" in these title V regulations is similar to the concept of "malfunctions" in the EPA's

SSM Policy for SIP provisions, but it uses somewhat different terminology concerning the nature of the event and restricts the qualifying exceedances to "technology-based" emission limitations.⁶² Some SIP provisions may also be "technology-based" emission limitations and thus this terminology in the operating permit regulations may engender some potential inconsistency with the SSM Policy.

If there is an emergency event meeting the regulatory definition, then the EPA's regulations for operating permits provide that the source can assert an "affirmative defense" to enforcement for noncompliance with technology-based standards during the emergency event. In order to establish the affirmative defense, the regulations place the burden of proof on the source to demonstrate through specified forms of evidence that:

(i) An emergency occurred and that the permittee can identify the cause(s) of the emergency;

(ii) The permitted facility was at the time being properly operated;

(iii) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(iv) The permittee submitted notice of the emergency to the permitting authority within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of either paragraph 40 CFR 70.6(a)(3)(iii)(B) or 40 CFR 71.6(a)(3)(iii)(B). This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.⁶³

The Petitioner did not directly request that the EPA evaluate the existing regulatory provisions applicable to operating permits in 40 CFR part 70 and 40 CFR part 71, and the EPA is not revising those provisions in this action. However, the Petitioner did identify a number of specific SIP provisions that indirectly relate to this issue because the state may have modeled its SIP provision, at least in part, on the EPA's

operating permit regulations.⁶⁴ In those instances, the state in question presumably intended to create an affirmative defense applicable during malfunctions appropriate for SIP provisions, but by using the terminology used in the operating permit regulations, the state has created provisions that are not permissible in SIPs.

The elements for the affirmative defense in the title V permit regulations are similar to the criteria recommended in the SSM Policy for SIP provisions applicable to malfunctions. However, the elements for the affirmative defense provisions in operating permits do not explicitly include some of the criteria that the EPA believes are necessary in order to make such a provision appropriate in a SIP provision. For example, the EPA recommends that approvable SIP provisions include an affirmative duty for the source to establish that the malfunction was "not part of a recurring pattern indicative of inadequate design, operation, or maintenance."⁶⁵ In addition, the regulations applicable to operating permits use somewhat different terminology for the elements of the defense, such as providing that the emergencies were "sudden and reasonably unforeseeable events beyond the control of the source," whereas the EPA's SSM Policy describes malfunctions as events that "did not stem from any activity or event that could have been foreseen and avoided, or planned for."⁶⁶ Again, the use of somewhat different terminology about the elements the source must establish in order to qualify for an affirmative defense may engender some potential inconsistency with the EPA's SSM Policy.

Although the differing regulatory terminology with respect to the nature of the event or the elements necessary to establish an affirmative defense may not ultimately be significant in practical application in a given enforcement action, there are two additional ways in which incorporation of the text of the regulatory provisions in 40 CFR 70.6(g) and 40 CFR 71.6(g) into a SIP is potentially more directly in conflict with the SSM Policy. First, these provisions do not explicitly limit the affirmative defense only to civil penalties available under the CAA for violations of emission limitations. Each provision states only that an

⁵⁸ In accordance with CAA section 113(e), sources retain the ability to seek lower monetary penalties through the factors provided for consideration in administrative or judicial enforcement proceedings. In this context, for example, a violating source could argue that factors such as good faith efforts to comply should reduce otherwise applicable statutory penalties.

⁵⁹ See, 40 CFR sections 70.1–70.12; 40 CFR sections 71.1–71.27.

⁶⁰ See, 40 CFR 70.6(g); 40 CFR 71.6(g). The EPA also notes that states are not required to adopt the "emergency provision" contained in 40 CFR 70.6(g) into their state operating permit programs, and many states have chosen not to do so. See, e.g., "Clean Air Act Full Approval of Partial Operating Permit Program; Allegheny County; Pennsylvania; Direct final rule," 66 FR 55112 at 55113 (Nov. 1, 2001).

⁶¹ See, 40 CFR 70.6(g)(1); 40 CFR 71.6(g)(1).

⁶² 1999 SSM Guidance at Attachment p. 1 and footnote 6. The term "malfunction" means "a sudden and unavoidable breakdown of process or control equipment." The malfunction events that may be suitable for an affirmative defense are those that are "caused by circumstances entirely beyond the control of the owner or operator." The EPA notes that by definition emergencies do not include normal source operation such as startup, shutdown, or maintenance.

⁶³ 40 CFR 70.6(g)(3); 40 CFR 71.6(g)(3).

⁶⁴ See, e.g., Petition at 24. The Petitioner identified a provision in the Arkansas SIP that appears to be closely modeled on 40 CFR 70.6(g).

⁶⁵ 1999 SSM Guidance at Attachment pp. 3–4.

⁶⁶ 1999 SSM Guidance at Attachment p. 3.

“emergency constitutes an affirmative defense to an action brought for noncompliance” if the source proves that it meets the conditions for the affirmative defense.⁶⁷ Given this lack of an explicit limitation, it could be argued that SIP provisions that copy the wording of 40 CFR 70.6(g) and 40 CFR 71.6(g) are not limited to civil penalties.⁶⁸ Such a reading would be inconsistent with the EPA’s view that affirmative defenses in SIP provisions are only consistent with the CAA if they apply to civil penalties and not to injunctive relief. The EPA believes it is essential for SIPs to ensure that injunctive relief is available should a court determine that such relief is necessary to prevent excess emissions in the future.

Second, these operating permit regulatory provisions state that they are “in addition to any emergency or upset provision contained in any applicable requirement.”⁶⁹ The EPA’s view is that federal technology-based standards already include the appropriate affirmative defense provisions, if any, and that creation of additional affirmative defenses via a SIP provision is impermissible.⁷⁰ Thus, SIP provisions that add to or alter the terms of any federal technology-based standards would be substantially inadequate to meet CAA requirements.⁷¹

In this action, the EPA is taking action to evaluate the specific SIP provisions identified in the Petition and is proposing to make a finding of substantial inadequacy and to issue a SIP call for those SIP provisions that include features that are inappropriate

for SIPs, regardless of whether those provisions contain terms found in other regulations. First, consistent with its longstanding interpretation of the CAA with respect to SIP requirements, the EPA believes that approvable affirmative defenses in a SIP provision can only apply to civil penalties, not to injunctive relief. Second, approvable affirmative defenses in a SIP provision should reflect the recommended criteria in the EPA’s SSM Policy to assure that sources only assert affirmative defenses in appropriately narrow circumstances. Third, approvable affirmative defenses in a SIP provision cannot operate to create different or additional defenses from those that are provided in underlying federal technology-based emission limitations, such as NSPS or NESHAP. SIPs are comprised of emission limitations that are intended to provide for attainment and maintenance of the NAAQS, protection of PSD increments, protection of visibility, and other CAA objectives. Thus, the EPA believes that only narrowly drawn affirmative defense provisions, as recommended in its SSM Policy, are consistent with these overarching SIP requirements of the CAA.

E. Intended Effect of the EPA’s Action on the Petition

As in the 2001 SSM Guidance, the EPA is endeavoring to be particularly clear about the intended effect of its proposed action on the Petition, of its proposed clarifications and revisions to the SSM Policy, and ultimately of its final action on the Petition.

First, the EPA only intends its actions on the larger policy or legal issues raised by the Petitioner to inform the public of the EPA’s current views on the requirements of the CAA with respect to SIP provisions related to SSM events. Thus, for example, the EPA’s proposed disapproval of the Petitioner’s request that the EPA disallow all affirmative defense provisions for excess emissions during malfunctions is intended to convey that the EPA has not changed its views that such provisions can be consistent with CAA requirements for SIPs with respect to malfunctions. In this fashion, the EPA’s action on the Petition provides updated guidance relevant to future SIP actions.

Second, the EPA only intends its actions on the specific existing SIP provisions identified in the Petition to be applicable to those provisions. The EPA does not intend its action on those specific provisions to alter the current status of any other existing SIP provisions relating to SSM events. The EPA must take later rulemaking actions, if necessary, in order to evaluate any

comparable deficiencies in other existing SIP provisions that may be inconsistent with the requirements of the CAA. Again, however, the EPA’s actions on the Petition provide updated guidance on the types of SIP provisions that it believes would be consistent with CAA requirements in future rulemaking actions.

Third, the EPA does not intend its action on the Petition to affect existing permit terms or conditions regarding excess emissions during SSM events that reflect previously approved SIP provisions. In the event that the EPA finalizes a proposed finding of substantial inadequacy and a SIP call for a given state, the state will have time to revise its SIP in response to the SIP call through the necessary state and federal administrative process. Thereafter, any needed revisions to existing permits will be accomplished in the ordinary course as the state issues new permits or reviews and revises existing permits. The EPA does not intend the issuance of a SIP call to have automatic impacts on the terms of any existing permit.

Fourth, the EPA does not intend its action on the Petition to alter the emergency defense provisions at 40 CFR 70.6(g) and 40 CFR 71.6(g), *i.e.*, the title V regulations pertaining to “emergency provisions” permissible in title V operating permits. The EPA’s regulations applicable to title V operating permits may only be changed through appropriate rulemaking procedures and existing permit terms may only be changed through established permitting processes.

Fifth, the EPA does not intend its interpretations of the requirements of the CAA in this action on the Petition to be legally dispositive with respect to any particular current enforcement proceedings in which a violation of SIP emission limitations is alleged to have occurred. The EPA handles enforcement matters by assessing each situation, on a case-by-case basis, to determine the appropriate response and resolution. For purposes of alleged violations of SIP provisions, however, the terms of the applicable SIP provision will continue to govern until that provision is revised following the appropriate process for SIP revisions, as required by the CAA.

Finally, the EPA does intend that the final notice for this action after considering public comments will embody its most current SSM Policy, reflecting the EPA’s interpretation of CAA requirements applicable to SIP provisions related to excess emissions during SSM events. In this regard, the EPA is proposing to add to and clarify its prior statements in the 1999 SSM Guidance and to make the specific

⁶⁷ 40 CFR 70.6(g)(2); 40 CFR 71.6(g)(2).

⁶⁸ Because title V requires that a source have a permit that “assure[s] compliance with applicable [CAA] requirements,” CAA section 504(a), it follows that the title V emergency provision itself can best be read to provide only an affirmative defense against civil penalties and not against injunctive relief. *See also*, “National Emission Standards for Hazardous Air Pollutant Emissions for Primary Lead Processing; Final Rule,” 76 FR 70834 at 70838/2 (Nov. 15, 2011) (explaining why limiting affirmative defenses to civil penalties conforms with the purposes of the CAA and existing case law).

⁶⁹ 40 CFR 70.6(g)(5); 40 CFR 71.6(g)(5).

⁷⁰ 1999 SSM Guidance at Attachment p. 3, footnote 6. The EPA explained that to the extent a state elected to include federal technology-based standards into its SIP, such as NSPS or NESHAPs, the standards should not deviate from those standards as promulgated. Because the EPA has already taken into account technological limitations in setting the standards, additional exemptions or affirmative defenses would be inappropriate.

⁷¹ *See*, “Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision,” 74 FR 21639 (Apr. 18, 2011) (the EPA issued a SIP call because, *inter alia*, the SIP provision applied to NSPS and NESHAP); *US Magnesium, LLC v. EPA*, 690 F.3d 1157 (10th Cir. 2012) (upholding the SIP call).

changes to that guidance as discussed in this action. Thus, the final notice for this action will constitute the EPA's SSM Policy on a going-forward basis.

VIII. Legal Authority, Process, and Timing for SIP Calls

A. SIP Call Authority Under Section 110(k)(5)

1. General Statutory Authority

The CAA provides a mechanism for the correction of flawed SIPs, under CAA section 110(k)(5), which provides:

(5) Calls for plan revisions

Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant national ambient air quality standards, to mitigate adequately the interstate pollutant transport described in section [176A] of this title or section [184] of this title, or to otherwise comply with any requirement of [the Act], the Administrator shall require the State to revise the plan as necessary to correct such inadequacies. The Administrator shall notify the State of the inadequacies and may establish reasonable deadlines (not to exceed 18 months after the date of such notice) for the submission of such plan revisions.

By its explicit terms, this provision authorizes the EPA to find that a state's existing SIP is "substantially inadequate" to meet CAA requirements and, based on that finding, to "require the State to revise the [SIP] as necessary to correct such inadequacies." This type of action is commonly referred to as a "SIP call."⁷²

Significantly, CAA section 110(k)(5) explicitly authorizes the EPA to issue a SIP call "whenever" the EPA makes a finding that the existing SIP is substantially inadequate, thus providing authority for the EPA to take action to correct existing inadequate SIP provisions even long after their initial approval, or even if the provisions only become inadequate due to subsequent

events.⁷³ The statutory provision is worded in the present tense, giving the EPA authority to rectify any deficiency in a SIP that currently exists, regardless of the fact that the EPA previously approved that particular provision in the SIP and regardless of when that approval occurred.

It is also important to emphasize that CAA section 110(k)(5) expressly directs the EPA to take action if the SIP provision is substantially inadequate not just for purposes of attainment or maintenance of the NAAQS, but also for purposes of "any requirement" of the CAA. The EPA interprets this reference to "any requirement" of the CAA on its face to authorize reevaluation of an existing SIP provision for compliance with those statutory and regulatory requirements that are germane to the SIP provision at issue. Thus, for example, a SIP provision that is intended to be an "emission limitation" for purposes of a nonattainment plan for purposes of the 1997 PM_{2.5} NAAQS must meet various applicable statutory and regulatory requirements, including requirements of CAA section 110(a)(2)(A) such as enforceability, the definition of the term "emission limitation" in CAA section 302(k), the level of emissions control required to constitute a "reasonably available control measure" in CAA section 172(c)(1), and the other applicable requirements of the implementation regulations for the 1997 PM_{2.5} NAAQS. Failure to meet any of those applicable requirements could constitute a substantial inadequacy suitable for a SIP call, depending upon the facts and circumstances. By contrast, that same SIP provision should not be expected to meet specifications of the CAA that are completely irrelevant for its intended purpose, such as the unrelated requirement of CAA section 110(a)(2)(G) that the state have general legal authority comparable to CAA section 303 for emergencies.

Use of the term "any requirement" in CAA section 110(k)(5) also reflects the

fact that SIP provisions could be substantially inadequate for widely differing reasons. One provision might be substantially inadequate because it fails to prohibit emissions that contribute to violations of the NAAQS in downwind areas many states away. Another provision, or even the same provision, could be substantially inadequate because it also infringes on the legal right of members of the public who live adjacent to the source to enforce the SIP. Thus, the EPA has previously interpreted CAA section 110(k)(5) to authorize a SIP call to rectify SIP inadequacies of various kinds, both broad and narrow in terms of the scope of the SIP revisions required.⁷⁴ On its face, CAA section 110(k)(5) authorizes the EPA to take action with respect to SIP provisions that are substantially inadequate to meet any CAA requirements, including requirements relevant to the proper treatment of excess emissions during SSM events.

An important baseline question is whether a given deficiency renders the SIP provision "substantially inadequate." The EPA notes that the term "substantially inadequate" is not defined in the CAA. Moreover, CAA section 110(k)(5) does not specify a particular form of analysis or methodology that the EPA must use to evaluate SIP provisions for substantial inadequacy. Thus, under *Chevron* step 2, the EPA is authorized to interpret this provision reasonably, consistent with the provisions of the CAA. In addition, the EPA is authorized to exercise its discretion in applying this provision to determine whether a given SIP provision is substantially inadequate. To the extent that the term "substantially inadequate" is ambiguous, the EPA believes that it is reasonable to interpret the term in light of the specific purposes for which the SIP provision at issue is required, and thus whether the provision meets the fundamental CAA requirements applicable to such a provision.

The EPA does not interpret CAA section 110(k)(5) to require a showing that the effect of a SIP provision that is facially inconsistent with CAA

⁷² The EPA also has other discretionary authority to address incorrect SIP provisions, such as the authority in CAA section 110(k)(6) for the EPA to correct errors in prior SIP approvals. The authority in CAA section 110(k)(5) and CAA section 110(k)(6) can sometimes overlap and offer alternative mechanisms to address problematic SIP provisions. In this instance, the EPA believes that the mechanism provided by CAA section 110(k)(5) is the better approach, because using the mechanism of the CAA section 110(k)(6) error correction would eliminate the affected emission limitations from the SIP potentially leaving no emission limitation in place, whereas the mechanism of the CAA section 110(k)(5) SIP call will keep the provisions in place during the pendency of the state's revision of the SIP and the EPA's action on that revision. In the case of provisions that include impermissible automatic exemptions or discretionary exemptions, the EPA believes that retention of the existing SIP provision is preferable to the absence of the provision in the interim.

⁷³ See, e.g., *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000) (upholding the "NO_x SIP Call" to states requiring revisions to previously approved SIPs with respect to ozone transport and section 110(a)(20)(D)(i)(I)); "Action to Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call; Final Rule," 75 FR 77698 (Dec. 13, 2010) (the EPA issued a SIP call to 13 states because the endangerment finding for GHGs meant that these previously approved SIPs were substantially inadequate because they did not provide for the regulation of GHGs in the PSD permitting programs of these states as required by CAA section 110(a)(2)(C) and section 110(a)(2)(J)); "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 74 FR 21639 (Apr. 18, 2011) (the EPA issued a SIP call to rectify SIP provisions dating back to 1980).

⁷⁴ See, e.g., "Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone," 63 FR 57356 (Oct. 27, 1998) (the EPA issued a SIP call to 23 states requiring them to rectify the failure to address interstate transport of pollutants as required by section 110(a)(2)(D)); "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 74 FR 21639 (Apr. 18, 2011) (the EPA issued a SIP call to one state requiring it to rectify several very specific SIP provisions).

requirements is causally connected to a particular adverse impact. For example, the plain language of CAA section 110(k)(5) does not require direct causal evidence that excess emissions have occurred during a specific malfunction at a specific source and have literally caused a violation of the NAAQS in order to conclude that the SIP provision is substantially inadequate.⁷⁵ A SIP provision that purports to exempt a source from compliance with applicable emission limitations during SSM events, contrary to the requirements of the CAA for continuous emission limitations, does not become legally permissible merely because there is not definitive evidence that any excess emissions have resulted from the exemption and have literally caused a specific NAAQS violation.⁷⁶

Similarly, the EPA does not interpret CAA section 110(k)(5) to require direct causal evidence that a SIP provision that improperly undermines enforceability of the SIP has resulted in a specific failed enforcement attempt by any party. A SIP provision that has the practical effect of barring enforcement by the EPA or through a citizen suit, either because it would bar enforcement if an air agency elects to grant a discretionary exemption or to exercise its own enforcement discretion, is inconsistent with fundamental requirements of the CAA.⁷⁷ Such a provision also does not become legally permissible merely because there is not definitive evidence that the state's action literally undermined a specific attempted enforcement action by other parties. Indeed, the EPA notes that these impediments to effective enforcement likely have a chilling effect on potential enforcement in general. The possibility

for effective enforcement of emission limitations in SIPs is itself an important principle of the CAA, as embodied in CAA sections 113 and 304.

The EPA's interpretation of CAA section 110(k)(5) is that the fundamental integrity of the CAA's SIP process and structure are undermined if emission limitations relied upon to meet CAA requirements related to protection of public health and the environment can be violated without potential recourse. For example, the EPA does not believe that it is authorized to issue a SIP call to rectify an impermissible automatic exemption provision only after a violation of the NAAQS has occurred, or only if that NAAQS violation can be directly linked to the excess emissions that resulted from the impermissible automatic exemption by a particular source on a particular day. If the SIP contains a provision that is inconsistent with fundamental requirements of the CAA, that renders the SIP provision substantially inadequate.

The EPA notes that CAA section 110(k)(5) can also be an appropriate tool to address ambiguous SIP provisions that could be read by a court in a way that would violate the requirements of the CAA. For example, if an existing SIP provision concerning the state's exercise of enforcement discretion is sufficiently ambiguous that it could be construed to preclude enforcement by the EPA or through a citizen suit if the state elects to deem a given SSM event not a violation, then that could render the provision substantially inadequate by interfering with the enforcement structure of the CAA.⁷⁸ If a court could construe the ambiguous SIP provision to bar enforcement, the EPA believes that it may be appropriate to take action to eliminate that uncertainty by requiring the state to revise the ambiguous SIP provision. Under such circumstances, it may be appropriate for the EPA to issue a SIP call to assure that the SIP provisions are sufficiently clear and

consistent with CAA requirements on their face.⁷⁹

In this instance, the Petitioner raised questions concerning the adequacy of existing SIP provisions that pertain to the treatment of excess emissions during SSM events. The SIP provisions identified by the Petitioner generally fall into four major categories: (i) Automatic exemptions; (ii) exemptions as a result of director's discretion; (iii) provisions that appear to bar enforcement by the EPA or through a citizen suit if the state decides not to enforce through exercise of enforcement discretion; and (iv) affirmative defense provisions that appear to be inconsistent with the CAA and the EPA's SSM Policy. The EPA believes that each of these types of SIP deficiency potentially justifies a SIP call pursuant to CAA section 110(k)(5), if the SIP provision is as the Petitioner describes it.

2. Substantial Inadequacy of Automatic Exemptions

The EPA believes that SIP provisions that provide an automatic exemption from otherwise applicable emission limitations are substantially inadequate to meet CAA requirements. A typical SIP provision that includes an impermissible automatic exemption would provide that a source has to meet a specific emission limitation, except during startup, shutdown, and malfunction, and by definition any excess emissions during such events would not be violations and thus there could be no enforcement based on those excess emissions. The EPA's interpretation of CAA requirements for SIP provisions has been reiterated multiple times through the SSM Policy and actions on SIP submissions that pertain to this issue. The EPA's longstanding view is that SIP provisions that include automatic exemptions for excess emissions during SSM events, such that the excess emissions during those events are not considered violations of the applicable emission limitations, do not meet CAA requirements. Such exemptions undermine the protection of the NAAQS and PSD increments and fail to meet other fundamental requirements of the CAA.

The EPA interprets CAA sections 110(a)(2)(A) and 110(a)(2)(C) to require that SIPs contain "emission limitations" to meet CAA requirements. Pursuant to CAA section 302(k), those emission

⁷⁵ See, *US Magnesium, LLC v. EPA*, 690 F.3d 1157 (10th Cir. 2012) (upholding the EPA's interpretation of section 110(k)(5) to authorize a SIP call when the SIP provisions are inconsistent with CAA requirements).

⁷⁶ The EPA notes that the GHG SIP call did not require "proof" that the failure of a state to address GHGs in a given PSD permit "caused" particularized environmental impacts; it was sufficient that the state's SIP fails to meet the current fundamental legal requirements for regulation of GHGs in accordance with the CAA. See, "Action to Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call; Final Rule," 75 FR 77698 (Dec. 13, 2010).

⁷⁷ See, "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 74 FR 21639 at 21641 (Apr. 18, 2011); see also, *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1168 (10th Cir. 2012) (upholding the EPA's interpretation of section 110(k)(5) to authorize a SIP call when the state's SIP provision worded so that state decisions whether a given excess emissions event constituted a violation interfered with enforcement by the EPA or citizens for such event).

⁷⁸ Courts have on occasion interpreted SIP provisions to limit the EPA's enforcement authority as a result of ambiguous SIP provisions. See, e.g., *U.S. v. Ford Motor Co.*, 736 F.Supp. 1539 (W.D. Mo. 1990) and *U.S. v. General Motors Corp.*, 702 F. Supp. 133 (N.D. Texas 1988) (the EPA could not pursue enforcement of SIP emission limitations where states had approved alternative emission limitations under procedures the EPA had approved in the SIP); *Florida Power & Light Co. v. Costle*, 650 F.2d 579, 588 (5th Cir. 1981) (the EPA to be accorded no discretion in interpreting state law). The EPA does not agree with the holdings of these cases, but they illustrate why it is reasonable to eliminate any uncertainty about enforcement authority by requiring a state to remove or revise a SIP provision that could be read in a way inconsistent with the requirements of the CAA.

⁷⁹ See, *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1170 (10th Cir. 2012) (upholding the EPA's use of SIP call authority in order to clarify language in the SIP that could be read to violate the CAA, even if a court has not yet interpreted the language in that way).

limitations must be “continuous.” Automatic exemptions from otherwise applicable emission limitations thus render those limits less than continuous as required by CAA sections 110(a)(2)(A) and 110(a)(2)(C), thereby inconsistent with a fundamental requirement of the CAA and thus substantially inadequate as contemplated in CAA section 110(k)(5).

This inadequacy has far-reaching impacts. For example, air agencies rely on emission limitations in SIPs in order to provide for attainment and maintenance of the NAAQS. These emission limitations are basic building blocks for SIPs, often used by air agencies to meet various requirements including: (i) In the estimates of emissions for emissions inventories; (ii) in the determination of what level of emissions meets various statutory requirements such as “reasonably available control measures” in nonattainment SIPs or “best available retrofit technology” in regional haze SIPs; and (iii) in critical modeling exercises such as attainment demonstration modeling for nonattainment areas or increment use for PSD permitting purposes. All of these uses typically assume continuous source compliance with applicable emission limitations.

Because the NAAQS are not directly enforceable against individual sources, air agencies rely on the adoption and enforcement of these generic and specific emission limits in SIPs in order to provide for attainment and maintenance of the NAAQS, protection of PSD increments, protection of visibility, and other CAA requirements. Automatic exemption provisions for excess emissions eliminate the possibility of enforcement for what would otherwise be clear violations of the relied-upon emission limitations and thus eliminate any opportunity to obtain injunctive relief that may be needed to protect the NAAQS or meet other CAA requirements. Likewise, the elimination of any possibility for penalties for what would otherwise be clear violations of the emission limitations, regardless of the conduct of the source, eliminates any opportunity for penalties to encourage appropriate design, operation, and maintenance of sources and efforts by source operators to prevent and to minimize excess emissions in order to protect the NAAQS or to meet other CAA requirements. Removal of this monetary incentive to comply with the SIP reduces a source’s incentive to design, operate, and maintain its facility to meet emission limitations at all times.

3. Substantial Inadequacy of Director’s Discretion Exemptions

The EPA believes that SIP provisions that allow discretionary exemptions from otherwise applicable emission limitations are substantially inadequate to meet CAA requirements for the same reasons as automatic exemptions, but for additional reasons as well. A typical SIP provision that includes an impermissible “director’s discretion” component would purport to authorize air agency personnel to modify existing SIP requirements under certain conditions, *e.g.*, to grant a variance from an otherwise applicable emission limitation if the source could not meet the requirement in certain circumstances.⁸⁰ If such provisions are sufficiently specific, provide for sufficient public process, and are sufficiently bounded, so that it is possible to anticipate at the time of the EPA’s approval of the SIP provision how that provision will actually be applied and the potential adverse impacts thereof, then such a provision might meet basic CAA requirements. In essence, if it is possible to anticipate and evaluate in advance how the exercise of enforcement discretion could impact compliance with other CAA requirements, then it may be possible to determine in advance that the pre-authorized exercise of director’s discretion will not interfere with other CAA requirements, such as providing for attainment and maintenance of the NAAQS. Most director’s discretion-type provisions cannot meet this basic test.

Unless it is possible at the time of the approval of the SIP provision to anticipate and analyze the impacts of the potential exercise of the director’s discretion, such provisions functionally could allow *de facto* revisions of the approved provisions of the SIP without complying with the process for SIP revisions required by the CAA. Sections 110(a)(1) and (2) of the CAA impose procedural requirements on states that seek to amend SIP provisions. The elements of CAA section 110(a)(2) and other sections of the CAA, depending upon the subject of the SIP provision at issue, impose substantive requirements that states must meet in a SIP revision. Section 110(i) of the CAA prohibits

⁸⁰ The EPA notes that problematic “director’s discretion” provisions are not limited only to those that purport to authorize alternative emission limitations from those required in a SIP. Other problematic director’s discretion provisions could include those that purport to provide for discretionary changes to other substantive requirements of the SIP, such as applicability, operating requirements, recordkeeping requirements, monitoring requirements, test methods, and alternative compliance methods.

modification of SIP requirements for stationary sources by either the state or the EPA, except through specified processes.⁸¹ Section 110(k) of the CAA imposes procedural and substantive requirements on the EPA for action upon any SIP revision. Sections 110(l) and 193 of the CAA both impose additional procedural and substantive requirements on the state and the EPA in the event of a SIP revision. Chief among these many requirements for a SIP revision would be the necessary demonstration that the SIP revision in question would not interfere with any requirement concerning attainment and reasonable further progress or “any other applicable requirement of” the CAA to meet the requirements of CAA section 110(l).

Congress presumably imposed these many explicit requirements in order to assure that there is adequate public process at both the air agency and federal level for any SIP revision, and to assure that any SIP revision meets the applicable substantive requirements of the CAA. Although no provision of the CAA explicitly addresses whether a “director’s discretion” provision is acceptable by name, the EPA interprets the statute to prohibit such provisions unless they would be consistent with the statutory and regulatory requirements that apply to SIP revisions.⁸² A SIP provision that

⁸¹ Section 110(i) of the Act states that “no order, suspension, plan revision or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State or by the Administrator” except in compliance with the CAA’s requirements for promulgation or revision of a plan, with limited exceptions. *See, e.g.*, “Approval and Disapproval and Promulgation of Air Quality Implementation Plans; Colorado; Revisions to Regulation 1; Notice of proposed rulemaking,” 75 FR 42342 at 42344 (July 21, 2010) (proposing to disapprove “director discretion” provisions as inconsistent with CAA requirements and noting that “[s]ection 110(i) specifically prohibits States, except in certain limited circumstances, from taking any action to modify any requirement of a SIP with respect to any stationary source, except through a SIP revision”), finalized as proposed at 76 FR 4540 (Jan. 26, 2011); “Corrections to the California State Implementation Plan,” 69 FR 67062 at 67063 (Nov. 16, 2004) (noting that “a state-issued variance, though binding as a matter of State law, does not prevent EPA from enforcing the underlying SIP provisions unless and until EPA approves that variance as a SIP revision”); *Industrial Environmental Association v. Browner*, No. 97–71117 at n. 2 (9th Cir. May 26, 2000) (noting that the EPA has consistently treated individual variances granted under state variance provisions as “modifications of the SIP requiring independent EPA approval”).

⁸² *See, e.g.*, EPA’s implementing regulations at 40 CFR 51.104(d) (“In order for a variance to be considered for approval as a revision to the [SIP], the State must submit it in accordance with the requirements of this section”) and 51.105 (“Revisions of a plan, or any portion thereof, will not be considered part of an applicable plan until

purports to give broad and unbounded director's discretion to alter the existing legal requirements of the SIP with respect to meeting emission limitations would be tantamount to allowing a revision of the SIP without meeting the applicable procedural and substantive requirements for such a SIP revision.

For this reason, the EPA has long discouraged the creation of new SIP provisions containing an impermissible director's discretion feature and has also taken actions to remove existing SIP provisions that it had previously approved in error.⁸³ In recent years, the EPA has also recommended that if an air agency elects to have SIP provisions that contain a director's discretion feature consistent with CAA requirements, then the provisions must be structured so that any resulting variances or other deviations from the SIP requirements have no federal law validity, unless and until the EPA specifically approves that exercise of the director's discretion as a SIP revision. Barring such a later ratification by the EPA through a SIP revision, the exercise of director's discretion is only valid for state (or tribal) law purposes and would have no bearing in the event of an action to enforce the provision of the SIP as it was originally approved by the EPA.

The EPA's evaluation of the specific SIP provisions of this type identified in the Petition indicates that none of them provide sufficient process or sufficient bounds on the exercise of director's discretion to be permissible. Most on their face would allow potentially limitless exemptions with potentially dramatic adverse impacts inconsistent with the objectives of the CAA. More importantly, however, each of the identified SIP provisions goes far beyond the limits of what might theoretically be a permissible director's discretion provision by authorizing state personnel to create case-by-case exemptions from the applicable

emission limitations from the requirements of the SIP for excess emissions during SSM events. Given that the EPA interprets the CAA not to allow exemptions from SIP emission limitations for excess emissions during SSM events in the first instance, it follows that providing such exemptions through the mechanism of director's discretion provision is also not permissible and compounds the problem.

As with automatic exemptions for excess emissions during SSM events, a provision that allows discretionary exemptions would not meet the statutory requirements of CAA sections 110(a)(2)(A) and 110(a)(2)(C) that require SIPs to contain "emission limitations" to meet CAA requirements. Pursuant to CAA section 302(k), those emission limitations must be "continuous." Discretionary exemptions from otherwise applicable emission limitations render those limits less than continuous, as is required by CAA sections 110(a)(2)(A) and 110(a)(2)(C), and thereby inconsistent with a fundamental requirement of the CAA and thus substantially inadequate as contemplated in section CAA 110(k)(5). Such exemptions undermine the objectives of the CAA such as protection of the NAAQS and PSD increments, and they fail to meet other fundamental requirements of the CAA.

In addition, discretionary exemptions undermine effective enforcement of the SIP by the EPA or through a citizen suit, because often there may have been little or no public process concerning the exercise of director's discretion to grant the exemptions, or easily accessible documentation of those exemptions, and thus even ascertaining the possible existence of such *ad hoc* exemptions will further burden parties who seek to evaluate whether a given source is in compliance or to pursue enforcement if it appears that the source is not. Where there is little or no public process concerning such *ad hoc* exemptions, or inadequate access to relevant documentation of those exemptions, enforcement by the EPA or through a citizen suit may be severely compromised. As explained in the 1999 SSM Guidance, the EPA does not interpret the CAA to allow SIP provisions that would allow the exercise of director's discretion concerning violations to bar enforcement by the EPA or through a citizen suit. The exercise of director's discretion to exempt conduct that would otherwise constitute a violation of the SIP would interfere with effective enforcement of the SIP. Such provisions are inconsistent with and undermine the

enforcement structure of the CAA provided in CAA sections 113 and 304, which provide independent authority to the EPA and citizens to enforce SIP provisions, including emission limitations. Thus, SIP provisions that allow discretionary exemptions from applicable SIP emission limitations through the exercise of director's discretion are substantially inadequate to comply with CAA requirements as contemplated in CAA section 110(k)(5).

4. Substantial Inadequacy of Improper Enforcement Discretion Provisions

The EPA believes that SIP provisions that pertain to enforcement discretion but could be construed to bar enforcement by the EPA or through a citizen suit if the air agency declines to enforce are substantially inadequate to meet CAA requirements. A typical SIP provision that includes an impermissible enforcement discretion provision specifies certain parameters for when air agency personnel should pursue enforcement action, but is worded in such a way that the air director's decision defines what constitutes a "violation" of the emission limitation for purposes of the SIP, *i.e.*, by defining what constitutes a violation, the air agency's own enforcement discretion decisions are imposed on the EPA or citizens.⁸⁴

The EPA's longstanding view is that SIP provisions cannot enable an air agency's decision concerning whether or not to pursue enforcement to bar the ability of the EPA or the public to enforce applicable requirements.⁸⁵ Such enforcement discretion provisions in a SIP would be inconsistent with the enforcement structure provided in the CAA. Specifically, the statute provides explicit independent enforcement authority to the EPA under CAA section 113 and to citizens under CAA section 304. Thus, the CAA contemplates that the EPA and citizens have authority to pursue enforcement for a violation even if the air agency elects not to do so. The EPA, citizens, and any court in which they seek to pursue an enforcement claim for violation of SIP requirements must retain the authority to evaluate independently whether a source's violation of an emission limitation

such revisions have been approved by the Administrator in accordance with this part.").

⁸³ See, e.g., "Approval and Disapproval and Promulgation of Air Quality Implementation Plans; Colorado; Revisions to Regulation 1," 76 FR 4540 (Jan. 26, 2011) (partial disapproval of SIP submission based on inclusion of impermissible director's discretion provisions); "Correction of Implementation Plans; American Samoa, Arizona, California, Hawaii, and Nevada State Implementation Plans; Notice of proposed rulemaking," 61 FR 38664 (July 25, 1996) (proposed SIP correction to remove, pursuant to CAA section 110(k)(6), several variance provisions from American Samoa, Arizona, California, Hawaii, and Nevada SIPs), finalized at 62 FR 34641 (June 27, 1997); "Approval and Promulgation of Implementation Plans; Corrections to the Arizona and Nevada State Implementation Plans," 74 FR 57051 (Nov. 3, 2009) (direct final rulemaking to remove, pursuant to CAA section 110(k)(6), variance provisions from Arizona and Nevada SIPs).

⁸⁴ See, e.g., "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 75 FR 70888 at 70892 (Nov. 19, 2010). The SIP provision at issue provided that information concerning a malfunction "shall be used by the executive secretary in determining whether a violation has occurred and/or the need of further enforcement action." This SIP language appeared to give the state official exclusive authority to determine whether excess emissions constitute a violation.

⁸⁵ See, 1999 SSM Guidance at 3.

warrants enforcement action. Potential for enforcement by the EPA or through a citizen suit provides an important safeguard in the event that the air agency lacks resources or ability to enforce violations and provides additional deterrence. Accordingly, a SIP provision that operated to eliminate the authority of the EPA or the public to pursue enforcement actions because the air agency elects not to, would undermine the enforcement structure of the CAA and would thus be substantially inadequate to meet fundamental requirements in CAA sections 113 and 304.

5. Substantial Inadequacy of Deficient Affirmative Defense Provisions

The EPA believes that SIP provisions that provide inappropriate affirmative defenses for excess emissions during SSM events are substantially inadequate to meet CAA requirements. A typical SIP provision that includes an impermissible affirmative defense provision could contain several deficiencies simultaneously, even though it may superficially resemble such a defense and actually contain the term "affirmative defense." There are a number of ways in which such provisions can be deficient, including: (i) Extending the affirmative defense to injunctive relief; (ii) not including sufficient criteria to make the affirmative defense appropriately narrow; (iii) imposing the affirmative defense provision on federal technology-based emission limitations in the SIP; and (iv) providing an affirmative defense to startup, shutdown, or other planned and routine modes of source operation.

First, the EPA interprets the CAA to allow only those affirmative defense provisions that provide a potential for relief from civil penalties and not those that provide relief from injunctive relief as well. As explained in more detail in section IV of this notice, the EPA interprets the provisions of CAA section 110(a) to allow affirmative defenses only in certain narrow circumstances, as a means of balancing the obligations of sources to meet emission limitations continuously as required by CAA section 302(k) with the practical reality that despite the most diligent of efforts, a source may violate emission standards under certain limited circumstances beyond the source's control. For sources that meet the conditions for an affirmative defense, the EPA believes that it is appropriate to provide relief only from monetary penalties. This limitation assures that the EPA and air agencies remain able to meet fundamental CAA requirements such as

attainment and maintenance of the NAAQS, protection of PSD increments, protection of visibility, and other CAA requirements.

By contrast, because SIP provisions are intended to meet fundamental CAA objectives including attainment and maintenance of the NAAQS, it would be inappropriate to eliminate the availability of injunctive relief for violations, in order to ensure that the necessary emissions reductions could be obtained through changes at the source or in source operation should that be necessary. In this way, the EPA believes that affirmative defense provisions applicable only to monetary penalties can meet the requirements of CAA sections 110(a) and 302(k) and the enforcement structure provided in CAA sections 113 and 304. Failure to preserve the availability of injunctive relief for violations would thus be substantially inadequate to meet CAA requirements.

Second, the EPA interprets the CAA to allow only those affirmative defense provisions that are narrowly drawn to provide relief under appropriate circumstances where the event was entirely beyond the control of the owner or operator of the source and for which the source must have taken all practicable steps to prevent and to minimize the excess emissions that result from the event. Through the criteria in the 1999 SSM Guidance, the EPA has recommended the conditions that it considers appropriate for an approvable SIP provision in order to ensure that the affirmative defense is available to sources that warrant relief from monetary penalties otherwise required by the CAA. Affirmative defense provisions that are consistent with these criteria would be appropriately narrowly drawn. Affirmative defense provisions that do not address these criteria adequately, however, would potentially shield a source from CAA statutory penalties in circumstances that are not warranted.

For example, an affirmative defense provision that did not impose a burden upon the source to establish that the violation was not the result of an event that could have been prevented through proper maintenance would not serve to encourage better maintenance. Similarly, an affirmative defense provision that failed to impose a burden upon the source to establish that it took all possible steps to minimize the effect of the violation on ambient air quality, the environment, and human health, would not serve to encourage diligence in rectifying the malfunction as quickly and effectively as possible. By addressing the recommended criteria

adequately, a state can develop a narrow provision that appropriately balances the requirement for continuous compliance against the reality that there may be limited circumstances beyond the source's control that justify relief from monetary penalties. The EPA believes that failure to have an affirmative defense provision that is sufficiently narrowly drawn would fail to meet the requirements of CAA sections 110(a) and 302(k) and the enforcement structure provided in CAA sections 113 and 304. Failure to have a sufficiently narrow affirmative defense would thus be substantially inadequate to meet CAA requirements.

Third, the EPA interprets the CAA to preclude SIP provisions that would create affirmative defense provisions applicable to federal regulations that an air agency may have copied into its SIP or incorporated by reference in order to take credit for resulting emissions reductions for SIP planning purposes or to receive delegation of federal authority, such as NSPS or NESHAP. To the extent that any affirmative defense appropriate for these technology-based standards is warranted, the federal standards contained in the EPA's regulations already specify the appropriate affirmative defense. Creating affirmative defenses that do not exist in such federal technology-based standards, or providing different affirmative defenses in addition to those that do exist, would be inappropriate. Similarly, reliance on inappropriate affirmative defenses in the context of PSD permitting or nonattainment New Source Review (NSR) permitting programs could likewise be problematic.

Fourth, the EPA interprets the CAA to allow only affirmative defense provisions that are available for events that are entirely beyond the control of the owner or operator of the source. Thus, an affirmative defense may be appropriate for events like malfunctions, which are sudden and unavoidable events that cannot be foreseen or planned for. The underlying premise for an affirmative defense provision is that the source is properly designed, operated, and maintained, and could not have taken action to prevent the exceedance. Because the qualifying source could not have foreseen or prevented the event, the affirmative defense is available to provide relief from monetary penalties that could result from an event beyond the control of the source.

The legal and factual basis that supports the concept of an affirmative defense for malfunctions does not support providing an affirmative defense for normal modes of operation

like startup and shutdown. Such events are planned and predictable. The source should be designed, operated, and maintained to comply with applicable emission limitations. Because startup and shutdown periods are part of a source's normal operations, the same approach to compliance with, and enforcement of, applicable emission limitations during those periods should apply as otherwise applies during a source's normal operations. If justified, the state can develop special emission limitations or control measures that apply during startup and shutdown if the source cannot meet the otherwise applicable emission limitations in the SIP.

Even if a source is a suitable candidate for distinct SIP emission limitations during startup and shutdown, however, that does not justify the creation of an affirmative defense in the case of excess emissions during such periods. Because these events are planned, the EPA believes that sources should be able to comply with applicable emission limitations during these periods of time. To provide an affirmative defense for violations that occur during planned and predictable events for which the source should have been expected to comply is tantamount to providing relief from civil penalties for a planned violation. The EPA believes that affirmative defense provisions that include periods of normal source operation that are within the control of the owner or operator of the source, such as planned startup and shutdown, would be inconsistent with the requirements of CAA sections 110(a) and 302(k) and the enforcement structure provided in CAA sections 113 and 304. An affirmative defense provision that expands the availability of the defense to planned events such as startup and shutdown would thus be substantially inadequate to meet CAA requirements.

B. SIP Call Process Under Section 110(k)(5)

Section 110(k)(5) of the CAA provides the EPA with authority to determine whether a SIP is substantially inadequate to attain or maintain the NAAQS or otherwise comply with any requirement of the CAA. Where the EPA makes such a determination, the EPA then has a duty to issue a SIP call.

In addition to providing general authority for a SIP call, CAA section 110(k)(5) sets forth the process and timing for such an action. First, the statute requires the EPA to notify the state of the final finding of substantial inadequacy. The EPA typically provides notice to states by a letter from the

Assistant Administrator for the Office of Air and Radiation to the appropriate state officials in addition to publication of the final action in the **Federal Register**.

Second, the statute requires the EPA to establish "reasonable deadlines (not to exceed 18 months after the date of such notice)" for the state to submit a corrective SIP submission to eliminate the inadequacy in response to the SIP call. The EPA proposes and takes comment on the schedule for the submission of corrective SIP revisions in order to ascertain the appropriate timeframe, depending on the nature of the SIP inadequacy.

Third, the statute requires that any finding of substantial inadequacy and notice to the state be made public. By undertaking a notice-and-comment rulemaking, the EPA assures that the air agency, affected sources, and members of the public all are adequately informed and afforded the opportunity to participate in the process. Through this proposal notice and the later final notice, the EPA intends to provide a full evaluation of the issues raised by the Petition and to use this process as a means of giving clear guidance concerning SIP provisions relevant to SSM events that are consistent with CAA requirements.

If the state fails to submit the corrective SIP revision by the deadline that the EPA finalizes as part of the SIP call, CAA section 110(c) authorizes the EPA to "find[] that [the] State has failed to make a required submission."⁸⁶ Once the EPA makes such a finding of failure to submit, CAA section 110(c)(1) requires the EPA to "promulgate a Federal implementation plan at any time within 2 years after the [finding] * * * unless the State corrects the deficiency, and [the EPA] approves the plan or plan revision, before [the EPA] promulgates such [FIP]." Thus, if the EPA finalizes a SIP call and then finds that the air agency failed to submit a complete SIP revision that responds to the SIP call, or if the EPA disapproves such SIP revision, then the EPA will have an obligation under CAA section 110(c)(1) to promulgate a FIP no later than 2 years from the date of the finding or the disapproval, if the deficiency has not been corrected before that time.⁸⁷

The finding of failure to submit a revision in response to a SIP call, or the EPA's disapproval of that corrective SIP revision, can also trigger sanctions under CAA section 179. If a state fails

to submit a complete SIP revision that responds to a final SIP call, CAA section 179(a) provides for the EPA to issue a finding of state failure. Such a finding starts mandatory 18-month and 24-month sanctions clocks. The two sanctions that apply under CAA section 179(b) are the 2-to-1 emission offset requirement for all new and modified major sources subject to the nonattainment new source review program and restrictions on highway funding. However, section 179 leaves it to the EPA to decide the order in which these sanctions apply. The EPA issued an order of sanctions rule in 1994 but did not specify the order of sanctions where a state fails to submit or submits a deficient SIP revision in response to a SIP call.⁸⁸ As the EPA has done in other SIP calls, the EPA proposes that the 2-to-1 emission offset requirement will apply for all new sources subject to the nonattainment new source review program 18 months following such finding or disapproval unless the state corrects the deficiency before that date. The EPA proposes that the highway funding restrictions sanction will also apply 24 months following such finding or disapproval unless the state corrects the deficiency before that date. The EPA is proposing that the provisions in 40 CFR 52.31 regarding staying the sanctions clock and deferring the imposition of sanctions would also apply.

Mandatory sanctions under CAA section 179 generally apply only in nonattainment areas. By its definition, the emission offset sanction applies only in areas required to have a part D NSR program, typically areas designated nonattainment. Section 179(b)(1) expressly limits the highway funding restriction to nonattainment areas. Additionally, the EPA interprets the section 179 sanctions to apply only in the area or areas of the state that are subject to or required to have in place the deficient SIP and for the pollutant or pollutants the specific SIP element addresses. For example, if the deficient provision applies statewide and applies for all NAAQS pollutants, then the mandatory sanctions would apply in all areas designated nonattainment for all NAAQS within the state. In this case, the EPA will evaluate the geographic scope of potential sanctions at the time it makes a final determination whether the state's SIP is substantially inadequate and issues a SIP call, as this

⁸⁶ CAA section 110(c)(1)(A).

⁸⁷ The 2-year deadline does not necessarily apply to FIPs following disapproval of a tribal implementation plan.

⁸⁸ See, "Selection of Sequence of Mandatory Sanctions for Findings Made Pursuant to Section 179 of the Clean Air Act," 59 FR 39832 (Aug. 4, 1994), codified at 40 CFR 52.31.

may vary depending upon the provisions at issue.

C. SIP Call Timing Under Section 110(k)(5)

If the EPA finalizes a proposed finding of substantial inadequacy and a proposed SIP call for any state, CAA section 110(k)(5) requires the EPA to establish a SIP submission deadline by which the state must make a SIP submission to rectify the identified deficiency. Pursuant to CAA section 110(k)(5), the EPA has authority to set a SIP submission deadline up to 18 months from the date of the final finding of inadequacy.

The EPA is proposing that if it promulgates a final finding of inadequacy and a SIP call for a state, the EPA will establish a date 18 months from the date of promulgation of the final finding for the state to respond to the SIP call. If, for example, the EPA's final findings are signed and disseminated in August 2013, then the SIP submission deadline for each of the states subject to the final SIP call would fall in February 2015. Thereafter, the EPA will review the adequacy of that new SIP submission in accordance with the CAA requirements of sections 110(a), 110(k), 110(l), and 193, including the EPA's interpretation of the CAA reflected in the SSM Policy as clarified and updated through this rulemaking.

The EPA is proposing the maximum time permissible under the CAA for a state to respond to a SIP call. The EPA believes that it is appropriate to provide states with the maximum time allowable under CAA section 110(k)(5) in order to allow states sufficient time to make SIP revisions following their own SIP development process. The EPA considers this a reasonable time period for the affected states to revise their state regulations, provide for public input, process the SIP revision through the state's own procedures, and submit the SIP revision to the EPA. Such a schedule will allow for the necessary SIP development process to correct the deficiencies, yet still achieve the necessary SIP improvements as expeditiously as practicable. The EPA acknowledges that the longstanding existence of many of the provisions at issue, such as automatic exemptions for SSM events, may have resulted in undue reliance on them as a compliance mechanism by some sources. As a result, development of appropriate SIP revisions may entail reexamination of the applicable emission limitations themselves, and this process may require the maximum time allowed by the CAA. Nevertheless, the EPA

encourages the affected states to make the necessary revisions in as timely a fashion as possible and encourages the states to work with the respective EPA Regional Office as they develop the SIP revisions.

The EPA notes that the SIP calls that it is proposing for affected states in this action would be narrow and apply only to the specific SIP provisions determined to be inconsistent with the requirements of the CAA. To the extent that a state is concerned that elimination of a particular aspect of an existing emission limitation, such as an impermissible exemption, will render that emission limitation more stringent than the state originally intended and more stringent than needed to meet the CAA requirements it was intended to address, the EPA anticipates that the state will revise the emission limitation accordingly, but without the impermissible exemption or other feature that necessitated the SIP call.

Finally, the EPA notes that its authority under CAA section 110(k)(5) does not extend to requiring a state to adopt a particular control measure in its SIP in response to the SIP call. Under principles of cooperative federalism, the CAA vests air agencies with substantial discretion to develop SIP provisions, so long as the provisions meet the legal requirements and objectives of the CAA.⁸⁹ Thus, the issuance of a SIP call should not be misconstrued as a directive to the state in question to adopt a particular control measure. The EPA is merely proposing to require that affected states make a SIP revision to remove or revise existing SIP provisions that fail to comply with fundamental requirements of the CAA. The states retain discretion to remove or revise those provisions as they determine best, so long as they bring their SIPs into compliance with the requirements of the CAA.⁹⁰

⁸⁹ See, *Virginia, et al. v. EPA*, 108 F.3d 1397 (D.C. Cir. 1997) (SIP call remanded and vacated because, *inter alia*, the EPA had issued a SIP call that required states to adopt a particular control measure for mobile sources).

⁹⁰ Notwithstanding the latitude states have in developing SIP provisions, the EPA is required to assure that states meet the basic legal criteria for SIPs. See, *Michigan, et al. v. EPA*, 213 F.3d 663, 686 (D.C. Cir. 2000) (upholding NO_x SIP call because, *inter alia*, the EPA was requiring states to meet basic legal requirement that SIPs comply with section 110(a)(2)(D), not dictating the adoption of a particular control measure).

IX. What is the EPA proposing for each of the specific SIP provisions identified in the petition?

A. Overview of the EPA's Evaluation of Specific SIP Provisions

In reviewing the Petitioner's concerns with respect to the specific SIP provisions identified in the Petition, the EPA notes that most of the provisions relate to a small number of common issues. As the EPA acknowledges in section II.A of this notice, many of these provisions are as old as the original SIPs that the EPA approved in the early 1970s, when the states and the EPA had limited experience in evaluating the provisions' adequacy, enforceability, and consistency with CAA requirements.

In some instances the EPA does not agree with the Petitioner's reading of the provision in question, or with the Petitioner's conclusion that the provision is inconsistent with the requirements of the CAA. However, given the common issues that arise in the Petition for multiple states, there are some overarching conceptual points that merit discussion in general terms before delving into the facts and circumstances of the specific SIP provisions in each state. The EPA solicits comment on all aspects of this proposal.

1. Automatic Exemption Provisions

A significant number of provisions identified by the Petitioner pertain to existing SIP provisions that create automatic exemptions for excess emissions during periods of startup, shutdown, or malfunction. Occasionally, these provisions also pertain to exemptions for excess emission that occur during maintenance, load change, or other types of normal source operation. These provisions typically provide that a source subject to a specific SIP emission limitation is exempted from compliance during startup, shutdown, and malfunction, so that the excess emissions are defined as not violations. Often, these provisions are artifacts of the early phases of the SIP program, approved before state and EPA regulators recognized the implications of such exemptions. Whatever the genesis of these existing SIP provisions, however, these automatic exemptions from emission limitations are not consistent with the CAA, as the EPA has stated in its SSM Policy since at least 1982.

After evaluating the Petition, the EPA proposes to determine that a number of states have existing SIP provisions that create impermissible automatic exemptions for excess emissions during

malfunctions or during startup, shutdown, or other types of normal source operation. In those instances where the EPA agrees that a SIP provision identified by the Petitioner contains such an exemption contrary to the requirements of the CAA, the EPA is proposing to grant the Petition and accordingly to issue a SIP call to the appropriate state.

2. Director's Discretion Exemption Provisions

Another category of problematic SIP provision identified by the Petitioner is exemptions for excess emissions that, while not automatic, are exemptions for such emissions granted at the discretion of state regulatory personnel. In some cases, the SIP provision in question may provide some minimal degree of process and some parameters for the granting of such discretionary exemptions, but the typical provision at issue allows state personnel to decide unilaterally and without meaningful limitations that what would otherwise be a violation of the applicable emission limitation is instead exempt. Because the state personnel have the authority to decide that the excess emissions at issue are not a violation of the applicable emission limitation, such a decision would transform the violation into a non-violation, thereby barring enforcement by the EPA or others.

The EPA refers to this type of provision as a "director's discretion" provision, and the EPA interprets the CAA generally to forbid such provisions in SIPs because they have the potential to undermine fundamental statutory objectives such as the attainment and maintenance of the NAAQS and to undermine effective enforcement of the SIP. As discussed in sections VIII.A and IX of this notice, unbounded director's discretion provisions purport to allow unilateral revisions of approved SIP provisions without meeting the applicable statutory substantive and procedural requirements for SIP revisions. The specific SIP provisions at issue in the Petition (see section IX of this notice) are especially inappropriate because they purport to allow discretionary creation of case-by-case exemptions from the applicable emission limitations, when the CAA does not permit any such exemptions in the first instance. The practical impact of such provisions is that in effect they transform an enforcement discretion decision by the state (e.g., that the excess emission from a given SSM event should be excused for some reason) into an exemption from compliance that also prevents enforcement by the EPA or through a citizen suit. The EPA's

longstanding SSM Policy has interpreted the CAA to preclude SIP provisions in which a state's exercise of its own enforcement discretion bars enforcement by the EPA or through a citizen suit. Where the EPA agrees that a SIP provision identified by the Petitioner contains such a discretionary exemption contrary to the requirements of the CAA, the EPA is proposing to grant the Petition and to call for the state to rectify the problem.

3. State-Only Enforcement Discretion Provisions

The Petitioner identified existing SIP provisions in many states that ostensibly pertain to parameters for the exercise of enforcement discretion by state personnel for violations due to excess emissions during SSM events. The EPA's SSM Policy has consistently encouraged states to utilize traditional enforcement discretion within appropriate bounds for such violations and, in the 1982 SSM Guidance, explicitly recommended criteria that states might consider in the event that they elected to formalize their enforcement discretion with provisions in the SIP. The intent has been that such enforcement discretion provisions in a SIP would be "state-only," meaning that the provisions apply only to the state's own enforcement personnel and not to the EPA or to others.

The EPA has determined that a number of states have SIP provisions that, when evaluated carefully, could reasonably be construed to allow the state to make enforcement discretion decisions that would purport to foreclose enforcement by the EPA under CAA section 113 or by citizens under section 304. In those instances where the EPA agrees that a specific provision could have the effect of impeding adequate enforcement of the requirements of the SIP by parties other than the state, the EPA is proposing to grant the Petition and to take action to rectify the problem. By contrast, where the EPA's evaluation indicates that the existing provision on its face or as reasonably construed could not be read to preclude enforcement by parties other than the state, the EPA is proposing to deny the Petition, and the EPA is taking comment on this issue in particular to assure that the state and the EPA have a common understanding that the provision does not have any impact on potential enforcement by the EPA or through a citizen suit. This process should serve to ensure that there is no misunderstanding in the future that the correct reading of the SIP provision would not bar enforcement by the EPA or through a citizen suit when the state

elected to exercise its own enforcement discretion.

The EPA notes that another method by which to eliminate any potential ambiguity about the meaning of these enforcement discretion provisions would be for the state to revise its SIP to remove the provisions. Because these provisions are only applicable to the state, the EPA's current view is that they need not be included within the SIP. Thus, the EPA supports states that elect to revise their SIPs to remove these provisions to avoid any unnecessary confusion.

4. Adequacy of Affirmative Defense Provisions

In addition to its overarching request that the EPA revise its interpretation of the CAA and forbid any form of affirmative defense, the Petitioner also identified specific existing affirmative defense provisions in SIPs that the Petitioner contended are not consistent with the EPA's SSM Policy. In general, these provisions are structured as affirmative defense provisions, but the Petitioner expressed concern that they fail to address some or all of the criteria for such provisions that the EPA recommended in the 1999 SSM Guidance.

In reviewing the claims of the Petitioner with respect to this type of alleged SIP inadequacy, the EPA is reevaluating each of the challenged affirmative defense provisions on the merits to determine whether it provides the types of assurances that the EPA has recommended as necessary to meet CAA requirements. As the SSM Policy is guidance, it does not require any particular approach, but it does reflect the EPA's interpretation of the CAA with respect to what could constitute an acceptable affirmative defense provision. For each of these provisions identified by the Petitioner, the EPA proposes to grant or to deny the Petition, based on the EPA's evaluation as to whether the provision at issue provides adequate criteria to provide only a narrow affirmative defense for sources under certain circumstances consistent with the overarching CAA objectives, such as attaining and maintaining the NAAQS.⁹¹ In addition, as discussed in section VII.C of this

⁹¹ By definition, an affirmative defense provision in a SIP provides a source with a defense to assert in an enforcement proceeding. The source has the ability to establish whether or not it has met the legal and factual parameters for such affirmative defense, and that question will be decided by the trier of fact in the proceeding. The relevant circumstances in such a proceeding would thus include issues relevant to the parameters for affirmative defense provisions, as enumerated in section VII.B of this notice.

notice, the EPA is also proposing to grant the Petition with respect to any identified provision that creates an affirmative defense applicable during planned startup and shutdown events, because such provisions are not consistent with the requirements of the CAA.

5. Affirmative Defense Provisions Applicable to a "Source or Small Group of Sources"

The Petitioner specifically objected to existing provisions in SIPs for a few states that allow an affirmative defense for certain categories of sources to be based on an after-the-fact showing that the excess emissions during a particular SSM event did not cause a violation of the NAAQS or PSD increments. The Petitioner argued that these affirmative defense provisions are inconsistent with the CAA and with the EPA's own recommendations for affirmative defenses in the SSM Policy, because the provisions provide the possibility for an affirmative defense to be used by sources that would fall into the category of "a source or small group of sources that has the potential to cause an exceedance of the NAAQS or PSD increments."⁹²

The EPA acknowledges that its 1999 SSM Guidance recommended against affirmative defense provisions in SIPs for sources that have the potential, either individually or in small groups, to have excess emissions during SSM events that could cause a violation of the NAAQS or PSD increments. The EPA recommended that states utilize an enforcement discretion approach, rather than create an affirmative defense provision, for such sources. However, the EPA's SSM Policy is guidance, and the facts and circumstances of a particular situation may justify adopting a different approach. The EPA has evaluated each of the affirmative defense provisions identified by the Petitioner on the facts and circumstances of the particular provision. For each of these provisions, the EPA proposes to grant or to deny the Petition, based on an evaluation of whether the specific provision at issue in an individual SIP contains adequate criteria to achieve the objective of providing only a narrow affirmative defense for sources under certain circumstances consistent with the overarching CAA objectives, such as attaining and maintaining the NAAQS. The criteria that the EPA recommends

for an affirmative defense provision for malfunctions to be consistent with CAA requirements are restated in this notice at section VII.B, which also highlights EPA's view concerning case-by-case approval of affirmative defenses in the case of geographic areas and pollutants "where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments."

B. Affected States in EPA Region I

1. Maine

a. Petitioner's Analysis

The Petitioner first objected to a specific provision in the Maine SIP that provides an exemption for certain boilers from otherwise applicable SIP visible emission limits during startup and shutdown (06–096–101 Me. Code R. § 3).⁹³ The provision exempts violations of the otherwise applicable SIP emission limitations for boilers over a certain rated input capacity "during the first 4 hours following the initiation of cold startup or planned shutdown." The Petitioner recognized that this provision might operate as an affirmative defense because the exemption is only available once the person claiming an "exemption" establishes that the facility was being run to minimize emissions. The provision does not make clear who is authorized to determine whether the visible emission limits apply. The Petitioner argued that one plausible interpretation of this provision is that state officials are "authorized to decide that the exemption applies and therefore preclude enforcement by the EPA and by citizens."⁹⁴ The Petitioner argued that such an interpretation of this provision precluding enforcement by the EPA or citizens, both for civil penalties and injunctive relief, is forbidden by the EPA's interpretation of the CAA. Accordingly, the Petitioner requested that this provision be eliminated from the SIP.

Second, the Petitioner objected to a provision that empowers the state to "exempt emissions occurring during periods of unavoidable malfunction or unplanned shutdown from civil penalty under section 349, subsection 2" (06–096–101 Me. Code R. § 4). The Petitioner noted that the provision "clearly provides an exemption at the discretion of the department."⁹⁵ The Petitioner argued that such a provision provides exemptions from the otherwise applicable SIP emission limitations, and such exemptions are inconsistent with

the requirements of the CAA and the EPA's SSM Policy. Further, the Petitioner argued that the provision precludes enforcement by the EPA or citizens, both for civil penalties and injunctive relief, and that the EPA's interpretation of the CAA would forbid such a provision.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunctions are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that inclusion of such an exemption in 06–096–101 Me. Code R. § 3 from the otherwise applicable SIP emission limitation for violations during the first 4 hours following cold startup or planned shutdown of boilers with a rated input capacity of more than 200 million BTU per hour is a substantial inadequacy and renders this specific SIP provision impermissible.

With respect to the Petitioner's concern that this exemption could preclude enforcement by the EPA or citizens, the EPA agrees that this is one of the critical reasons why such a provision is impermissible under the CAA. By having a SIP provision that defines what would otherwise be violations of the applicable emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations.

The EPA also believes that even if 06–096–101 Me. Code R. § 3 is interpreted to allow the source to make the required demonstration only in the context of an enforcement proceeding, the conditions set forth in the provision do not render it an acceptable affirmative defense provision. As explained in sections IV and VII.C of this notice, the EPA believes that affirmative defenses are only permissible under the CAA in the

⁹² See, 1999 SSM Guidance at 4, and Attachment at 2, 3, and 5. Footnote 2 to that document articulates the reasoning behind the EPA's recommendation against such provisions, at least for some sources and for some NAAQS.

⁹³ Petition at 43–44.

⁹⁴ Petition at 44.

⁹⁵ Petition at 44.

case of events that are beyond the control of the source, *i.e.*, malfunctions. Affirmative defense provisions are not appropriate in the case of planned source actions, such as cold startup or planned shutdown, because sources should be expected to comply with applicable emission limitations during those normal planned and predicted modes of source operation.

Finally, the EPA believes that 06–096–101 Me. Code R. § 4 is impermissible under the CAA as interpreted in the EPA’s SSM Policy as an unbounded director’s discretion provision. The provision authorizes a state official “to exempt emissions occurring during periods of unavoidable malfunction or unplanned shutdown from civil penalty under section 349, subsection 2.” Although the reference to section 349, subsection 2 is to a Maine state penalty provision, the EPA believes that the provision is unclear as written. This provision could be read to mean that once the state official has exempted excess emissions during malfunctions from otherwise applicable SIP limitations, those excess emissions are not subject to any penalties, including penalties under CAA section 113. As discussed in section VII.A of this notice, such director’s discretion provisions are impermissible. Such an interpretation would make the state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation, which could preclude enforcement by the EPA or the public who might disagree about whether enforcement action is warranted. Most importantly, however, the provision may be read to authorize the state official to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. The EPA believes that inclusion of an unbounded director’s discretion provision in 06–096–101 Me. Code R. § 4 is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to 06–096–101 Me. Code R. § 3. The EPA believes that this provision allows for exemptions from the otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in a way that would interfere with effective enforcement by the EPA and the public

for excess emissions during these events as provided in CAA sections 113 and 304. Even if the EPA were to consider 06–096–101 Me. Code R. § 3 to provide an affirmative defense rather than an automatic exemption, the provision is not a permissible affirmative defense provision consistent with the requirements of the CAA as interpreted in the EPA’s recommendations in the EPA’s SSM Policy.

The EPA also proposes to grant the Petition with respect to 06–096–101 Me. Code R. § 4. The EPA believes that this provision, as written, applies only to state penalties. However, the EPA is concerned that the provision could cause confusion among the public, the regulated community, and the courts, who might interpret the provision as applying to both state and federal penalties. Of course, such an interpretation would seem to allow for exemptions from otherwise applicable emission limitations through a state official’s unilateral exercise of unbounded discretionary authority and therefore be inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. To avoid any such misunderstanding, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to these provisions.

2. New Hampshire

a. Petitioner’s Analysis

The Petitioner objected to two generally applicable provisions in the New Hampshire SIP that allow emissions in excess of otherwise applicable SIP emission limitations during “malfunction or breakdown of any component part of the air pollution control equipment.”⁹⁶ The Petitioner argued that the challenged provisions provide an automatic exemption for excess emissions during the first 48 hours when any component part of air pollution control equipment malfunctions (N.H. Code R. Env-A 902.03) and further provide that “[t]he director may * * * grant an extension of time or a temporary variance” for excess emissions outside of the initial 48-hour time period (N.H. Code R. Env-A 902.04). The Petitioner argued that N.H. Code R. Env-A 902.03 is an impermissible automatic exemption because it “provides that if certain conditions existed during a period of excess emissions, then those exceedances would not be considered

violations.”⁹⁷ The Petitioner argued that such exemptions are inconsistent with the requirements of the CAA and the EPA’s SSM Policy. The Petitioner argued that the CAA and the EPA’s interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. The Petitioner further argued that both N.H. Code R. Env-A 902.03 and N.H. Code R. Env-A 902.04 appear “to authorize the division to allow [exemptions], which could be interpreted to preclude enforcement by EPA or citizens”⁹⁸ for the excess emissions that would otherwise be violations of applicable SIP emission limitations.

Second, the Petitioner objected to two specific provisions in the New Hampshire SIP which provide source-specific exemptions for periods of startup for “any process, manufacturing and service industry” (N.H. Code R. Env-A 1203.05) and for pre-June 1974 asphalt plants during startup, provided they are at 60-percent opacity for no more than 3 minutes (N.H. Code R. Env-A 1207.02).⁹⁹ The Petitioner recognized that EPA permits source category-specific emission limitations for startup and shutdown if certain conditions are met. The Petitioner argued, however, that “[o]f the seven criteria EPA considers adequate to justify a source specific emission limit during startup and shutdown, section 1207.02 arguably meets only one of them and section 1203.05 meets none at all.”¹⁰⁰ The Petitioner thus requested that EPA require New Hampshire to remove both provisions from the SIP.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official’s discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunctions are not violations are inconsistent with the

⁹⁷ Petition at 52.

⁹⁸ Petition at 53.

⁹⁹ Petition at 52–53.

¹⁰⁰ Petition at 53.

⁹⁶ Petition at 52–53.

fundamental requirements of the CAA with respect to emission limitations in SIPs. The first provision identified by the Petitioner, N.H. Code R. Env-A 902.03, explicitly states that “increased emissions shall be allowed” during “malfunction or breakdown of any component part of the air pollution control equipment.” The third provision identified by the Petitioner, N.H. Code R. Env-A 1203.05, provides that applicable SIP emission limitations apply “for any process, manufacturing and service industry” “[e]xcept during periods of start-ups and warm-ups.” Both of these provisions allow automatic exemptions during periods of startup from otherwise applicable SIP emission limitations for excess emissions and thus are inconsistent with the requirements of the CAA as interpreted in the EPA’s SSM Policy. The EPA believes that inclusion of such exemptions from otherwise applicable SIP emission limitations in these provisions is a substantial inadequacy and renders these SIP provisions impermissible.

Similarly, N.H. Code R. Env-A 1203.05 does not appear to comply with the Act’s requirements for source category-specific rules for startup and shutdown as interpreted in the EPA’s SSM Policy. N.H. Code R. Env-A 1203.05 establishes a visible emissions limit for “any process, manufacturing and service industry” but further states that this limit does not apply during startups. Automatic exemptions from otherwise applicable SIP emission limitations for excess emissions during periods of startup are not permissible under the CAA. As discussed in section VII.A of this notice, states may elect to develop alternative emission limitations or other forms of enforceable control measures or techniques that apply during startup or shutdown, but exemptions for excess emissions during such periods are inconsistent with the fundamental requirements of the CAA.

Similarly, N.H. Code R. Env-A 1207.02 provided an alternate opacity limit, “60 percent opacity, No. 3 on the Ringelmann Smoke Chart,” for pre-June 1974 asphalt plants during startups. The EPA believes that this alternate emissions limit does not meet the elements of the EPA’s SSM Policy interpreting the CAA for establishing source-specific startup and shutdown alternative limits. However, after the Petitioner filed its Petition, the EPA acted on a SIP revision from New Hampshire correcting N.H. Code R. Env-A 1207.02 and renaming that provision as N.H. Code R. Env-A 2703.02. The N.H. Code R. Env-A 2703.02, as rewritten and submitted by New

Hampshire, corrected the deficiencies identified by the Petitioner and removed the alternative limitations applicable during startups for pre-June 1974 asphalt plants. The EPA approved New Hampshire’s SIP revision with respect to N.H. Code R. Env-A 2703.02 on August 22, 2012.¹⁰¹ Thus, the Petitioner’s objection to this provision is moot.

Finally, the EPA believes that N.H. Code R. Env-A 902.04 is impermissible under the CAA as interpreted in the EPA’s SSM Policy, because it includes an unbounded director’s discretion provision. The provision authorizes a state official to grant “an extension of time” to the time-limited exemption provided by N.H. Code R. Env-A 902.03 or a “temporary variance” to an applicable SIP emission limitation during malfunctions of air pollution control equipment. This provision could be read to mean that once the state official has granted a time extension or temporary variance for excess emissions during malfunctions from otherwise applicable SIP limitations, those excess emissions are not violations. As discussed in section VII.A of this notice, such director’s discretion provisions are impermissible. Such an interpretation would make the state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation, which could preclude enforcement by the EPA or the public who might disagree about whether enforcement action is warranted. Most importantly, however, the provision may be read to authorize the state official to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. The EPA believes that inclusion of an unbounded director’s discretion provision in N.H. Code R. Env-A 902.03 is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to N.H. Code R. Env-A 902.03 and N.H. Code R. Env-A 1203.05. The EPA believes that both of these provisions allow for automatic exemptions from otherwise applicable emission limitations and that such outright exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in a way that would

interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to these provisions.

The EPA proposes to grant the Petition with respect to N.H. Code R. Env-A 902.04. The EPA believes that this provision allows for exemptions from otherwise applicable emission limitations through a state official’s unilateral exercise of discretionary authority that is unbounded. Such provisions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

The EPA proposes to deny the Petition with respect to N.H. Code R. Env-A 1207.02. New Hampshire has corrected the inadequacy identified by the Petitioner, and the EPA approved the SIP revision. Therefore, the Petitioner’s objection is moot.

3. Rhode Island

a. Petitioner’s Analysis

The Petitioner objected to a generally applicable provision in the Rhode Island SIP that allows for a case-by-case petition procedure whereby a source can obtain a variance from state personnel under R.I. Gen. Laws § 23–23–15 to continue to operate during a malfunction of its control equipment that lasts more than 24 hours, if the source demonstrates that enforcement would constitute undue hardship without a corresponding benefit (25–4–13 R.I. Code R. § 16.2).^{102 103} The Petitioner argued that if the state grants the source’s petition and provides a variance allowing the source to continue to operate, the facility could be excused from compliance with otherwise applicable SIP emission limitations

¹⁰² Petition at 63–65.

¹⁰³ The EPA notes that the Petitioner also identified several additional provisions, 25–4–13 R.I. Code R. §§ 13.4.1(a), 27.2.3 and 25–4–39 R.I. Code R. §§ 39.5.4, 39.7.5(a), 39.7.6(b), 39.7.7(e), 39.7.8(f), 39.7.9(e), 39.7.11(c)(2), that it alleged are inconsistent with the CAA and the EPA’s SSM Policy. However, the Petitioner did not request that the EPA address those provisions in its remedy request, and thus the EPA is not addressing those provisions in this action. The EPA may elect to evaluate those provisions in a later action.

¹⁰¹ See, 77 FR 50561 at 50608.

during malfunction periods. The Petitioner argued that this provision could be read to preclude enforcement by the EPA or citizens in the event that the state elects not to treat the event as a violation of SIP emission limitations. Thus, the Petitioner argued, the provision is inconsistent with the CAA and the EPA's SSM Policy because it allows the state to make a unilateral decision that the excess emissions were not a violation and thus purports to bar enforcement for the excess emissions by the EPA and citizens.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that excess emissions during malfunctions are not violations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs.

The EPA believes that 25–4–13 R.I. Code R. § 16.2 is impermissible under the CAA as interpreted in the EPA's SSM Policy, due to an insufficiently bounded director's discretion provision. The provision specifies a mechanism for a variance to be granted "[i]n the event that the malfunction of an air pollution control system is expected or may reasonably be expected to continue for longer than 24 hours." This provision could be read to mean that once a state official has exempted excess emissions during malfunctions from otherwise applicable SIP limitations, those excess emissions are not violations. As discussed in section VII.A of this notice, such director's discretion provisions are impermissible. Such an interpretation would make the state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation, which could preclude enforcement by the EPA or the public who might disagree about whether enforcement action is warranted. Most importantly, however, the provision may be read to authorize the state official to create an exemption from the emission limitation, and such an

exemption is impermissible in the first instance. The EPA believes that inclusion of an insufficiently bounded director's discretion provision in 25–4–13 R.I. Code R. § 16.2 is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to 25–4–13 R.I. Code R. § 16.2. The EPA believes that this provision allows for exemptions from otherwise applicable emission limitations through a state official's unilateral exercise of discretionary authority that is insufficiently bounded. Such provisions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

C. Affected States in EPA Region II

1. New Jersey

a. Petitioner's Analysis

The Petitioner objected to two specific provisions in the New Jersey SIP that allow for automatic exemptions for excess emissions during emergency situations.¹⁰⁴ The Petitioner objected to the first provision because it provides industrial process units that have the potential to emit sulfur compounds an exemption from the otherwise applicable sulfur emission limitations where "[t]he discharge from any stack or chimney [has] the sole function of relieving pressure of gas, vapor or liquid under abnormal emergency conditions" (N.J. Admin. Code 7:27–7.2(k)(2)). The Petitioner argued that such an exemption is inconsistent with the requirements of the CAA and the EPA's SSM Policy. The Petitioner argued that the CAA and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations.

The Petitioner objected to the second provision because it provides electric generating units (EGUs) an exemption from the otherwise applicable NO_x emission limitations when the unit is operating at "emergency capacity," also known as a "MEG alert," which is statutorily defined as a period in which one or more EGUs is operating at emergency capacity at the direction of

the load dispatcher in order to prevent or mitigate voltage reductions or interruptions in electric service, or both (N.J. Admin. Code 7:27–19.1). The Petitioner argued that this source-specific exemption from the emission limitations "cannot ensure compliance with the NAAQS and PSD increments for NO_x because ambient air quality is nowhere mentioned as a relevant consideration."¹⁰⁵

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations of such limitations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that excess emissions during emergency conditions, however defined, are not violations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs.

The first provision identified by the Petitioner explicitly states that emission limitations of sulfur compounds "shall not apply" to emissions coming from a stack or a chimney during "abnormal emergency conditions," when the discharges are solely to relieve pressure of gas, vapor, or liquid. The EPA believes that inclusion of such an exemption from emission limitations in N.J. Admin. Code 7:27–7.2(k)(2) is a substantial inadequacy and renders this specific SIP provision impermissible. The EPA notes that this exemption is impermissible even though the state has imposed the limitation that such exemption would apply only during "abnormal emergency conditions." The core problem remains that the provision provides an impermissible exemption from the sulfur compound emission limitations otherwise applicable under the SIP.

With regard to the second provision raised by the Petitioner (N.J. Admin. Code 7:27–19.1), the EPA disagrees that it is a substantial inadequacy in the SIP, because the exemption from the NO_x emission limitations ceased to be applicable after November 15, 2005. Because the statute's exemption applies only to those emergency situations, or

¹⁰⁴ Petition at 53–54.

¹⁰⁵ Petition at 54.

"MEG alerts," that occur "on or before November 15, 2005" (N.J. Admin. Code 7:27-19.1), the Petitioner's claim is moot.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to N.J. Admin. Code 7:27-7.2(k)(2). The EPA believes that this provision allows for an exemption from the otherwise applicable emission limitations, and that such an exemption is inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For this reason, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to this provision. The EPA proposes to deny the Petition with respect to N.J. Admin. Code 7:27-19.1, because its effectiveness expired on November 15, 2005, and therefore Petitioner's claim with regard to the impermissibility of this provision is moot.

2. [Reserved]

D. Affected States in EPA Region III

1. Delaware

a. Petitioner's Analysis

The Petitioner objected to seven provisions in the Delaware SIP that provide exemptions during startup and shutdown from the otherwise applicable SIP emission limitations.¹⁰⁶ The seven source-specific and pollutant-specific provisions that provide exemptions during periods of startup and shutdown are: 7-1100-1104 Del. Code Regs § 1.5 (Particulate Emissions from Fuel Burning Equipment); 7-1100-1105 Del. Code Regs § 1.7 (Particulate Emissions from Industrial Process Operations); 7-1100-1108 Del. Code Regs § 1.2 (Sulfur Dioxide Emissions from Fuel Burning Equipment); 7-1100-1109 Del. Code Regs § 1.4 (Emissions of Sulfur Compounds From Industrial Operations); 7-1100-1114 Del. Code Regs § 1.3 (Visible Emissions); 7-1100-1124 Del. Code Regs § 1.4 (Control of Volatile Organic Compound Emissions); and 7-1100-1142 Del. Code Regs § 2.3.5 (Specific Emission Control Requirements). These provisions provide exemptions to the emission limitations during startup and shutdown when "the emissions * * * during start-up and shutdown are governed by an operation permit issued pursuant to the provisions of 2.0 of 7 DE

Admin. Code 1102." (E.g., 7-1100-1104 Del. Code Regs § 1.5.)

The Petitioner objected to these provisions because they provide a state official with the discretion, through the permitting process, to exempt sources from otherwise applicable SIP emission limitations or to set alternative limitations for periods of startup and shutdown. The Petitioner argued that such discretion is not permissible because the CAA and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. Moreover, the Petitioner argued that any alternative limits for periods of startup and shutdown created by the state official through the permitting process do not meet the requirements of the Act and the EPA's SSM Policy, because there is no requirement in the provision that the limits be narrowly tailored, source-specific, created in consultation with the EPA, and approved into the Delaware SIP by the EPA.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup and shutdown could be deemed not a violation of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs.

The EPA believes that the seven provisions raised by the Petitioner are impermissible because they are unbounded director's discretion provisions, created through the state permitting program, in which state officials are provided unbounded discretion to set alternative limits and could therefore provide an outright exemption from the emission limitations. In each of the provisions raised by the Petitioner, an exemption from the SIP's emission limitations during periods of startup and shutdown is automatically granted if the permit to which the source is subject has terms or

conditions governing emissions during startup and shutdown. The SIP provisions therefore vest state officials with the unilateral power to establish alternative limits, or to create an exemption altogether, in permits by deeming such periods of excess emissions during startup and shutdown permissible. Were the state to exercise its discretion and decide on a case-by-case basis that such an event was not a violation of the emission limitations, the EPA and citizens could be precluded from enforcement. More importantly, however, an exemption from the emission limitations is impermissible in the first instance, and these provisions purport to authorize state officials in the permitting context to grant such exemptions. These provisions therefore undermine the SIP's emission limitations and the emissions reductions they are intended to achieve and render them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of insufficiently bounded director's discretion provisions in 7-1100-1104 Del. Code Regs § 1.5, 7-1100-1105 Del. Code Regs § 1.7, 7-1100-1108 Del. Code Regs § 1.2, 7-1100-1109 Del. Code Regs § 1.4, 7-1100-1114 Del. Code Regs § 1.3, 7-1100-1124 Del. Code Regs § 1.4, and 7-1100-1142 Del. Code Regs § 2.3.5 is thus a substantial inadequacy and renders these specific SIP provisions impermissible for this reason.

In addition, the EPA agrees with the Petitioner that while the CAA, as interpreted in the EPA's SSM Policy, allows states to set source category-specific alternative emission limitations or other forms of enforceable control measures or techniques that apply during periods of startup and shutdown, such alternative limitations are only permitted in a narrow set of circumstances and must be accomplished through the appropriate SIP process (see section VII.A of this notice.) Those alternative limitations must be developed in consultation with the EPA and must be approved by the EPA into the SIP. The provisions of Delaware's SIP raised by the Petitioner purport to authorize the state to establish alternative limitations for excess emissions during periods of startup and shutdown (or to exempt those emissions altogether, as discussed above) on a case-by-case basis in the permitting process, and the provisions do not require the state to consult with the EPA or have those alternative limits approved by the EPA into the SIP. The EPA believes that the inclusion of processes to establish alternative limits for some sources and in regard to some

¹⁰⁶ Petition at 28-29.

pollutants in a manner that does not conform with the requirements of the Act as interpreted in the EPA's SSM Policy in 7-1100-1104 Del. Code Regs § 1.5, 7-1100-1105 Del. Code Regs § 1.7, 7-1100-1108 Del. Code Regs § 1.2, 7-1100-1109 Del. Code Regs § 1.4, 7-1100-1114 Del. Code Regs § 1.3, 7-1100-1124 Del. Code Regs § 1.4, and 7-1100-1142 Del. Code Regs § 2.3.5 is thus a substantial inadequacy and renders these specific SIP provisions impermissible, in addition to the creation of unbounded discretion in a state official.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to 7-1100-1104 Del. Code Regs § 1.5, 7-1100-1105 Del. Code Regs § 1.7, 7-1100-1108 Del. Code Regs § 1.2, 7-1100-1109 Del. Code Regs § 1.4, 7-1100-1114 Del. Code Regs § 1.3, 7-1100-1124 Del. Code Regs § 1.4, and 7-1100-1142 Del. Code Regs § 2.3.5. The EPA believes that these provisions allow for exemptions from otherwise applicable SIP emission limitations, and that such outright exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs in sections 110(a)(2)(A), 110(a)(C), and 302(k). In addition, the aforementioned provisions each allow for such exemptions through a state official's unilateral exercise of insufficiently bounded discretionary authority in the permitting process, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the discretion in these provisions also allows state officials to establish alternative emission limitations during periods of startup and shutdown through a process that does not conform to the requirements of the Act or the EPA's SSM Policy with regard to establishing alternative emission limitations. For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to these provisions.

2. District of Columbia

a. Petitioner's Analysis

The Petitioner objected to five provisions in the District of Columbia (D.C.) SIP as being inconsistent with the CAA and the EPA's SSM Policy.¹⁰⁷ The Petitioner first objected to a generally applicable provision in the D.C. SIP that allows for discretionary exemptions

during periods of maintenance or malfunction (D.C. Mun. Regs. tit. 20 § 107.3). The provision provides the Mayor with the authority to permit continued operation of a stationary source when air pollution controls are shut down due to maintenance or malfunction. The Petitioner argued that this provision could provide an exemption from the otherwise applicable SIP emission limitations, and such an exemption is impermissible under the CAA because the statute and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. Moreover, the Petitioner objected to this discretionary exemption because the Mayor's grant of permission to continue to operate during the period of malfunction or maintenance could be interpreted to excuse excess emissions during such time period and could thus be read to preclude enforcement by the EPA or citizens in the event that the Mayor elects not to treat the event as a violation. Thus, in addition to creating an impermissible exemption for the excess emissions, the Petitioner argued, the provision is also inconsistent with the CAA as interpreted in the EPA's SSM Policy because it allows the Mayor to make a unilateral decision that the excess emissions were not a violation and thus purports to bar enforcement for the excess emissions by the EPA and citizens.

Secondly, the Petitioner objected to the alternative limitations on stationary sources for visible emissions during periods of "start-up, cleaning, soot blowing, adjustment of combustion controls, or malfunction," (D.C. Mun. Regs. tit. 20 § 606.1) and, for fuel-burning equipment placed in initial operation before January 1977, alternative limits for visible emissions during startup and shutdown (D.C. Mun. Regs. tit. 20 § 606.2). The Petitioner also objected to the exemption from emission limitations for emergency standby engines (D.C. Mun. Regs. tit. 20 § 805.1(c)(2)). The Petitioner argued that these provisions could provide exemptions or deviations from the otherwise applicable SIP emission limitations, and such exemptions are impermissible under the CAA because the statute and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. Moreover, the Petitioner argued that the alternative limits do not appear to meet the criteria for a source category-specific rule as permitted under the EPA's SSM Policy interpreting the Act.

Finally, the Petitioner objected to the provision in the D.C. SIP that provides

an affirmative defense for violations of visible emission limitations during "unavoidable malfunction" (D.C. Mun. Regs. tit. 20 § 606.4). The Petitioner objected to this provision because the elements of the defense are not laid out clearly in the SIP, because the term "affirmative defense" is not defined in the SIP, and finally, the Petitioner argues, because affirmative defenses for any excess emissions are wholly inconsistent with the CAA and should be removed from the SIP.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, load change, or emergencies are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that the inclusion of such an exemption from the emission limitations in D.C. Mun. Regs. tit. 20 § 107.3 is thus a substantial inadequacy and renders this specific SIP provision impermissible.

The EPA believes that D.C. Mun. Regs. tit. 20 § 107.3 is also impermissible due to an unbounded director's discretion provision that purports to make the Mayor the unilateral arbiter of whether the excess emissions in a given event constitute a violation. In the case of D.C. Mun. Regs. tit. 20 § 107.3, the provision authorizes the Mayor to permit continued operation at stationary sources without functioning air pollution control equipment. The Mayor's grant of permission to continue to operate during the period of malfunction or maintenance could be interpreted to excuse excess emissions from that time period, and it could thus be read to preclude enforcement by the EPA or through a citizen suit in the event that the Mayor elects not to treat the event as a violation. In addition, the provision vests the Mayor with the unilateral power to grant an exemption from the

¹⁰⁷ Petition at 29-30.

otherwise applicable SIP emission limitation, without any additional public process at the D.C. or federal level, and without any bounds or parameters to the exercise of this discretion. Most importantly, however, the provision purports to authorize the Mayor to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the emission limitations and the emissions reductions they are intended to achieve and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of an unbounded director's discretion provision in D.C. Mun. Regs. tit. 20 § 107.3 is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason, in addition to the creation of an impermissible exemption.

The EPA notes that while the CAA does not allow for exemptions for excess emissions, it does, as discussed in section VII.A of this notice, allow states to develop alternative emission limitations or other forms of enforceable control measures or techniques that apply during startup or shutdown. The EPA believes that emission limitations in SIPs should generally be developed in the first instance to account for the types of normal operation outlined in D.C. Mun. Regs. tit. 20 § 606.1, such as cleaning, soot blowing, and adjustment of combustion controls. The D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2 do not appear to comply with the CAA's requirements as interpreted in the EPA's SSM Policy. The alternative limitations on stationary sources for visible emissions during periods of "start-up, cleaning, soot blowing, adjustment of combustion controls, or malfunction," (D.C. Mun. Regs. tit. 20 § 606.1) do not comply with the Act and the EPA's policy interpreting the Act, because, for instance, they do not apply only to "specific, narrowly-defined source categories using specific control strategies."¹⁰⁸ The EPA believes that the inclusion of these alternative limitations, which do not comply with the requirements of the Act, in D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2 is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

With respect to the Petitioner's objection to the exemption for emergency standby engines (D.C. Mun. Regs. tit. 20 § 805.1(c)(2)), the EPA disagrees that this provision applies to an exemption from emission limitations

during startup, shutdown, or malfunction periods. Instead, this provision applies to a specific source category that is not subject to control under the D.C. SIP. At this point in time, the SIP reflects that regulation of this source category is not necessary in the SIP in order to meet the applicable reasonably available control technology (RACT) requirements or other CAA requirements in this area. The EPA therefore disagrees with Petitioner that D.C. Mun. Regs. tit. 20 § 805.1(c)(2) renders the D.C. SIP substantially inadequate.

Finally, the EPA agrees with the Petitioner that the affirmative defense contained in D.C. Mun. Regs. tit. 20 § 606.4 is not an acceptable affirmative defense provision under the CAA as interpreted in the EPA's SSM Policy. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the CAA for malfunction events (*see* section VII.B of this notice), the EPA's interpretation of the CAA is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304. Furthermore, the SIP provision is deficient because while it appears to create an affirmative defense, it does so with conditions that are not consistent with the criteria that the EPA recommends in the SSM Policy. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that D.C. Mun. Regs. tit. 20 § 606.4 does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision. The EPA believes that the inclusion of the complete bar to liability, including injunctive relief, and the insufficiently robust qualifying criteria in D.C. Mun. Regs. tit. 20 § 606.4 are substantial inadequacies and render this specific SIP provision impermissible.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to D.C. Mun. Regs. tit. 20 § 107.3. The EPA believes that this provision allows for exemptions from the otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in

SIPs in sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, D.C. Mun. Regs. tit. 20 § 107.3 allows for such an exemption through a state official's unilateral exercise of discretionary authority that is unbounded and includes no additional public process at the D.C. or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. For these reasons, the EPA is proposing to find that D.C. Mun. Regs. tit. 20 § 107.3 is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

The EPA also proposes to grant the Petition with respect to D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2. The EPA believes that section 606.1 impermissibly provides an alternative visible emission limitation to stationary sources during periods of malfunction and during planned maintenance events. Furthermore, while sections 606.1 and 606.2 appropriately provide alternative visible emission limitations only during periods of startup and shutdown, both sections apply to a broad category of sources and are not narrowly limited to a source category employing a specific control strategy, as required by the CAA as interpreted in the EPA's SSM Policy. For these reasons, the EPA is proposing to find that D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2 are substantially inadequate to meet CAA requirements and is thus proposing to issue a SIP call with respect to these provisions.

The EPA proposes to deny the Petition with respect to D.C. Mun. Regs. tit. 20 § 805.1(c)(2). The EPA disagrees that this provision applies to an exemption from emission limitations during startup, shutdown, or malfunction periods. Rather, this provision applies to a specific source category that is not subject to control under the D.C. SIP. At this point in time, the SIP reflects that regulation of this source category is not necessary in the SIP in order to meet the applicable RACT requirements or other CAA requirements in this area.

Finally, the EPA proposes to grant the petition with respect to D.C. Mun. Regs. tit. 20 § 606.4 because it is not a permissible affirmative defense provision consistent with the requirements of the CAA and the EPA's recommendations in the EPA's SSM Policy. By purporting to create a bar to enforcement that applies not just to monetary penalties but also to injunctive relief, this provision is inconsistent with the requirements of

¹⁰⁸ 1999 SSM Guidance Attachment at 4–5.

CAA sections 113 and 304. By not including sufficient criteria to assure that sources seeking to raise the affirmative defense have in fact been properly designed, maintained, and operated, and to assure that sources have taken all appropriate steps to minimize excess emissions, the provision also fails to be sufficiently narrowly drawn to justify shielding from monetary penalties for violations. Thus, this provision is not appropriate as an affirmative defense provision because it is inconsistent with fundamental requirements of the CAA. For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

3. Virginia

a. Petitioner's Analysis

The Petitioner objected to a generally applicable provision in the Virginia SIP that allows for discretionary exemptions during periods of malfunction (9 Va. Admin. Code § 5–20–180(G)).¹⁰⁹ First, the Petitioner objected because this provision provides an exemption from the otherwise applicable SIP emission limitations, and such an exemption is impermissible under the CAA because the statute and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. The Petitioner argued that the CAA and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations.

Second, the Petitioner objected to the discretionary exemption for excess emissions during malfunction because the provision gives the state the authority to determine whether a violation "shall be judged to have taken place" (9 Va. Admin. Code § 5–20–180(G)). The Petitioner argued that this provision could be read to preclude enforcement by the EPA or citizens in the event that the state elects not to treat the event as a violation. Thus, in addition to creating an impermissible exemption for the excess emissions, the Petitioner argued, the provision is also inconsistent with the CAA and the EPA's SSM Policy because it allows the state to make a unilateral decision that the excess emissions were not a violation and thus purports to bar enforcement for the excess emissions by the EPA and citizens.

Third, the Petitioner argued that while the regulation provides criteria,

akin to an affirmative defense, by which the state must make such a judgment that the event is not a violation, the criteria "fall far short of EPA policy" and the provision "fails to establish any procedure through which the criteria are to be evaluated."

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions such as 9 Va. Admin. Code § 5–20–180(G) that create exemptions by authorizing the state to determine that the excess emissions during startup, shutdown, load change, or emergencies are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that the inclusion of such an exemption in 9 Va. Admin. Code § 5–20–180(G) is thus a substantial inadequacy and renders this specific SIP provision impermissible.

The EPA believes that 9 Va. Admin. Code § 5–20–180(G) is also impermissible due to the inclusion of a director's discretion provision that purports to make the state official the unilateral arbiter of whether the excess emissions in a given malfunction event constitute a violation. In the case of 9 Va. Admin. Code § 5–20–180(G), the provision authorizes the state official to judge that "no violation" has taken place. The provision therefore vests the state official with the unilateral power to grant an exemption from the otherwise applicable SIP emission limitation, without any additional public process at the state or federal level. By deciding that an exceedance of the emission limitation was not a "violation," exercise of this discretion could preclude enforcement by the EPA or the public who may not agree with that conclusion. Most importantly, however, the provision purports to authorize the state official to create an exemption from the otherwise applicable SIP emission limitation, and such an exemption is impermissible in

the first instance. Such a director's discretion provision undermines the emission limitations in the SIP and the emissions reductions that they are intended to achieve and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of a director's discretion provision in 9 Va. Admin. Code § 5–20–180(G) is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason, in addition to the creation of an impermissible exemption.

Finally, the EPA agrees with Petitioner that although the exemption requires that certain conditions must be met by the source, the conditions set forth in the provision do not render it an acceptable affirmative defense provision. The Petitioner is correct that 9 Va. Admin. Code § 5–20–180(G) is not an acceptable affirmative defense provision under the CAA as interpreted in the EPA's SSM Policy. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the CAA for malfunction events (*see* section VII.B of this notice), the EPA's interpretation of the CAA is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304. Furthermore, Virginia's SIP provision is deficient because even if it attempts to create an affirmative defense rather than an automatic exemption from the emission limitations, it does so with conditions that are not consistent with the criteria that the EPA recommends in the SSM Policy. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that 9 Va. Admin. Code § 5–20–180(G) does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision under the CAA. The EPA believes that the inclusion of the complete bar to liability, including injunctive relief, and the insufficiently robust qualifying criteria in 9 Va. Admin. Code § 5–20–180(G) are substantial inadequacies and render this specific SIP provision impermissible.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to 9 Va. Admin. Code § 5–20–180(G). The EPA believes

¹⁰⁹ Petition at 70–71.

that this provision allows for an exemption from the otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs in sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, 9 Va. Admin. Code § 5–20–180(G) allows for such an exemption through a state official’s unilateral exercise of discretionary authority that includes no additional public process at the state or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions.

Moreover, even if the EPA were to consider 9 Va. Admin. Code § 5–20–180(G) as providing for an affirmative defense rather than an automatic exemption, the provision is not a permissible affirmative defense provision consistent with the requirements of the CAA as interpreted in the EPA’s SSM Policy. By purporting to create a bar to enforcement that applies not just to monetary penalties but also to injunctive relief, this provision is inconsistent with the requirements of CAA sections 113 and 304. By not including sufficient criteria to assure that sources seeking to raise the affirmative defense have in fact been properly designed, maintained, and operated, and to ensure that sources have taken all appropriate steps to minimize excess emissions, the provision also fails to be sufficiently narrowly drawn to justify shielding from monetary penalties for violations. Thus, this provision is not appropriate as an affirmative defense provision because it is inconsistent with fundamental requirements of the CAA.

For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

4. West Virginia

a. Petitioner’s Analysis

The Petitioner made four types of objections identifying inadequacies regarding startup, shutdown, and malfunction provisions in West Virginia’s SIP.¹¹⁰ First, the Petitioner objected to three specific provisions in the West Virginia SIP that allow for automatic exemptions from emission limitations, standards, and monitoring and recordkeeping requirements for excess emission during startup,

shutdown, or malfunction (W. Va. Code R. § 45–2–9.1, W. Va. Code R. § 45–7–10.3, and W. Va. Code R. § 45–40–100.8). The Petitioner objected because all three of these provisions provide exemptions from the otherwise applicable SIP emission limitations, and such exemptions are inconsistent with the requirements of the CAA as interpreted in the EPA’s SSM Policy. The Petitioner argued that the CAA and the EPA’s interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. The Petitioner also objected to all three of these provisions because, by providing an outright exemption from otherwise applicable requirements, the state has defined these excess emissions as not violations, thereby precluding enforcement by the EPA or citizens for the excess emissions that would otherwise be violations.

Second, the Petitioner objected to seven discretionary exemption provisions because these provisions provide exemptions from the otherwise applicable SIP emission limitations, and such exemptions are impermissible under the CAA because the statute and the EPA’s interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. The Petitioner noted that the provisions allow a state official to “grant an exception to the otherwise applicable visible emissions standards” due to “unavoidable shortage of fuel” or “any emergency situation or condition creating a threat to public safety or welfare” (W. Va. Code R. § 45–2–10.1), to permit excess emissions “due to unavoidable malfunctions of equipment” (W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, and W. Va. Code R. § 45–10–9.1), and to permit exceedances where the limit cannot be “satisfied” because of “routine maintenance” or “unavoidable malfunction” (W. Va. Code R. § 45–21–9.3). The Petitioner argued that these provisions could be read to preclude enforcement by the EPA or citizens in the event that the state official elects not to treat the event as a violation. Thus, in addition to creating an impermissible exemption for the excess emissions, the Petitioner argued, the SIP’s provisions are also inconsistent with the CAA as interpreted in the EPA’s SSM Policy because they allow the state official to make a unilateral decision that the excess emissions were not a violation and thus purport to bar enforcement for the excess emissions by the EPA and citizens.

Third, the Petitioner objected to the alternative limit imposed on hot mix asphalt plants during periods of startup and shutdown in W. Va. Code R. § 45–3–3.2 because it was “not sufficiently justified” under the requirements of source category-specific rules. The Petitioner argued that this provision could provide an unacceptable deviation during periods of startup and shutdown from the otherwise applicable SIP emission limitations, and such deviations are impermissible under the CAA because the statute and the EPA’s interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. Moreover, the Petitioner argued that the alternative limits do not appear to meet the criteria for a source category-specific rule as permitted under the Act as interpreted in the EPA’s SSM Policy.

Fourth, the Petitioner objected to a discretionary provision allowing the state to approve an alternative visible emission standard during startups and shutdowns for manufacturing processes and associated operations (W. Va. Code R. § 45–7–10.4). The Petitioner argued that such a provision “allows a decision of the state to preclude enforcement by EPA and citizens.”

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for automatic exemptions from otherwise applicable SIP emission limitations. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations of such limitations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunction are not violations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. Two of the automatic exemption provisions identified by the Petitioner explicitly state that the standards shall not apply or that certain operations “shall be exempt” during periods of startup, shutdown, malfunction, or maintenance (W. Va. Code R. § 45–2–9.1, W. Va. Code R. § 45–7–10.3). The third automatic exemption states that requirements for monitoring, recordkeeping, and reporting will not apply under certain circumstances (W. Va. Code R. § 45–40–100.8). Such an

¹¹⁰ Petition at 72–74.

exemption would affect the enforceability of the emission limitations and thus adversely affects the approvability of the emission limitations themselves. Moreover, failure to account accurately for excess emissions at sources during SSM events has a broader impact on NAAQS implementation and SIP planning, because such accounting directly informs the development of emissions inventories and emissions modeling. The exemptions therefore provide that the resulting excess emissions will not be violations, which is contrary to the requirements of the CAA. The EPA believes that the inclusion of such automatic exemptions from emission limitations in W. Va. Code R. § 45–2–9.1, W. Va. Code R. § 45–7–10.3, and W. Va. Code R. § 45–40–100.8, is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

With respect to the Petitioner's concern that these exemptions preclude enforcement by the EPA or citizens, the EPA agrees that this is one of the critical reasons why such provisions are impermissible under the CAA. By having SIP provisions that define what would otherwise be violations of the applicable emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations.

The EPA also agrees that the CAA does not allow for discretionary exemptions from otherwise applicable SIP emission limitations. As noted above, in accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions such as W. Va. Code R. § 45–2–10.1, W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, W. Va. Code R. § 45–10–9.1, and W. Va. Code R. § 45–21–9.3 that create exemptions by permitting the state to determine that the excess emissions during startup, shutdown, load change, or emergencies are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that the inclusion of these discretionary

exemptions in the SIP is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

The EPA believes that W. Va. Code R. § 45–2–10.1, W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, W. Va. Code R. § 45–10–9.1, and W. Va. Code R. § 45–21–9.3 are also impermissible because these provisions purport to make a state official the unilateral arbiter of whether the excess emissions in a given malfunction, maintenance, or emergency event constitute a violation. In the case of W. Va. Code R. § 45–2–10.1, the provision allows the state official to "grant an exception to the otherwise applicable visible emissions standards" due to "unavoidable shortage of fuel" or "any emergency situation or condition creating a threat to public safety or welfare." W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, and W. Va. Code R. § 45–10–9.1 permit excess emissions "due to unavoidable malfunctions of equipment." The provision at W. Va. Code R. § 45–21–9.3 permits exceedances where the limit cannot be "satisfied" because of "routine maintenance" or "unavoidable malfunction."

These provisions authorize the state official to judge that violations have not occurred even though the emissions exceeded the applicable SIP emission limitations. The SIP's provisions therefore vest the state official with the unilateral power to grant exemptions from otherwise applicable SIP emission limitations, without any additional public process at the state or federal level. By deciding that an exceedance of the emission limitation was not a "violation," exercise of this discretion could preclude enforcement by the EPA or through a citizen suit. Most importantly, however, the provision purports to authorize the state official to create an exemption from the otherwise applicable SIP emission limitation, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the emission limitations and the emissions reductions they are intended to achieve and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of director's discretion provisions in W. Va. Code R. § 45–2–10.1, W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, W. Va. Code R. § 45–10–9.1, and W. Va. Code R. § 45–21–9.3 is thus a substantial inadequacy and renders these specific SIP provisions

impermissible for this reason, in addition to the creation of an impermissible exemption.

The EPA notes that while the CAA does not allow for exemptions for excess emissions, it does, as discussed in section VII.A of this notice, permit states to develop alternative emission limitations or other forms of enforceable control measures or techniques that apply during startup or shutdown. W. Va. Code R. § 45–3–3.2 and W. Va. Code R. § 45–2–10.2¹¹¹ do not appear to comply with the Act's requirements as interpreted in the EPA's SSM Policy. The alternative smoke and/or particulate matter limitation on hot mix asphalt plants that applies during periods of startup and shutdown (W. Va. Code R. § 45–3–3.2) does not comply with the CAA as interpreted in the EPA's policy because, for instance, it does not apply only to "specific, narrowly-defined source categories using specific control strategies."¹¹² W. Va. Code R. § 45–2–10.2, which allows fuel-burning units employing flue gas desulphurization systems to bypass such systems during "necessary planned or unplanned maintenance" and provides an alternative limit of 20-percent opacity during such periods, also does not comply with the CAA as interpreted in the EPA's SSM Policy. The EPA believes that such special emission limitations or emissions controls may be appropriate during startup or shutdown, but other modes of normal source operation, including maintenance, should be accounted for in the development of the emission limitations themselves. The EPA believes that the inclusion of alternative limits that do not meet the requirements of the CAA as interpreted in the EPA's SSM Policy in W. Va. Code R. § 45–3–3.2 and W. Va. Code R. § 45–2–10.2 is thus a substantial inadequacy and renders these specific SIP provisions impermissible for this reason.

The EPA also agrees that the discretionary provision allowing a state official to approve an alternative visible emission standard during startups and shutdowns for manufacturing processes and associated operations (W. Va. Code R. § 45–7–10.4) does not comply with the CAA or the EPA's SSM Policy interpreting the CAA. These provisions purport to authorize the state official to establish alternative limits for excess emissions during periods of startup and shutdown (or, potentially, to exempt

¹¹¹ The EPA notes that the Petitioner specifically focused on concern with W. Va. Code R. § 45–2–10.1, but the same issue affects W. Va. Code R. § 45–2–10.2.

¹¹² 1999 SSM Guidance Attachment at 4–5.

those emissions altogether) on a case-by-case basis, and these provisions do not require the state official to consult with the EPA or to have those alternative limits approved by the EPA into the SIP, contrary to the EPA's SSM Policy interpreting the requirements of the CAA. The EPA believes that the inclusion of these alternative limitations, which do not comply with the EPA's interpretations of the requirements of the CAA, in W. Va. Code R. § 45-3-3.2 and W. Va. Code R. § 45-7-10.4, is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to W. Va. Code R. § 45-2-9.1, W. Va. Code R. § 45-7-10.3, and W. Va. Code R. § 45-40-100.8. The EPA believes that each of these provisions allows for automatic exemptions from the otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to these provisions.

The EPA proposes to grant the Petition with respect to W. Va. Code R. § 45-2-10.1, W. Va. Code R. § 45-3-7.1, W. Va. Code R. § 45-5-13.1, W. Va. Code R. § 45-6-8.2, W. Va. Code R. § 45-7-9.1, W. Va. Code R. § 45-10-9.1, and W. Va. Code R. § 45-21-9.3. The EPA believes that these provisions allow for discretionary exemptions from otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, these provisions allow for exemptions through a state official's unilateral exercise of discretionary authority that includes no additional public process at the state or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions.

The EPA also proposes to grant the Petition with respect to W. Va. Code R. § 45-3-3.2, W. Va. Code R. § 45-2-10.2, and W. Va. Code R. § 45-7-10.4. The W. Va. Code R. § 45-3-3.2 applies to a broad category of sources and is not narrowly limited to a source category that uses a specific control strategy, as required by the EPA's SSM Policy interpreting the CAA. Similarly, W. Va. Code R. § 45-2-10.2 is inconsistent with the EPA's SSM Policy interpreting the CAA because it is an alternative limit that applies during periods of maintenance, and such alternative limits are only permissible during periods of startup and shutdown. The W. Va. Code R. § 45-7-10.4 allows state officials the discretion to establish alternative visible emissions standards during startup and shutdown upon application. This provision is inconsistent with the EPA's SSM Policy and requirements under the Act because, for example, the emission limitations are required to be developed in consultation with the EPA and must be included in the SIP itself. For these reasons, the EPA is proposing to find that W. Va. Code R. § 45-3-3.2, W. Va. Code R. § 45-2-10.2, and W. Va. Code R. § 45-7-10.4 are substantially inadequate to meet CAA requirements and is thus proposing to issue a SIP call with respect to these provisions.

E. Affected States and Local Jurisdictions in EPA Region IV

1. Alabama

a. Petitioner's Analysis

The Petitioner objected to two generally applicable provisions in the Alabama SIP that allow for discretionary exemptions during startup, shutdown, or load change (Ala Admin Code Rule 335-3-14-.03(1)(h)(1)), and during emergencies (Ala Admin Code Rule 335-3-14-.03(1)(h)(2)).^{113 114} First, the Petitioner objected because both of these provisions provide exemptions from the otherwise applicable emission limitations, and such exemptions are inconsistent with the requirements of the CAA and the EPA's SSM Policy. The Petitioner argued that the CAA and the EPA's interpretation of the CAA in the

¹¹³ Petition at 17-18.

¹¹⁴ The EPA notes that the Petitioner also identified several additional pollutant-specific and source category-specific provisions in the Alabama SIP that it alleged are inconsistent with the CAA and the EPA's SSM Policy. However, the Petitioner did not request that the EPA address those SIP provisions in its remedy request, and thus the EPA is not addressing those provisions in this action. The EPA may elect to evaluate those provisions in a later action.

SSM Policy require that all such excess emissions be treated as violations.

Second, the Petitioner objected to the discretionary exemptions for excess emissions during startup, shutdown, or load change that are also present in Ala Admin Code Rule 335-3-14-.03(1)(h)(1) because the emissions during such events can be reasonably avoided. The Petitioner noted that such events are part of normal source operation and that any special treatment of excess emissions during such events must be justified with a showing that the excess emissions could not be avoided through careful planning and design, and that bypassing controls in such events is necessary to prevent loss of life, personal injury, or severe property damage.

Third, the Petitioner objected to the discretionary emergency exemption provision that also is present in Ala Admin Code Rule 335-3-14-.03(1)(h)(2), because the provision gives the state "sole authority to determine whether or not a violation has occurred." The Petitioner argued that this provision could be read to preclude enforcement by the EPA or citizens in the event that the state elects not to treat the event as a violation. Thus, in addition to creating an impermissible exemption for the excess emissions, the Petitioner argued that the provision is also inconsistent with the CAA and the EPA's SSM Policy because it allows the state to make a unilateral decision that the excess emissions were not a violation and thus purports to bar enforcement for the excess emissions by the EPA and citizens.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitations must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, load change, or emergencies are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes

that the inclusion of such exemptions from the emission limitations in Ala Admin Code Rule 335-3-14-.03(1)(h)(1) and Ala Admin Code Rule 335-3-14-.03(1)(h)(2) is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

In addition, the EPA agrees that startup, shutdown, and load change are all part of normal source operation and that such events are usually planned for and predictable, and thus emissions during such events are more controllable than those that might occur during an "emergency" or other form of malfunction. Unlike excess emissions in malfunctions, which are by definition presumed to be beyond the reasonable control of the source through proper design, operation, and maintenance, excess emissions that occur during startup, shutdown, or load change can be anticipated and steps can be taken to minimize them. The Petitioner, citing the 1983 SSM Guidance, argued that the EPA's SSM Policy indicates that there should be "a higher showing to escape enforcement" during such planned events. While such a higher showing may be relevant in the context of whether a state elects to exercise its enforcement discretion, it should not be germane to whether or not the excess emissions constitute a violation of the applicable emission limitations. The EPA notes that the CAA does not allow exemptions for excess emissions during startup, shutdown, or load change, just as it does not allow such exemptions during malfunctions. As discussed in section VII.A of this notice, states may elect to develop alternative emission limitations or other forms of enforceable control measures or techniques that apply during startup and shutdown, but exemptions for excess emissions during such periods are inconsistent with the fundamental requirements of the CAA.

Finally, the EPA believes that both Ala Admin Code Rule 335-3-14-.03(1)(h)(1) and Ala Admin Code Rule 335-3-14-.03(1)(h)(2) are also impermissible as unbounded director's discretion provisions that make a state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation. In the case of Ala Admin Code Rule 335-3-14-.03(1)(h)(1), the provision authorizes a state official unilaterally to "[] in the Air Permit, exempt on a case by case basis any exceedances of emission limits which cannot reasonably be avoided, such as during periods of start-up, shut-down or load change." This provision vests the state official with the unilateral power to grant in a state air permit, which may not provide any additional public process at the state or

federal level, an exemption from the otherwise applicable emission limitations without any bounds or parameters to the exercise of this discretion. By deciding that an exceedance of the emission limitation will not be a "violation," exercise of this discretion could preclude enforcement by the EPA or the public who may not agree that the emissions in question could not "reasonably be avoided." Most importantly, however, the provision authorizes the state official to create an exemption from the emission limitations, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the SIP emission limitations and the emissions reductions they are intended to achieve and renders them less enforceable by the EPA or through a citizen suit. As discussed in section VII.A of this notice, such provisions are substantially inadequate to meet CAA requirements.

Similarly, the EPA believes that Ala Admin Code Rule 335-3-14-.03(1)(h)(2) authorizes a state official unilaterally to decide that a given event was an "emergency" and thus to create an exemption from the otherwise applicable emission limitations. In this case, the provision does contain some general parameters for the source to establish that there was an emergency (e.g., the source has to "identify" the cause of the emergency) but nevertheless empowers the state official to make a unilateral determination as to whether the event was an emergency. The provision thus vests the official with the power to grant an exemption from the otherwise applicable SIP emission limitations without any additional public process at the state or federal level, and with insufficient bounds or parameters applicable to the exercise of this discretion. Again, most significantly, this discretion authorizes the creation of an exemption on a case-by-case basis that is not permissible in the first instance. Thus, this provision also may undermine the SIP emission limitations, and the emissions reductions they are intended to achieve, and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of an insufficiently bounded director's discretion provision in Ala Admin Code Rule 335-3-14-.03(1)(h)(1) and Ala Admin Code Rule 335-3-14-.03(1)(h)(2) is thus a substantial inadequacy and renders these specific SIP provisions impermissible for this reason, in addition to the creation of impermissible exemptions.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Ala Admin Code Rule 335-3-14-.03(1)(h)(1) and Ala Admin Code Rule 335-3-14-.03(1)(h)(2). The EPA believes that both of these provisions allow for exemptions from the otherwise applicable emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, Ala Admin Code Rule 335-3-14-.03(1)(h)(1) and Ala Admin Code Rule 335-3-14-.03(1)(h)(2) both allow for such exemptions through a state official's unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the discretion created by these provisions allows case-by-case exemptions from emission limitations, when such exemptions are not permissible in the first instance. For these reasons, the EPA is proposing to find that Ala Admin Code Rule 335-3-14-.03(1)(h)(1) and Ala Admin Code Rule 335-3-14-.03(1)(h)(2) are substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to these provisions.

2. Florida

a. Petitioner's Analysis

The Petitioner objected to three specific provisions in the Florida SIP that allow for generally applicable automatic exemptions for excess emissions during startup, shutdown, or malfunction (Fla. Admin. Code Ann Rule 62-201.700(1)), for fossil fuel steam generators during startup and shutdown (Fla. Admin. Code Ann Rule 62-201.700(2)), and for such sources during boiler cleaning and load change (Fla. Admin. Code Ann Rule 62-201.700(3)).^{115 116} The Petitioner objected because all three of these provisions provide exemptions from the otherwise applicable SIP emission limitations, and such exemptions are

¹¹⁵ Petition at 30-31.

¹¹⁶ The EPA notes that the Petitioner also identified several additional pollutant-specific and source category-specific provisions in the Florida SIP that it alleged are inconsistent with the CAA and the EPA's SSM Policy. However, the Petitioner did not request that the EPA address those SIP provisions in its remedy request, and thus the EPA is not addressing those provisions in this action. The EPA may elect to evaluate those provisions in a later action.

inconsistent with the requirements of the CAA and the EPA's SSM Policy. The Petitioner argued that the CAA and the EPA's interpretation of the CAA in the SSM Policy require that all excess emissions be treated as violations.

The Petitioner objected to all three of these provisions because, by stating that the excess emissions during the relevant events and time periods "are permitted," the state has defined these excess emissions as not violations, thereby precluding enforcement by the EPA or citizens for the excess emissions that would otherwise be violations. The Petitioner also argued that the provision creating exemptions for excess emissions during boiler cleaning and load change in Fla. Admin. Code Ann Rule 62–201.700(3) is impermissible specifically because it creates an exemption for excess emissions during normal source operation that "are not eligible for any relief under EPA guidance."

After objecting to the three provisions that create the exemptions, the Petitioner noted that the related provision in Fla. Admin. Code Ann Rule 62–201.700(4) reduces the potential scope of the exemptions in the other three provisions if the excess emissions at issue are caused entirely or in part by things such as poor maintenance but that it does not eliminate the impermissible exemptions. Moreover, the Petitioner asserted that none of the four provisions provides any "procedure by which the factual premises of any of these subsections are to be proven."

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable emission limitations. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable SIP emission limitations must be considered violations of such limitations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, malfunction, boiler cleaning, or load change are not violations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The three provisions identified by the Petitioner explicitly state that the excess emissions "shall be permitted" under certain

circumstances and thus provide that the resulting excess emissions will not be violations contrary to the CAA, as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). The EPA believes that the inclusion of such exemptions from emission limitations in Fla. Admin. Code Ann Rule 62–201.700(1), Fla. Admin. Code Ann Rule 62–201.700(2) and Fla. Admin. Code Ann Rule 62–201.700(3), is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

The EPA notes that these exemptions are impermissible even though the state has imposed some factual and temporal limitations on their potential scope. For example, in Fla. Admin. Code Ann Rule 62–201.700(1), the state has specified that the excess emissions from startup, shutdown, and malfunction events "shall be permitted" (*i.e.*, allowed and thus not treated as violations) provided: "(1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration." Similarly, in Fla. Admin. Code Ann Rule 62–201.700(2) with respect to startup and shutdown from certain sources, the state has conditioned the exemption "provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized." In Fla. Admin. Code Ann Rule 62–201.700(3), the state has imposed much more specific limits on the duration of the events and some additional limitations on the excess emissions in the form of specified opacity limits that apply during such events. Although these extra limitations on the scope of the exemptions are helpful features, they nevertheless constitute a variance at a state official's discretion from the otherwise applicable emissions limitations, and the core problem remains that each of the three provisions provides impermissible exemptions from the emission limitations by defining the excess emissions as "permitted" and thus not violations. The CAA does, as discussed in section VII.A of this notice, allow states to develop alternative emission limitations or other forms of enforceable control measures or techniques that apply during startup or shutdown. However, the Florida SIP provisions do not appear to comply with the Act's requirements as interpreted in the EPA's SSM Policy because, for instance, they do not apply only to "specific,

narrowly-defined source categories using specific control strategies."¹¹⁷

With respect to the Petitioner's concern that these exemptions preclude enforcement by the EPA or citizens, the EPA agrees that this is one of the critical reasons why such provisions are impermissible under the CAA. By having SIP provisions that define what would otherwise be violations of the applicable emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations.

In addition, the EPA agrees that the limiting provision of Fla. Admin. Code Ann Rule 62–201.700(4) that curtails the exemptions in the prior provisions if the excess emissions are caused "entirely or in part" by factors within the source's control such as "poor maintenance" does not negate the underlying problem of providing exemptions for the excess emissions in the first instance. The EPA acknowledges that this provision would serve to prevent sources that fail to maintain or operate correctly or otherwise to take action reasonably to prevent excess emissions during SSM events from getting the benefits of the exemption. However, the EPA recommends that these are the types of considerations that should be relevant either in the state's exercise of enforcement discretion for violations, in the state's adoption of a SIP provision concerning that exercise of enforcement discretion by the state, or by an appropriately drawn affirmative defense SIP provision for excess emissions in the case of malfunctions.

Finally, the Petitioner expressed concern that the four SIP provisions at issue "do not specify the procedure by which the factual premises are to be proven." Were these provisions authorizing a state official to make discretionary decisions as to whether or not a given event qualified for the (impermissible) exemption, there could be an additional concern that these provisions included a director's discretion problem as well. However, the EPA believes that these regulations are directly enforceable by the state, the EPA, or members of the public in the appropriate forums, and thus the "procedure" for proving the violation would be the normal process in such forums. The fact that the state has established factual requirements that would need to be evaluated in order to prove a violation of the applicable emission limitations is not itself inconsistent with CAA requirements. The EPA believes that providing

¹¹⁷ 1999 SSM Guidance Attachment at 4–5.

requisite factual evidence to establish a violation in an enforcement proceeding is entirely appropriate.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Fla. Admin. Code Ann Rule 62–201.700(1), Fla. Admin. Code Ann Rule 62–201.700(2), Fla. Admin. Code Ann Rule 62–201.700(3), and Fla. Admin. Code Ann Rule 62–201.700(4). The EPA believes that each of these provisions allows for exemptions from the otherwise applicable emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to Fla. Admin. Code Ann Rule 62–201.700(1), Fla. Admin. Code Ann Rule 62–201.700(2), Fla. Admin. Code Ann Rule 62–201.700(3), and Fla. Admin. Code Ann Rule 62–201.700(4).

3. Georgia

a. Petitioner's Analysis

The Petitioner objected to a provision in the Georgia SIP that provides for exemptions for excess emissions during startup, shutdown, or malfunctions under certain circumstances (Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7)).¹¹⁸ The Petitioner acknowledged that this provision of the Georgia SIP includes some conditions for when sources may be entitled to seek the exemption under state law, such as when the source has used “best operational practices” to minimize emissions during the SSM event.

First, the Petitioner objected because the provision creates an exemption from the applicable emission limitations by providing that the excess emissions “shall be allowed” subject to certain conditions, whereas the CAA and the EPA's interpretation of the CAA in the SSM Policy prohibit any such exemptions. The Petitioner noted that all excess emissions are required to be treated as violations of the applicable emission limitations, even if they would qualify for some other special

consideration through other means such as enforcement discretion.

Second, the Petitioner argued that although the provision provides some “substantive criteria,” the provision does not meet the criteria the EPA recommends for an affirmative defense provision consistent with the requirements of the CAA in the EPA's SSM Policy. Third, the Petitioner asserted that the provision is not a permissible “enforcement discretion” provision applicable only to state personnel, because it “is susceptible to interpretation as an enforcement exemption, precluding EPA and citizen enforcement as well as state enforcement.”

b. The EPA's Evaluation

At the outset, the EPA notes that the Petitioner failed to include any discussion of the extensive prior litigation and administrative proceedings concerning this specific provision of the Georgia SIP. Nearly 10 years ago, citizen suit plaintiffs including the Petitioner sought to bring an enforcement action against a source for self-reported exceedances of emission limitations in the source's operating permit, and the source asserted that those exceedances were not “violations” through application of a permit provision that mirrored the underlying SIP provision in Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7).¹¹⁹ In that case, the plaintiffs argued that the provision at issue was an “enforcement discretion” provision applicable to state personnel only and thus that it was not relevant in the event of enforcement actions by other parties. The District Court agreed and held that the provision was merely an enforcement discretion provision applicable to the state and that it provided no affirmative defense in the enforcement action, and thus the court ruled in favor of the plaintiffs on this issue.¹²⁰

On appeal, the Court of Appeals examined the same operating permit language and underlying SIP provision and came to a different conclusion.¹²¹ The Court of Appeals concluded that the provision does provide an affirmative defense and is not an enforcement discretion provision. Moreover, the Court noted that even if

¹¹⁹ See, *Sierra Club, et al. v. Georgia Power Co.*, 365 F. Supp 1297 (N.D. Ga. 2004).

¹²⁰ *Id.* at 1304. The court also made a series of findings to illustrate that the permit provision was not consistent with the EPA's interpretation of the CAA requirements concerning excess emissions during SSM events embodied in the 1999 SSM Guidance.

¹²¹ See, *Sierra Club, et al. v. Georgia Power Co.*, 443 F.3d 1346 (11th Cir. 2006).

the provision is not consistent with the EPA's guidance on permissible affirmative defense provisions in SIPs (e.g., because it creates exemptions for exceedances and purports to allow a complete bar to any liability, not just relief from monetary penalties), the EPA had not taken action through rulemaking to rectify that discrepancy. Because the EPA had not called upon the state to revise the SIP to bring it into compliance with the EPA's current interpretation of the CAA embodied in the 1999 SSM Guidance, the Court held that the exceedances of the applicable emission limitations were not violations and thus ruled against the plaintiffs.

Contemporaneously with this litigation, the Petitioner had also filed a May 23, 2005 petition for rulemaking, requesting that the EPA require the state to revise its SIP “to correct a significant ambiguity” concerning the excess emissions from SSM events.¹²² On July 18, 2007, the EPA denied that petition.¹²³ As a basis for this denial, the EPA reasoned that the opinion of the Court of Appeals had rendered the petition moot as to the issues raised therein. Specifically, the EPA stated that the Court's decision that the existing provision did not create an “automatic exemption” and did constitute an “affirmative defense” resolved any “ambiguity” about the meaning and application of Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7).

At this juncture, the EPA believes that the extensive proceedings concerning Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7) in which plaintiffs, defendants, courts, and both state and federal agencies examined the same provision and came to different conclusions concerning its meaning illustrates the need to examine this SIP provision again. In particular, the EPA concludes that the provision warrants further evaluation on the merits, because the Petition requests that the EPA consider more specific allegations about deficiencies in the provision than did the 2005 petition. As the 11th Circuit Court of Appeals suggested, the EPA agrees that a formal notice-and-comment rulemaking through CAA section 110(k)(5) is a good mechanism through which to evaluate whether or not Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7) meets the substantive requirements of the CAA. Accordingly,

¹²² The petition was filed by Richard M. Watson of the Georgia Center for Law in the Public Interest on behalf of the Georgia Chapter of the Sierra Club.

¹²³ See, Letter from Stephen E. Johnson, Administrator, to Georgia Chapter of the Sierra Club, dated July 18, 2007. A copy of this letter is in the docket for this action.

¹¹⁸ Petition at 32.

the EPA is reevaluating the provision on the merits.¹²⁴

The first concern with this provision is that it does create exemptions from the applicable emission limitations. The provision explicitly states that the "excess emissions resulting from startup, shutdown, malfunction of any source which occur through ordinary diligence is employed shall be allowed," *i.e.*, are exempt and not subject to enforcement for either monetary penalties or injunctive relief. The exemption for these excess emissions is conditioned upon several criteria relevant to minimizing emissions during the startup, shutdown, or malfunction event, which criteria are helpful and are structured as a form of affirmative defense. Even if Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) could otherwise qualify as an affirmative defense provision, however, the EPA's interpretation of the CAA is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304.

The EPA's second concern with Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) is that while the provision appears to create an affirmative defense, it does so with conditions that are not consistent with the full range of criteria that the EPA recommends in the SSM Policy. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision. In particular, the provision does not limit the type of event that qualifies as a malfunction to those that are entirely beyond the control of the source, that were not reasonably foreseeable and avoidable, and that were not part of a recurring pattern indicative of inadequate design, operation, or maintenance. While the EPA continues to believe that affirmative defense provisions applying to malfunctions can be consistent with the CAA as long as the criteria set forth

in the SSM Policy are carefully adhered to, as explained in more detail in sections IV.B and VII.B of this notice, the EPA believes that the criteria in Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) should be augmented to assure that the affirmative defense is available only in appropriately narrow circumstances.

The EPA's third concern with Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) is that even if the provision were otherwise construed as an affirmative defense, it extends not just to malfunctions but also to startup and shutdown events. As explained in sections IV.B and VII.C of this notice, the EPA interprets the CAA to allow affirmative defense provisions applicable to malfunctions but not to other normal modes of source operation, including startup and shutdown. Thus, the provision is not drawn to assure that the affirmative defense is available only in appropriately narrow circumstances, as required by the EPA's interpretation of CAA requirements.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7). The EPA believes that this provision allows for exemptions from the otherwise applicable emission limitations, and that such outright exemptions for excess emissions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. Such a provision is inconsistent with the requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k).

In addition, Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) is not a permissible affirmative defense provision consistent with the requirements of the CAA and the EPA's recommendations for such provisions in the EPA's SSM Policy. By creating a bar to enforcement that applies not just to monetary penalties but also to injunctive relief, this provision is inconsistent with the requirements of CAA sections 113 and 304. By not including sufficient criteria to assure that sources seeking to raise the affirmative defense have in fact been properly designed, maintained, and operated, and to assure that sources have taken all appropriate steps to minimize excess emissions, the provision also fails to be sufficiently narrowly drawn to justify shielding from monetary penalties for violations. Moreover, Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) currently applies not only to malfunctions but also to startup and shutdown events, contrary to the EPA's interpretation of the CAA. Thus, this provision is not appropriate as an affirmative defense provision because it

is inconsistent with fundamental requirements of the CAA as interpreted in the EPA's SSM Policy. For these reasons, the EPA is proposing to find that Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(7) is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

4. Kentucky

a. Petitioner's Analysis

The Petitioner objected to a generally applicable provision that allows discretionary exemptions from otherwise applicable SIP emission limitations in Kentucky's SIP (401 KAR 50:055 § 1(1)).^{125 126} The provision provides that "[e]missions which, due to shutdown or malfunctions, temporarily exceed the standard * * * shall be deemed in violation of such standards unless the requirements of this section are satisfied and the determinations specified in subsection (4) * * * are made." The provision requires sources to notify the director that such violations are going to or have occurred. The provision then provides that "[a] source shall be relieved from compliance with the standards * * * if the director determines" that the source has met a number of enumerated criteria.

The Petitioner argued that this provision could provide an exemption from the otherwise applicable SIP emission limitations, and such an exemption is impermissible under the CAA because the statute and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. Moreover, the Petitioner objected to this discretionary exemption because the director's determination that the source has met the specified criteria could be interpreted to excuse excess emissions during such time period and could thus be read to preclude enforcement by the EPA or citizens in the event that the director elects not to treat the event as a violation. Thus, in addition to creating an impermissible exemption for the excess emissions, the Petitioner argued, the provision is also inconsistent with the CAA as interpreted in the EPA's SSM Policy because it allows the

¹²⁵ Petition at 39-40.

¹²⁶ The EPA notes that the Petitioner also identified several additional pollutant-specific and source category-specific provisions in Kentucky's SIP that it alleged are inconsistent with the CAA and the EPA's SSM Policy. However, the Petitioner did not request that the EPA address those SIP provisions in its remedy request, and thus the EPA is not addressing those provisions in this action. The EPA may elect to evaluate those provisions in a later action.

¹²⁴ The EPA notes that it is not bound to follow a prior incorrect interpretation of its own policy, nor is it precluded from changing its policy interpretations. See, e.g., *Luminant Generation Co. v. EPA*, 699 F.3d 427 (5th Cir. 2012), and U.S. Supreme Court precedent cited therein for these propositions.

director to make a unilateral decision that the excess emissions were not a violation and thus could bar enforcement for the excess emissions by the EPA and citizens.

The Petitioner noted that the criteria that sources must demonstrate to the director in order to qualify for the exemption “resemble the criteria that are supposed to guide a state’s enforcement discretion for malfunctions,” but that if the provision is not removed from the SIP, it “must stipulate that all excess emissions are violations and preserve the authority of EPA and citizens to enforce the SIP standards and limitations.” Thus, the Petitioner viewed this provision as either an impermissible discretionary exemption mechanism or an impermissible enforcement discretion provision.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official’s discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunctions are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that the inclusion of such an exemption from the emission limitations in 401 KAR 50:055 § 1(1) is thus a substantial inadequacy and renders this specific SIP provision impermissible.

The EPA believes that 401 KAR 50:055 § 1(1) is impermissible as an unbounded director’s discretion provision that makes a state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation. In the case of 401 KAR 50:055 § 1(1), the provision authorizes the state official to make a determination that the source has met the specified criteria, and such a determination could be interpreted to excuse excess emissions during the event and could thus be read to preclude enforcement by the EPA or through a citizen suit. In addition, the

provision vests a state official with the unilateral power to grant an exemption from the otherwise applicable SIP emission limitation, without any additional public process at the state or federal level. Most importantly, however, the provision authorizes a state official to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. Such a director’s discretion provision undermines the SIP emission limitations, and the emissions reductions they are intended to achieve, and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of an insufficiently bounded director’s discretion provision in 401 KAR 50:055 § 1(1) is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason, in addition to the creation of an impermissible exemption.

The EPA also notes that after the submission of the Petition, there has been a subsequent regulatory action that touched upon this SIP provision tangentially. In connection with a redesignation of the Kentucky portion of the tri-state Cincinnati-Hamilton area for the 1997 PM_{2.5} NAAQS, the state submitted an interpretive letter to the EPA explaining the state’s reading of 401 KAR 50:055 § 1(1).¹²⁷ In this November 4, 2011 letter, the Kentucky Division of Air Quality (KDAQ) stated that it has “never formally taken the position that excess emissions under the regulations are not violations” and that a determination by KDAQ “does not limit” the authority of the EPA and citizens to take enforcement action.¹²⁸ Based on the state’s interpretation of 401 KAR 50:055 § 1(1), the EPA at that time concluded that the provision could be construed not to bar enforcement by the EPA or through a citizen suit if the state elects not to pursue enforcement; *i.e.*, it could be construed as an enforcement discretion provision applicable to state personnel. In the context of acting upon the redesignation request under CAA section 107(d)(3), this clarification from the state was sufficient to address the concern raised in comments on that action. Nevertheless, the EPA noted in the redesignation action that it would evaluate 401 KAR 50:055 § 1(1) as part

¹²⁷ See, “Approval and Promulgation of Implementation Plans and Designations of Areas for Air Quality Planning Purposes; Kentucky; Redesignation of the Kentucky Portion of the Cincinnati-Hamilton, OH-KY-IN 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment,” 76 FR 77903 (Dec. 15, 2011).

¹²⁸ A copy of this letter can be found in the docket for this rulemaking.

of its consideration of issues raised by the Petition.

At this juncture, the EPA believes that the difference of views about the correct reading of 401 KAR 50:055 § 1(1) illustrates the need to examine this SIP provision again. The EPA appreciates KDAQ’s clarification of its reading of the provision in the November 4, 2011, letter and the EPA considers that interpretation sufficient for purposes of the redesignation action. However, in the course of reevaluating this provision in light of the issues raised in the Petition, the EPA believes that the provision contains regulatory language that is potentially contradictory and requires formal revision to eliminate significant ambiguities. For example, subsection 1 of the provision states that: “[e]missions which, due to shutdown or malfunctions, temporarily exceed the standard * * * shall be deemed in violation of such standards unless the requirements of this section are satisfied.” In subsection 4, the provision states that “a source shall be relieved from compliance with the standards * * * if the director determines, upon a showing by the owner or operator of the source, that” certain conditions are met. KDAQ has indicated that it reads these provisions not to bar enforcement by the EPA or through a citizen suit in the event that the state does not pursue enforcement, but the EPA believes that the provision is sufficiently ambiguous on this point that a revision is necessary to ensure that outcome in the event of an enforcement action.

As discussed in section VI.B of this notice, the EPA believes that in some instances it is appropriate to clarify provisions of a SIP through the use of interpretive letters. However, in some cases, there may be areas of regulatory ambiguity in a SIP’s provisions that are sufficiently significant for which resolution is both appropriate and necessary. Because the text of Kentucky’s SIP provision is not clearly phrased in terms of the state’s exercise of enforcement discretion and could be interpreted to allow discretionary exemptions from the otherwise applicable SIP emission limitations or as an affirmative defense provision inconsistent with the criteria recommended in the EPA’s SSM Policy, the EPA believes that the provision is substantially inadequate to meet CAA requirements.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to 401 KAR 50:055 § 1(1). The EPA believes that this provision requires clarification to ensure that it meets CAA requirements.

The current provision could be read to allow for exemptions from the otherwise applicable SIP emission limitations, and such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs in sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, 401 KAR 50:055 § 1(1) could be read to allow exemptions through a state official's unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the provision could be read to create discretion to allow case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance. In light of the potential conflicts between the provision and the differing interpretations that parties or a court might give the provision in an enforcement action, the EPA is proposing to find that 401 KAR 50:055 § 1(1) is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

5. Kentucky: Jefferson County
a. Petitioner's Analysis

First, the Petitioner objected to a generally applicable provision in the Jefferson County Air Regulations 1.07 because it provides for discretionary exemptions from compliance with emission limitations during startup, shutdown, and malfunction.^{129 130} The provision states that “[e]missions due to startup, shutdown, malfunction, or emergency, that temporarily exceed the standards * * * shall be deemed in violation of those standards unless, based upon a showing by the owner or operator of the source and an affirmative determination by the District, the applicable requirements of this regulation are satisfied.” The provision requires different demonstrations for exemptions for excess emissions during startup and shutdown (Regulation 1.07 § 3), malfunction (Regulation 1.07 § 4 and § 7), and emergency (Regulation 1.07 § 5 and § 7).

¹²⁹ The Petitioner noted that this regulation was approved into Kentucky's SIP in “Approval and Promulgation of Air Quality Implementation Plans; Kentucky; Approval of Revisions to State Implementation Plan; Revised Format for Materials Being Incorporated by Reference for Jefferson County, Kentucky,” 66 FR 53503 at 53660 (Oct. 23, 2001).

¹³⁰ Petition at 40–42.

The Petitioner argued that this provision could provide exemptions from the otherwise applicable SIP emission limitations, and that such exemptions are impermissible under the CAA because the statute and the EPA's interpretation of the CAA in the SSM Policy require that all excess emissions be treated as violations. The Petitioner objected to this provision as allowing discretionary exemptions, because a local official's determination that the source has met the specified criteria could be interpreted to excuse excess emissions during such events and could thus be read to preclude enforcement by the EPA or citizens if the district elects not to treat the event as a violation.

Second, the Petitioner objected to the affirmative defense for emergencies in Jefferson County Air Regulations 1.07. The Petitioner noted that the SIP provision “mirrors the language in 40 C.F.R. § 70.6(g)” in the EPA's own title V regulations. Thus, the Petitioner argued that the provision should not be included in the SIP because it is modeled on the EPA's own title V regulations, and such regulations do not belong in the SIP. The Petitioner also argued that even if the provision were appropriate as a SIP provision, it is deficient because it is not a “true affirmative defense.” On the latter point the Petitioner argued that a “true affirmative defense” is a defense to be asserted by the source in the context of a judicial or administrative enforcement proceeding. The Petitioner opined that the emergency affirmative defense in Jefferson County Air Regulations 1.07 “appears to allow the District to decide whether the defense applies.”

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a government official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, load change, or emergencies are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA

with respect to emission limitations in SIPs. The EPA believes that the inclusion of such an exemption from the emission limitations in Jefferson County Air Regulations 1.07 is thus a substantial inadequacy and renders this specific SIP provision impermissible.

The EPA believes that Regulation 1.07 is also impermissible as an insufficiently bounded director's discretion provision that makes a local official the unilateral arbiter of whether the excess emissions in a given event constitute a violation. In the case of Regulation 1.07, the provision authorizes local officials to make a determination that the source has met the specified criteria for each type of event—startup and shutdown (Regulation 1.07 § 3), malfunction (Regulation 1.07 § 4), emergency (Regulation 1.07 § 5), and extended malfunction or emergency (Regulation 1.07 § 7). The local official's “affirmative determination” that such requirements have been met has the effect of excusing the excess emissions (Regulation 1.07 § 2.1). This determination could be interpreted to preclude enforcement by the EPA or through a citizen suit. In addition, the provision vests the local official with the unilateral power to grant an exemption from the otherwise applicable SIP emission limitations, without any additional public process at the state or federal level. Most importantly, however, the provision authorizes the local official to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the emission limitations, and the emissions reductions they are intended to achieve, and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of an insufficiently bounded director's discretion provision in Regulation 1.07 is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason, in addition to the creation of an impermissible exemption.

The EPA also agrees that Regulation 1.07 provides an impermissible exemption for excess emissions that occur during “emergencies.” The provision uses language that is borrowed from the EPA's title V regulations (Regulation 1.07 § 5) but that is not appropriate for a SIP provision (see section VII.D of this notice). In addition, because Regulation 1.07 § 2.1 provides that the district may make a determination of whether “applicable requirements” of the regulation are “satisfied,” and the affirmative defense

for emergencies is defined as one such “applicable requirement,” the structure of Regulation 1.07 could be read as providing the district with the unilateral discretion to decide that the source has met the conditions for the affirmative defense. The EPA agrees with the Petitioner that affirmative defenses are only permitted in the context of an enforcement proceeding and cannot be granted unilaterally by a state agency, because this would have the effect of precluding the EPA or the public from taking enforcement action.

Regulation 1.07 also does not explicitly limit the affirmative defense for emergency events to civil penalties. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the CAA for malfunction events (*see* sections IV.B and VII.B of this notice), the EPA’s interpretation of the CAA is that affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304. In addition, the provision does not contain elements for establishing the affirmative defense consistent with all of the recommended criteria in the EPA’s SSM Policy. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that Regulation 1.07 does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision for purposes of SIP requirements.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to Jefferson County Air Regulation 1.07.¹³¹ The EPA believes that this provision allows for exemptions from the otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs in sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In

¹³¹ The EPA notes that Kentucky has recently made a SIP submission that includes revisions to the portion of the SIP applicable to Jefferson County that would amend Regulation 1.07. In this action, the EPA is only evaluating Regulation 1.07 as currently approved into the SIP. The EPA is not evaluating the more recent SIP submission as part of this action. The EPA will address the SIP submission in a later action.

addition, Regulation 1.07 allows for such exemptions through a local official’s unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the discretion created by these provisions allows case-by-case exemptions from emission limitations, when such exemptions are not permissible in the first instance. For these reasons, the EPA is proposing to find that Regulation 1.07 is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

The EPA also proposes to grant the Petition because Regulation 1.07 contains an impermissible exemption for excess emissions during emergency events, conditioned upon an affirmative defense provision that is inconsistent with the criteria recommended in the EPA’s SSM Policy. Regulation 1.07 can be read to authorize the district to grant an exemption under § 2.1 and § 5, and such an interpretation could preclude the EPA and the public from bringing an enforcement action. Furthermore, the affirmative defense provision is impermissible because it does not explicitly limit the defense to monetary penalties, and it does not include sufficient criteria to assure that sources seeking to raise the affirmative defense have in fact been properly designed, maintained, and operated, and to assure that sources have taken all appropriate steps to minimize excess emissions. The provision therefore also fails to be sufficiently narrowly drawn to justify shielding from monetary penalties for violations. For these reasons, the EPA is proposing to find that Regulation 1.07 is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to this provision.

6. Mississippi

a. Petitioner’s Analysis

The Petitioner objected to two generally applicable provisions in the Mississippi SIP that allow for affirmative defenses for violations of otherwise applicable SIP emission limitations during periods of upset, *i.e.*, malfunctions (11–1–2 Miss. Code R. § 10.1) and unavoidable maintenance (11–1–2 Miss. Code R. § 10.3).¹³² First, the Petitioner objected to both of these provisions based on its assertion that the CAA allows no affirmative defense

¹³² Petition at 47–49.

provisions in SIPs. Second, the Petitioner asserted that even if affirmative defense provisions were permissible under the CAA, the affirmative defenses in these provisions “fall far short of the EPA policy.” Specifically, the Petitioner argued that the EPA’s guidance for affirmative defenses recommends that they “are not appropriate where a single source or a small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments,”¹³³ and Mississippi’s provisions do not contain a restriction to address this point. Further, the Petitioner argued that the affirmative defenses in Mississippi’s SIP are not limited to actions seeking civil penalties and that they fail to meet other criteria “that EPA requires for acceptable defense provisions.”¹³⁴ Finally, the Petitioner argued that the CAA and the EPA’s SSM Policy interpreting it do not allow affirmative defenses for excess emissions during maintenance events under any circumstances.

The Petitioner also objected to a generally applicable provision that provides an exemption from otherwise applicable SIP emission limitations during startup and shutdown (11–1–2 Miss. Code R. § 10.2).¹³⁵ Within that provision, 11–1–2 Miss. Code R. § 10.2(a)(2) specifies that emission limitations apply during startup and shutdown except “when a startup or shutdown is infrequent, the duration of the excess emissions is brief in each event, and the design of the source is such that the period of excess emissions cannot be avoided without causing damage to the equipment or persons.” The Petitioner argued that such an exemption is inconsistent with the requirements of the CAA and the EPA’s SSM Policy. The Petitioner argued that the CAA and the EPA’s interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations.

b. The EPA’s Evaluation

The EPA disagrees with the Petitioner’s contention that no affirmative defense provisions are permissible in SIPs under the CAA. As explained in more detail in section IV of this notice, the EPA interprets the CAA to allow affirmative defense provisions for malfunctions. So long as these provisions are narrowly drawn and consistent with the CAA, as recommended in the EPA’s guidance for affirmative defense provisions in SIPs,

¹³³ Petition at 48.

¹³⁴ Petition at 47–48.

¹³⁵ Petition at 47–49.

the EPA believes that states may elect to have affirmative defense provisions for malfunctions.

The EPA agrees, however, that the affirmative defense contained in 11–1–2 Miss. Code R. § 10.1 for upsets is not an acceptable affirmative defense provision under the CAA as interpreted in the EPA's SSM Policy. Section 10.1 provides that “[t]he occurrence of an upset * * * constitutes an affirmative defense to an enforcement action brought for noncompliance with emission standards,” conditioned upon the source meeting a series of criteria. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the Act for malfunction events (*i.e.*, upsets) (*see* section VII.B of this notice), the EPA's interpretation of the CAA is that an affirmative defense can only shield the source from monetary penalties and cannot be a bar to injunctive relief. The provisions of 11–1–2 Miss. Code R. § 10.1 applicable to upsets appears to create a bar not just to monetary penalties but also to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 204.

In addition, the EPA agrees that 11–1–2 Miss. Code R. § 10.1 creates an affirmative defense for upsets with conditions that are not fully consistent with the criteria that the EPA recommends in the SSM Policy. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that 11–1–2 Miss. Code R. § 10.1 does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision. Although this provision does contain many criteria that are comparable to those the EPA recommends, it does not address several that the EPA believes to be necessary to assure that the affirmative defense is available only in appropriate circumstances. For example, 11–1–2 Miss. Code R. § 10.1 does not contain criteria requiring the source to show that the malfunction event was not part of a recurring pattern indicative of inadequate design, operation, or maintenance. In addition, as discussed in section VII.B of this notice, the EPA believes that affirmative defense provisions should address the issue of single sources or groups of sources that have the potential to have adverse impacts on the NAAQS or PSD increments in one of two recommended

ways. On its face, 11–1–2 Miss. Code R. § 10.1 does not appear to address this issue in either way. The EPA believes that the inclusion of the bar to enforcement for injunctive relief and the insufficiently robust qualifying criteria render 11–1–2 Miss. Code R. § 10.1 substantially inadequate to meet CAA requirements.

The EPA also agrees with the Petitioner that the affirmative defense for excess emissions during maintenance provided in 11–1–2 Miss. Code R. § 10.3 is not consistent with CAA requirements. As explained in sections IV and VII.C of this notice, the EPA believes that affirmative defenses are only permissible under the CAA in the case of events that are beyond the control of the source, *i.e.*, malfunctions. Affirmative defense provisions are not appropriate in the case of planned source actions, such as maintenance, because sources should be expected to comply with applicable emission limitations during those normal planned and predicted modes of source operation. Although this provision does contain parameters to limit its availability, it still provides an affirmative defense that is inconsistent with CAA requirements. The EPA believes that the inclusion of the affirmative defense for excess emissions during maintenance in 11–1–2 Miss. Code R. § 10.3 renders that provision substantially inadequate to meet CAA requirements.

The EPA also agrees that 11–1–2 Miss. Code R. § 10.2(a)(2) contains an exemption for excess emissions during startup and shutdown events that is inconsistent with CAA requirements. The EPA acknowledges that the state has imposed some parameters on the scope of the exemption by requiring that the events be infrequent, of short duration, and required to avoid damage to equipment or people. However, the EPA does not interpret the CAA to allow for exemptions for excess emissions during startup and shutdown. As discussed in section VII.A of this notice, the EPA believes that sources should be designed, operated, and maintained so that they can comply with applicable SIP emission limitations during normal modes of source operation. If appropriate, the state may elect to develop special emission limitations or other control measures that apply during startup and shutdown. The EPA believes that the inclusion of an exemption for excess emissions during startup and shutdown in 11–1–2 Miss. Code R. § 10.2 is substantially inadequate to meet CAA requirements.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to 11–1–2 Miss. Code R. § 10.1, 11–1–2 Miss. Code R. § 10.2, and 11–1–2 Miss. Code R. § 10.3. None of these provisions is consistent with the requirements of the CAA as interpreted in the EPA's recommendations in the EPA's SSM Policy. The EPA believes that 11–1–2 Miss. Code R. § 10.1 and 11–1–2 Miss. Code R. § 10.3 create affirmative defenses that are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by purporting to create a bar to enforcement that applies not just to monetary penalties but also to injunctive relief, these provisions are inconsistent with the requirements of CAA sections 113 and 304. By not including sufficient criteria to assure that sources seeking to raise these affirmative defenses have in fact been properly designed, maintained, and operated, and to assure that sources have taken all appropriate steps to minimize excess emissions, 11–1–2 Miss. Code R. § 10.1 also fails to be sufficiently narrowly drawn to justify shielding from monetary penalties for violations. The comparable affirmative defense for maintenance in 11–1–2 Miss. Code R. § 10.3 is not consistent with CAA requirements because maintenance is a normal mode of source operation during which the source should be expected to comply with the applicable emission limitations. Thus, these provisions are not appropriate as affirmative defense provisions because they are inconsistent with fundamental requirements of the CAA.

The EPA is proposing to find that 11–1–2 Miss. Code R. § 10.2 is substantially inadequate to meet CAA requirements because it provides an exemption for excess emissions that occur during startup and shutdown, which are normal modes of source operation during which sources should comply with applicable emission limitations. Such an exemption provision is inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k).

For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to these provisions.

7. North Carolina

a. Petitioner's Analysis

The Petitioner objected to two generally applicable provisions in the North Carolina SIP that provide exemptions for emissions exceeding otherwise applicable SIP emission limitations at the discretion of the state agency during malfunctions (15A N.C. Admin. Code 2D.0535(c)) and during startup and shutdown (15A N.C. Admin. Code 2D.0535(g)).¹³⁶ The Petitioner argued that both provisions allow a state official to exempt sources from compliance with otherwise applicable SIP emission limitations, and therefore both provisions allow a state official to decide whether a violation has occurred. This decision would preclude enforcement action by the EPA and citizens for both civil penalties and injunctive relief, and such an interpretation is inconsistent with the CAA and the EPA's SSM policy interpreting the CAA. The Petitioner noted that the director's discretion provision for malfunctions provided by 15A N.C. Admin. Code 2D.0535(c) is limited to 15 percent of operating time during each calendar year. According to the Petitioner, this temporal limit does not render the provision permissible under the CAA and the EPA's SSM policy interpreting the CAA, because the limit "does nothing to ensure that ambient air quality standards are met."¹³⁷

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitations must be considered violations, whether or not the state elects to exercise its enforcement discretion.

The EPA believes that 15A N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g) are impermissible as insufficiently bounded director's discretion provisions. The explicit text of 15A N.C. Admin. Code 2D.0535(c) states that "[a]ny excess emissions * * * are considered a violation * * * unless the owner or

operator of the source of excess emissions demonstrates to the Director, that the excess emissions are the result of a malfunction." Similarly, 15A N.C. Admin. Code 2D.0535(g) provides that a state official may determine that excess emissions during startup and shutdown are unavoidable, in which case emissions exceeding the otherwise applicable SIP limitations are not considered violations. These provisions vest the state official with unilateral power to grant an exemption from the otherwise applicable SIP emission limitation, without any public process at the state or federal level. Such a determination that the excess emissions in a given event do not constitute a violation could preclude enforcement by the EPA or through a citizen suit. While both provisions contain a list of factors that the state official "shall consider" in making the discretionary determination, they nevertheless empower the state official to create an exemption from the emission limitations, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the emission limitations in the SIP, and the emissions reductions they are intended to achieve, and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of an insufficiently bounded director's discretion provision in 15A N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g) is thus a substantial inadequacy and renders these specific SIP provisions impermissible for this reason.

Finally, the EPA notes that 15A N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g) contain a number of criteria for consideration by the state official when deciding whether the excess emissions should be treated as exempt and thus not as a violation. Superficially, these criteria are similar to those recommended by the EPA for affirmative defense provisions for malfunctions to meet CAA requirements, but they are not presented as criteria for an affirmative defense. Instead, each provision is structured so that if the source has met these criteria, the state official will deem the excess emissions not a violation. Moreover, instead of requiring that the source establish these facts in an administrative or judicial process, the provision appears to authorize the state official to make a unilateral determination whether the emissions are a violation and thus appears to bar enforcement by the EPA or through a citizen suit.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to 15A N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g). The EPA believes that both of these provisions could be read to allow for exemptions from otherwise applicable SIP emission limitations through a state official's unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level. Moreover, the discretion created by this provision could be read to allow case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance. Such exemption provisions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in a way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find 15A N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g) are substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to these provisions.

8. North Carolina: Forsyth County

a. Petitioner's Analysis

The Petitioner objected to two generally applicable provisions in the Forsyth County Code that provide exemptions for emissions exceeding otherwise applicable SIP emission limitations at the discretion of a local official during malfunctions (Forsyth County Code, ch. 3, 3D.0535(c)) and startup and shutdown (Forsyth County Code, ch. 3, 3D.0535(g)).¹³⁸ The Petitioner argued that these "local regulations have the same problems as the [North Carolina] state-wide regulations" addressed in the previous section.¹³⁹ The Petitioner argued that both provisions allow the local official to exempt sources from compliance with otherwise applicable SIP emission limitations, and therefore both provisions allow the local official to decide whether a violation has occurred. This decision would preclude action by the EPA and citizens for both civil penalties and injunctive relief, and such a provision is inconsistent with the

¹³⁶ Petition at 57–58.¹³⁷ Petition at 58.¹³⁸ Petition at 58.¹³⁹ Petition at 58.

CAA and the EPA's SSM policy interpreting the CAA.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a government official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitations must be considered violations, whether or not the state elects to exercise its enforcement discretion.

The EPA believes that Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g) are impermissible as insufficiently bounded director's discretion provisions. Forsyth County Code, ch. 3, 3D.0535(c) states that "[a]ny excess emissions * * * are considered a violation * * * unless the owner or operator of the source of excess emissions demonstrates to the Director, that the excess emissions are the result of a malfunction." Similarly, Forsyth County Code, ch. 3, 3D.0535(g) provides that a local official may determine that excess emissions during startup and shutdown are unavoidable, in which case emissions exceeding the otherwise applicable SIP limitations are not considered violations. These provisions vest the local official with unilateral power to grant an exemption from the otherwise applicable SIP emission limitation, without any public process at the local, state, or federal level. Such a determination that the excess emissions in a given event do not constitute a violation could preclude enforcement by the EPA or through a citizen suit. While both provisions contain a list of factors that the local official "shall consider" in making the discretionary determination, they nevertheless empower the local official to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the emission limitations in the SIP, and the emissions reductions they are intended to achieve, and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of an insufficiently bounded director's discretion provision in Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g) is thus

a substantial inadequacy and renders these specific SIP provisions impermissible for this reason.

As with the comparable statewide SIP provisions, the EPA notes that Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g) also would not qualify as affirmative defense provisions consistent with CAA requirements. The provisions authorize the local official to deem excess emissions exempt and thus not subject to enforcement for injunctive relief. The provisions also appear to authorize the local official to make a unilateral determination that the emissions are not a violation and thus to bar enforcement by the EPA or through a citizen suit.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g). The EPA believes that both of these provisions could be read to allow for exemptions from otherwise applicable SIP emission limitations through a local official's unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the local, state, or federal level. Moreover, the discretion created by this provision could be read to allow case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance. Such exemption provisions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the air agency has defined violations in a way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find that Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g) are substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to these provisions.

9. South Carolina

a. Petitioner's Analysis

The Petitioner objected to three provisions in the South Carolina SIP, arguing that they contained impermissible source category- and pollutant-specific exemptions.¹⁴⁰ The Petitioner characterized these provisions as providing exemptions

¹⁴⁰Petition at 65–66.

from opacity limits for fuel-burning operations for excess emissions that occur during startup or shutdown (S.C. Code Ann. Regs. 61–62.5 St 1(C)), exemptions from NOx limits for special-use burners that are operated less than 500 hours per year (S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14)), and exemptions from sulfur limits for kraft pulp mills for excess emissions that occur during startup, shutdown, or malfunction events (S.C. Code Ann. Regs. St 4(XI)(D)(4)). The Petitioner argued that such exemptions violate the fundamental CAA requirement that all excess emissions be considered violations and that they interfere with enforcement by the EPA and citizens.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations. In accordance with CAA sections 110(a)(2)(A) and 302(k), SIPs must contain "emission limitations" and those limitations must be continuous. Thus, any excess emissions above the level of the applicable SIP emission limitation must be considered a violation of such limitation, regardless of whether the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, maintenance, or malfunctions are not violations of the applicable SIP emission limitations are inconsistent with the fundamental requirements of the CAA.

The first provision identified by the Petitioner states that "[t]he opacity standards set forth above do not apply during startup or shutdown." The EPA agrees with the Petitioner that the effect of this language is to exempt excess emissions that occur during startup or shutdown from otherwise applicable opacity standards, essentially treating such emissions as non-violations. The EPA believes that such automatic exemptions are impermissible under the CAA. By having SIP provisions that define what would otherwise be violations of the applicable SIP emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations. Therefore, the EPA believes that the inclusion of such an automatic exemption in S.C. Code Ann. Regs. 61–62.5 St 1(C) is impermissible and renders the provision a substantial inadequacy under the CAA.

With respect to the Petitioner's second objection relating to the exemption for special-use burners, however, the EPA disagrees with the

Petitioner's characterization of the provision. S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14) provides: “The following sources are exempt from all requirements of this regulation unless otherwise specified: * * * (14) Special use burners, such as start-up/shut-down burners, that are operated less than 500 hours a year.” The Petitioner argued that this provision provides an exemption from otherwise applicable NO_x limitations for excess emissions that occur during startup or shutdown. Although this provision superficially resembles an exemption for emissions during startup and shutdown, the EPA interprets this provision merely to define a specific source category—special-use burners—that is not subject to control under S.C. Code Ann. Regs. 61–62.5 St 5.2, *Control of Oxides of Nitrogen (NO_x)*. In other words, the provision reflects that regulation of special-use burners is not necessary in order to meet the applicable RACT requirements or any other CAA requirements for NO_x emissions in this area. Rather than an exemption for NO_x emissions during startup and shutdown for a source category that is regulated for NO_x, this provision merely reflects that this category of source is not subject to regulation under S.C. Code Ann. Regs. 61–62.5 St 5.2. Therefore, the EPA disagrees with the Petitioner that S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14) renders the South Carolina SIP substantially inadequate.

Finally, the EPA agrees that S.C. Code Ann. Regs. St 4(XI)(D)(4) implicitly includes impermissible exemptions for excess emissions during startup, shutdown, and malfunction events for the affected sources. The provision states that “[t]he Department will consider periods of excess emissions reported under Subpart D(3) of this section to be indicative of a violation if” the emissions from the specified source categories exceed certain limits over certain time periods. For example, for recovery furnaces, S.C. Code Ann. Regs. St 4(XI)(D)(4)(b) specifies that excess emissions will be “indicative of a violation” if “(a) the number of 12 hour exceedances from recovery furnaces is greater than 1% of the total number of contiguous 12 hour periods in a quarter (excluding periods of startup, shutdown, or malfunction * * *).” The parenthetical explicitly excludes the excess emissions that occur during startup, shutdown, and malfunction, automatically treating those emissions as non-violations. The other two source category-specific provisions to be considered in determining whether excess emissions are indicative of a

violation contain similar parenthetical exclusions. Therefore, these provisions could reasonably be construed to preclude the EPA and the public from enforcing against violations that occur during these SSM events at these sources. The EPA believes that S.C. Code Ann. Regs. St 4(XI)(D)(4) includes automatic exemptions for excess emissions during SSM events for the three categories of sources and is thus substantially inadequate to satisfy CAA requirements.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to S.C. Code Ann. Regs. 61–62.5 St 1(C). The EPA believes that S.C. Code Ann. Regs. 61–62.5 St 1(C) allows for an exemption from otherwise applicable SIP emission limitations and that such exemptions are inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). The EPA also proposes to grant the Petition with respect to S.C. Code Ann. Regs. St 4(XI)(D)(4). This provision appears to define violations at three source categories in a way that excludes excess emissions that occur during SSM events. It is unclear whether this provision is intended only to apply to the exercise of enforcement discretion by state personnel, but the EPA believes that it could reasonably be interpreted to preclude the EPA and citizen enforcement as well. Because S.C. Code Ann. Regs. St 4(XI)(D)(4) appears to define violations of the applicable emission limitations in a way that excludes excess emissions during SSM events, it is inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that S.C. Code Ann. Regs. 61–62.5 St 1(C) and S.C. Code Ann. Regs. St 4(XI)(D)(4) are substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to these provisions.

However, the EPA proposes to deny the Petition with respect to S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14), which does not exempt excess emissions from an otherwise applicable SIP emission limitation during startup and shutdown but rather excludes a specific source category from regulation under the South Carolina SIP, because such regulation was deemed unnecessary to meet other applicable CAA requirements. As a consequence, this provision does not constitute a substantial inadequacy in the SIP.

10. Tennessee

a. Petitioner's Analysis

The Petitioner objected to three provisions in the Tennessee SIP.¹⁴¹ First, the Petitioner objected to two provisions that authorize a state official to “excuse or proceed upon” (Tenn. Comp. R. & Regs. 1200–3–20–.07(1)) violations of otherwise applicable SIP emission limitations that occur during “malfunctions, startups, and shutdowns” (Tenn. Comp. R. & Regs. 1200–3–20–.07(3)). The Petitioner argued that together, these provisions constitute a “blanket exemption from enforcement at the unfettered discretion of” a state official. Further, the Petitioner contended that once a violation has been “excused” by the state official, that decision could preclude enforcement by the EPA or citizens in violation of the CAA.

Second, the Petitioner objected to a provision that excludes excess visible emissions from the requirement that the state automatically issue a notice of violation for all excess emissions (Tenn. Comp. R. & Regs. 1200–3–5–.02(1)). This provision states that “due allowance may be made for visible emissions in excess of that permitted in this chapter which are necessary or unavoidable due to routine startup and shutdown conditions.” The Petitioner argued that Tenn. Comp. R. & Regs. 1200–3–5–.02(1) is inconsistent with EPA's interpretation of the CAA because it operates as a blanket exemption for opacity violations.

b. The EPA's Evaluation

While the Petitioner suggested that Tenn. Comp. R. & Regs. 1200–3–20–.07(1) and Tenn. Comp. R. & Regs. 1200–3–20–.07(3) combine to operate as an impermissible discretionary exemption, the EPA believes that these provisions are better understood as attempting to provide the state agency with the discretion to decide whether to pursue an enforcement action. As discussed more fully in section IX.A of this notice, the EPA's SSM Policy has consistently encouraged states to utilize traditional enforcement discretion within appropriate bounds for violations relating to excess emissions that occur during SSM events. Moreover, the 1982 SSM Guidance explicitly recommended criteria that states might consider in the event that they elected to formalize their enforcement discretion with provisions in the SIP. However, such enforcement discretion provisions in a SIP must be “state-only,” meaning that the

¹⁴¹ Petition at 67–69.

provisions apply only to the state's own enforcement personnel and not to the EPA or to others. Here, the Tennessee SIP goes too far because a court could reasonably conclude that the provisions in question preclude the EPA and the public from enforcing against violations that occur during SSM events if the state official chooses to "excuse" such violations. Therefore, the EPA ultimately agrees with the Petitioner that Tenn. Comp. R. & Regs. 1200-3-20-.07(1) and Tenn. Comp. R. & Regs. 1200-3-20-.07(3) are substantially inadequate to satisfy CAA requirements.

In regard to Tenn. Comp. R. & Regs. 1200-3-5-.02(1), the EPA agrees with the Petitioner that this provision operates as an impermissible discretionary exemption because it allows a state official to excuse excess visible emissions after giving "due allowance" to the fact that they were emitted during startup or shutdown events. The EPA believes that this provision is impermissible because it creates unbounded discretion that purports to make a state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation of otherwise applicable SIP emission limitations. More importantly, the provision purports to authorize the state official to create exemptions from applicable SIP emission limitations when such exemptions are impermissible in the first instance. As discussed in more detail in section VII.A of this notice, these types of director's discretion provisions undermine the purpose of emission limitations and the reductions they are intended to achieve, thereby rendering them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of such a director's discretion provision in Tenn. Comp. R. & Regs. 1200-3-5-.02(1) is therefore a substantial inadequacy that renders the provision impermissible under the CAA.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Tenn. Comp. R. & Regs. 1200-3-20-.07(1) and Tenn. Comp. R. & Regs. 1200-3-20-.07(3). These enforcement discretion provisions could reasonably be interpreted to preclude EPA and citizen enforcement of applicable SIP emission limitations, in violation of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). The EPA also proposes to grant the Petition with respect to Tenn. Comp. R. & Regs. 1200-3-5-.02(1). The discretion created by this provision allows for revisions of the applicable SIP emission limitations without meeting the

applicable SIP revision requirements of the CAA, and it allows case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance. Thus, this provision is also inconsistent with CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to these provisions.

11. Tennessee: Knox County a. Petitioner's Analysis

The Petitioner objected to a provision in the Knox County portion of the Tennessee SIP that bars evidence of a violation of SIP emission limitations from being used in a citizen enforcement action (Knox County Regulation 32.1(C)).¹⁴² The provision specifies that "[a] determination that there has been a violation of these regulations or orders issued pursuant thereto shall not be used in any law suit brought by any private citizen." The Petitioner argued that this provision would prevent reports of SSM conditions, which owners and operators are required to submit per Knox County Regulation 34.1(A), from being used as evidence in citizen suits, thereby undermining the express authorization of citizen enforcement actions under the CAA.

b. The EPA's Evaluation

The EPA agrees with the Petitioner that Knox County Regulation 32.1(C) is inconsistent with the fundamental requirements of the CAA. Section 113(e)(1) of the CAA requires a court to take into consideration "the duration of the violation as established by any credible evidence" in determining penalties in citizen enforcement actions. Moreover, section 114(c) of the CAA states that "[a]ny records, reports or information" obtained from sources "shall be available to the public * * * ." In accordance with these statutory mandates, the EPA promulgated its "credible evidence rule" in 1997. That rule states: "[f]or purpose of * * * establishing whether or not a person has violated or is in violation of any standard * * *, the [SIP] must not preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements * * *"¹⁴³

¹⁴² Petition at 69.

¹⁴³ 51 CFR 31.212(c); see also "Credible Evidence Revisions," 62 FR 8155 at 8314 (Feb. 24, 1997).

The EPA believes that the Knox County Regulation 32.1(C) runs afoul of these statutory and regulatory provisions. Knox County Regulation 32.1(c) explicitly bars a state official's determination that there has been a violation of a SIP emission limitation from being used as evidence in a citizen enforcement action, even though SIPs are prohibited from precluding the use of such evidence. The provision could also be interpreted to bar citizens from using evidence of a violation used by the state official in making such a determination, including reports of SSM conditions. Consequently, Knox County Regulation 32.1(C) is inconsistent with the fundamental requirements of CAA sections 113(e)(1) and 114(c) and the credible evidence rule. Moreover, by seeking to restrain the ability of private citizens to pursue enforcement actions, the provision is inconsistent with the fundamental enforcement structure created by Congress in CAA section 304. As such, the EPA believes that the Knox County Regulation 32.1(C) constitutes a substantial inadequacy in the Tennessee SIP.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Knox County Regulation 32.1(C). This provision precludes the use of a state determination that a violation has occurred from being used as evidence in a citizen enforcement action, in violation of CAA sections 113(e)(1), 114(c), and 304, and the credible evidence rule. Therefore, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to this provision in the Knox County portion of the state's SIP.

12. Tennessee: Shelby County

a. Petitioner's Analysis

The Petitioner objected to a provision in the Shelby County Code (Shelby County Code § 16-87) that addresses enforcement for excess emissions that occur during "malfunctions, startups, and shutdowns" by incorporating by reference the state's provisions in Tenn. Comp. R. & Regs. 1200-3-20.¹⁴⁴ Shelby County Code § 16-87 provides that "all such additions, deletions, changes and amendments as may subsequently be made" to Tennessee's regulations will automatically become part of the Shelby County Code. The Petitioner argued that once Tennessee changes its regulations, those revised provisions will be

¹⁴⁴ Petition at 69-70.

effective in the Shelby County Code but will not be effective as part of the SIP until they are submitted to the EPA and approved.

b. The EPA's Evaluation

The EPA agrees that because Shelby County Code § 16–87 incorporates by reference provisions in the Tennessee SIP that are substantially inadequate, the Shelby County portion of the Tennessee SIP is likewise substantially inadequate to satisfy the fundamental requirements of the CAA for the same reasons.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Shelby County Code § 16–87. For the same reasons that the EPA has determined that the Tennessee SIP is substantially inadequate to meet CAA requirements, the EPA believes that the Shelby County portion of the Tennessee SIP is substantially inadequate as well. Therefore, the EPA proposes to issue a SIP call with respect to this provision in the Shelby County portion of the state's SIP.

F. Affected States in EPA Region V

1. Illinois

a. Petitioner's Analysis

The Petitioner objected to three generally applicable provisions in the Illinois SIP which together have the effect of providing discretionary exemptions from otherwise applicable SIP emission limitations, and such exemptions are impermissible under the CAA because the statute and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations.^{145 146} The Petitioner noted that the provisions invite sources to request, during the permitting process, advance permission to continue to operate during a malfunction or breakdown, and, similarly to request advance permission to "violate" otherwise applicable emission limitations during startup (Ill. Admin. Code tit. 35 § 201.261). The Illinois SIP provisions establish criteria that a state official must consider before granting the advance permission to violate the emission limitations (Ill.

¹⁴⁵ The EPA notes that the Petitioner also identified several additional pollutant-specific and source category-specific provisions in the Illinois SIP that it alleged are inconsistent with the CAA and the EPA's SSM Policy. However, the Petitioner did not request that the EPA address those SIP provisions in its remedy request, and thus the EPA is not addressing those provisions in this action. The EPA may elect to evaluate those provisions in a later action.

¹⁴⁶ Petition at 33–36.

Admin. Code tit. 35 § 201.262).

However, the Petitioner asserted, the provisions state that, once granted, the advance permission to violate the emission limitations "shall be a prima facie defense to an enforcement action" (Ill. Admin. Code tit. 35 § 201.265).

The Petitioner noted that Illinois has claimed that its SIP provisions do not provide for advance permission to violate emission limitations but that its SIP provisions instead authorize "case-by-case claims of exemption."¹⁴⁷ The Petitioner argued that despite this explanation, the language in the SIP is not clear and appears to grant advance permission for violations during malfunction and startup events. Furthermore, the Petitioner objected because the effect of granting that permission would be to provide the source with an absolute defense to any later enforcement action, that is, "a defense [would] attach[] at the state's discretion." The Petitioner argued that this approach would violate the fundamental requirement that all excess emissions be considered violations.

Finally, the Petitioner objected to the use of the term "prima facie defense" in Ill. Admin. Code tit. 35 § 201.265, arguing that the term is "ambiguous in its operation." The Petitioner argued that the provision is not clear regarding whether the defense is to be evaluated "in a judicial or administrative proceeding or whether the Agency determines its availability." Allowing defenses to be raised in these undefined contexts, the Petitioner argued, is "inconsistent with the enforcement structure of the Clean Air Act." The Petitioner asserted that "if * * * the "prima facie defense" is anything short of the "affirmative defense" as contemplated in the 1999 SSM Guidance, then "it clearly has the potential to interfere with EPA and citizen enforcement."

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for discretionary exemptions from otherwise applicable SIP emission limitations. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions

¹⁴⁷ Petition at 35 (citing Ill. Env'tl. Prot. Agency, Statement of Basis for a Planned Revision of the CAAPP Permit for U.S. Steel Corp. Granite City Works (Mar. 15, 2011), at 26–27). The EPA notes that the Petitioner appears to have cited the incorrect portion of this document and that the correct citation is to pages 36–37.

above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. The EPA agrees that together Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265¹⁴⁸ can be read to create exemptions by authorizing a state official to determine in the permitting process that the excess emissions during startup and malfunction will not be considered violations of the applicable emission limitations. The language of the SIP on its face appears to permit the state official to grant advance permission to "continue to operate during a malfunction or breakdown" or "to violate the standards or limitations * * * during startup" (Ill. Admin. Code tit. 35 § 201.261(a)).

The EPA notes that the Petitioner's characterization of Illinois's interpretation of its SIP is not accurate. While the Petitioner alleged that Illinois believed its SIP provisions to authorize "case-by-case exemptions," Illinois in fact described the effect of the permission granted under these provisions as providing the source with the:

* * * opportunity to make a claim of malfunction/breakdown or startup, with the viability of such claim subject to specific review against the requisite requirements. Indeed, 35 IAC 201.265 clearly states that violating an applicable state standard even if consistent with any expression of authority regarding malfunction/breakdown or startup set forth in a permit shall only constitute a prima facie defense to an enforcement action for violation of said regulation.

(Ill. Env'tl. Prot. Agency, Statement of Basis for a Planned Revision of the CAAPP Permit for U.S. Steel Corp. Granite City Works (March 15, 2011), at 37.) Thus, the state claimed that under its SIP provisions, any excess emissions during periods of startup or malfunction would still constitute a "violation" and that the only effect of the permission granted by the state official in the permit would be to allow a source to assert a "prima facie defense" in an enforcement action. Even in light of this explanation, the EPA agrees that the plain language of the SIP provisions do not make explicit this limitation on the

¹⁴⁸ The EPA notes that there are a number of other provisions in the same portion of the Illinois SIP that are integral to the regulation of startups, shutdowns, and malfunctions. Those provisions include Ill. Admin. Code tit. 35 § 201.149, Ill. Admin. Code tit. 35 § 201.263, and Ill. Admin. Code tit. 35 § 201.264. The Petitioner did not object to these provisions in its Petition, but because they are part of a functional scheme in the SIP, the state may elect to revise these provisions in accordance with the EPA's proposal.

state official's authorization to grant exemptions. Indeed, by expressly granting "permission," the provisions are ambiguous and could be read as allowing the state official to be the unilateral arbiter of whether the excess emissions in a given malfunction, breakdown, or startup event constitute a violation. By deciding that an exceedance of the emission limitation was not a "violation," exercise of this discretion could preclude enforcement by the EPA or through a citizen suit. Most importantly, however, the grant of permission would authorize the state official to create an exemption from the otherwise applicable SIP emission limitation, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the emission limitations and the emission reductions they are intended to achieve and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of director's discretion provisions in Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265 is thus a substantial inadequacy and renders these specific SIP provisions impermissible for this reason.

Furthermore, even if the Illinois SIP provisions cited by the Petitioner are intended to provide only an affirmative defense to enforcement, rather than as advance permission to violate the otherwise applicable SIP emission limitations, the EPA agrees that the "prima facie defense" mechanism in Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265 is not an acceptable affirmative defense provision under the CAA as interpreted in the EPA's SSM Policy. Although the EPA believes that narrowly drawn affirmative defenses are permitted for malfunction events (*see* section VII.B of this notice), the EPA's interpretation of the CAA is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304. In addition, Illinois's SIP provisions allow sources to obtain a *prima facie* defense for violations that occurred during startup periods, and, as discussed in section VII.C of this notice, the EPA does not believe affirmative defenses for violations of the otherwise applicable SIP emission limitations that

occur during startup or shutdown periods is permissible under the CAA.

Significantly, these Illinois SIP provisions are also deficient because, although not defined in the Illinois SIP, a *prima facie* defense typically would shift the burden of proof to the opposing party, in this case the party bringing the enforcement action against the source. The EPA's longstanding interpretation of the CAA is that an affirmative defense provision must be narrowly drawn and must require the source to establish that it has met the conditions to justify relief from monetary penalties for excess emissions in a given event. Thus, an acceptable affirmative defense under EPA's interpretation of the CAA places the burden on the source to demonstrate that it has met all the appropriate criteria before it is entitled to the defense.

Lastly, the criteria that the Illinois SIP provisions require be met before advance permission and the *prima facie* defense may be granted are not consistent with the criteria that the EPA recommends in the SSM Policy. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265 do not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision. The EPA believes that the inclusion of the complete bar to liability, including injunctive relief, the availability of the defense for violations during startup and shutdown, the burden-shifting effect, and the insufficiently robust qualifying criteria in Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265, are substantial inadequacies and render these specific SIP provisions impermissible.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265. The EPA believes that these provisions allow for exemptions from the otherwise applicable emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. In addition, Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265 potentially allow for such an

exemption through a state official's unilateral exercise of discretionary authority, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions in sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265 are substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to these provisions.

The EPA is proposing to grant the Petition with respect to these provisions even though the state has stated that the effect of these provisions only provides sources with a *prima facie* defense in an enforcement proceeding. Illinois's SIP provisions do not constitute an affirmative defense provision consistent with the EPA's recommendations in the EPA's SSM Policy interpreting the CAA, for a number of reasons: it is not clear that the defense applies only to monetary penalties, which is inconsistent with the requirements of CAA sections 113 and 304; the defense applies to violations that occurred during startup periods, which is inconsistent with CAA sections 113 and 304; the provisions shift the burden of proof to the enforcing party; and finally, the provisions do not include sufficient criteria to assure that sources seeking to raise the affirmative defense have in fact been properly designed, maintained, and operated, and to assure that sources have taken all appropriate steps to minimize excess emissions. Accordingly, even if Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262, and Ill. Admin. Code tit. 35 § 201.265 are interpreted to provide a defense to enforcement rather than an exemption, the EPA is proposing to find that the provisions are substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to these provisions.

2. Indiana

a. Petitioner's Analysis

The Petitioner objected to a generally applicable provision in the Indiana SIP that allows for discretionary exemptions during malfunctions (326 Ind. Admin. Code 1-6-4(a)).^{149 150} The Petitioner

¹⁴⁹ The EPA notes that the Petitioner also identified several additional pollutant-specific and source category-specific provisions in the Indiana SIP that it alleged are inconsistent with the CAA and the EPA's SSM Policy. However, the Petitioner did not request that the EPA address those SIP provisions in its remedy request, and thus the EPA is not addressing those provisions in this action.

objected to the provision because it provides an exemption from the otherwise applicable SIP emission limitations, and such exemptions are impermissible under the CAA because the statute and the EPA's interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. The Petitioner noted that the provision is ambiguous because it states that excess emissions during malfunction periods "shall not be considered a violation" if the source demonstrates that a number of conditions are met (326 Ind. Admin. Code 1-6-4(a)), but the provision does not specify to whom or in what forum such demonstration must be made. If made in a showing to the state, the Petitioner argued, the provision would give a state official the sole authority to determine that the excess emissions were not a violation and could thus be read to preclude enforcement by the EPA or citizens in the event that the state official elects not to treat the excess emissions as a violation. Thus, in addition to creating an impermissible exemption for the excess emissions, the Petitioner argued that the SIP's provision is also inconsistent with the CAA as interpreted in the EPA's SSM Policy because it allows the state official to make a unilateral decision that the excess emissions were not a violation and thus bar enforcement for the excess emissions by the EPA and citizens.

Alternatively, the Petitioner noted, if the demonstration was required to have been made in an enforcement context, the provision could be interpreted as providing an affirmative defense. The Petitioner argued that even if interpreted in this way, the provision is not permissible because it "appears to confuse an enforcement discretion approach with the affirmative defense approach." Furthermore, the Petitioner argued that 326 Ind. Admin. Code 1-6-4(a) is not an acceptable affirmative defense provision because it "could be interpreted to preclude EPA and citizen enforcement and shield sources from injunctive relief."

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for discretionary exemptions from otherwise applicable SIP emission limitations. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k),

such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions such as 326 Ind. Admin. Code 1-6-4(a) that can be interpreted to authorize a state official to determine unilaterally that the excess emissions during malfunctions are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that the inclusion of a provision that allows discretionary exemptions in the SIP is thus a substantial inadequacy and renders 326 Ind. Admin. Code 1-6-4(a) impermissible.

The EPA believes that 326 Ind. Admin. Code 1-6-4(a) is also impermissible because the provision can be interpreted to make a state official the unilateral arbiter of whether the excess emissions in a given malfunction event constitute a violation. The 326 Ind. Admin. Code 1-6-4(a) provides that if a source demonstrates that four criteria are met, the excess emissions "shall not be considered a violation." Because the provision does not establish who is to evaluate whether the source has made an adequate demonstration, the provision could be read to authorize a state official to judge that violations have not occurred even though the emissions exceeded the applicable SIP emission limitations. These provisions therefore appear to vest the state official with the unilateral power to grant exemptions from otherwise applicable SIP emission limitations, without any additional public process at the state or federal level. By deciding that an exceedance of the emission limitation was not a "violation," exercise of this discretion could preclude enforcement by the EPA or through a citizen suit. Most importantly, however, the provision could be read to authorize the state official to create an exemption from the otherwise applicable SIP emission limitation, and such an exemption is impermissible in the first instance. Such a director's discretion provision undermines the emission limitations and the emissions reductions they are intended to achieve and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of a director's discretion provision in 326 Ind. Admin. Code 1-6-4(a) is thus a substantial inadequacy and renders these specific SIP

provisions impermissible for this reason.

The EPA believes that even if 326 Ind. Admin. Code 1-6-4(a) is interpreted to allow the source to make the required demonstration only in the context of an enforcement proceeding, the conditions set forth in the provision do not render it an acceptable affirmative defense provision. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the CAA for malfunction events (*see* section VII.B of this notice), the EPA's interpretation of the CAA is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304.

Furthermore, Indiana's SIP provision is deficient because even if it were interpreted to create an affirmative defense rather than an exemption from the applicable emission limitations, it does so with conditions that are not consistent with the criteria that the EPA recommends in the SSM Policy. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that 326 Ind. Admin. Code 1-6-4(a) does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision under the CAA. The conditions in the provision are helpful but are not consistent with all of the criteria recommended in the EPA's SSM Policy. For example, this provision does not contain criteria requiring the source to establish that the malfunction event was not foreseeable and not part of a recurring pattern indicative of inadequate design, operation, or maintenance. Indeed, the explicit limitation that the "malfunctions have not exceeded five percent (5%), as a guideline, of the normal operational time of the facility" suggests that a source could be granted exemptions for excess emissions even though it was habitually violating the applicable emission limitations over some extended period of time.

The EPA believes that the inclusion of the complete bar to liability, including injunctive relief, and the insufficiently robust qualifying criteria render 326 Ind. Admin. Code 1-6-4(a) substantially inadequate to meet CAA requirements.

Significantly, the EPA notes that the correct meaning of 326 Ind. Admin.

The EPA may elect to evaluate those provisions in a later action.

¹⁵⁰ Petition at 36-37.

Code 1–6–4(a) has been addressed in the past in conjunction with an interpretive letter from the state in 1984, which characterized the provision as an enforcement discretion provision applicable to state personnel rather than as a provision allowing exemptions from the emission limitations. The EPA appreciates Indiana’s clarification of its reading of the provision in the 1984 letter, but at this juncture, in the course of reevaluating this provision in light of the issues raised in the Petition, the EPA believes that 326 Ind. Admin. Code 1–6–4(a) contains regulatory language that requires formal revision to eliminate significant ambiguities. For example, the provision states that: “[e]missions temporarily exceeding the standards which are due to malfunctions * * * shall not be considered a violation of the rules provided the source demonstrates” four criteria. Indiana has acknowledged that it reads these provisions not to bar enforcement by the EPA or citizens in the event that the state does not pursue enforcement, but the EPA believes that the provision is sufficiently ambiguous on this point that a revision is necessary to ensure that outcome in the event of an enforcement action.

As discussed in section VI of this notice, the EPA believes that in some instances it is appropriate to clarify provisions of a SIP submission through the use of interpretive letters. However, in some cases, there may be areas of regulatory ambiguity in a SIP provision that are significant and for which resolution is both appropriate and necessary. Because the text of 326 Ind. Admin. Code 1–6–4(a) provision is not clear on its face that it is limited to the exercise of enforcement discretion by state personnel but rather could be interpreted as a discretionary exemption from the otherwise applicable SIP emission limitations or as an inadequate affirmative defense provision, the EPA believes this SIP provision is substantially inadequate to meet CAA requirements.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to 326 Ind. Admin. Code 1–6–4(a). The EPA believes that this provision appears on its face to allow for discretionary exemptions from otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs in sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). This provision allows for exemptions through a state official’s unilateral exercise of discretionary authority that

includes no additional public process at the state or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the discretion created by this provision allows case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance.

Even if the EPA were to interpret 326 Ind. Admin. Code 1–6–4(a) to be an affirmative defense applicable in an enforcement context, the provision is not consistent with the EPA’s recommendations in the EPA’s SSM Policy interpreting the CAA. By purporting to create a bar to enforcement that applies not just to monetary penalties but also to injunctive relief, and by including criteria inconsistent with those recommended by the EPA for affirmative defense provisions, this provision is inconsistent with the requirements of CAA sections 113 and 304. For these reasons, the EPA is proposing to find that 326 Ind. Admin. Code 1–6–4(a) is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

3. Michigan

a. Petitioner’s Analysis

The Petitioner objected to a generally applicable provision in Michigan’s SIP that provides for an affirmative defense to monetary penalties for violations of otherwise applicable SIP emission limitations during periods of startup and shutdown.¹⁵¹ The Petitioner argued that affirmative defenses for excess emissions are inconsistent with the CAA and requested that the provision be removed from Michigan’s SIP. Alternatively, if such a provision were to remain in the SIP, the Petitioner asked that the SIP be amended to address two deficiencies.

First, the Petitioner objected to one of the criteria in the affirmative defense provision, Mich. Admin. Code r. 336.1916, which makes the defense available to a single source or small group of sources as long as such source did not “cause[] an exceedance of the national ambient air quality standards or any applicable prevention of significant deterioration increment.” The Petitioner argued that this criterion of Michigan’s affirmative defense provision is contrary to the EPA’s SSM Policy because “[s]ources with the potential to cause an exceedance should be more strictly controlled at all times

and should not be able to mire enforcement proceedings in the difficult empirical questions of whether or not the NAAQS or PSD increments were exceeded as a matter of fact” (emphasis in original).

Second, the Petitioner objected to the availability of Michigan’s affirmative defense provision, Mich. Admin. Code r. 336.1916, for violations of “an applicable emission limitation,” which Petitioner pointed out would include “limits derived from federally promulgated technology based standards, such as NSPSs and NESHAPs.” The Petitioner argued that according to the EPA’s SSM Policy, sources should not be able to seek an affirmative defense for violations of these federal technology-based standards.

b. The EPA’s Evaluation

As discussed in more detail in section IV.B of this notice, the EPA does not agree with the Petitioner that affirmative defenses should never be permissible in SIPs. The EPA believes that narrowly drawn affirmative defenses can be permitted under the CAA for malfunction events, because where excess emissions are entirely beyond the control of the owner or operator of the source, it can be appropriate to provide limited relief to claims for monetary penalties (see section VII.B of this notice). However, as discussed in section IV.B of this notice, this basis for permitting affirmative defenses for malfunctions does not translate to planned events such as startup and shutdown. By definition, the owner or operator of a source can foresee and plan for startup and shutdown events, and therefore the EPA believes that states should be able to establish, and sources should be able to comply with, the applicable emission limitations or other controls measures during these periods of time. A source can be designed, operated, and maintained to control and to minimize emissions during such normal expected events. If sources in fact cannot meet the otherwise applicable emission limitations during planned events such as startup and shutdown, then a state may elect to develop specific alternative requirements that apply during such periods, so long as they meet other applicable CAA requirements. The EPA believes that the inclusion of an affirmative defense that applies *only* to violations that occurred during periods of startup and shutdown in Mich. Admin. Code r. 336.1916 is thus a substantial inadequacy and renders this specific SIP provision impermissible.

¹⁵¹ Petition at 44–46.

The EPA does not agree with the Petitioner that affirmative defense provisions are, *per se*, impermissible for a “single source or small group of sources.” The EPA believes that a SIP provision may meet the overarching statutory requirements through a demonstration by the source that the excess emissions during the SSM event did not in fact cause a violation of the NAAQS. As discussed in section VII B of this notice, the EPA considers this another means by which to assure that affirmative defense provisions are narrowly drawn to justify relief from monetary penalties for excess emissions during malfunction events. Through this alternative approach, sources also have an incentive to comply with applicable emission limitations and thereby to support the larger objective of attaining and maintaining the NAAQS.

The EPA does agree that an approvable affirmative defense provision, consistent with CAA requirements, cannot apply to any federal emission limitations approved into a SIP. Thus, if the state has elected to incorporate NSPS or NESHAP into its SIP for any purpose, such as to obtain credit for the resulting emissions reductions as part of an attainment plan, the SIP cannot have a provision that would extend any affirmative defense to sources beyond what is otherwise provided in the underlying federal regulation. To the extent that any affirmative defense is warranted during malfunctions for these technology-based standards, the federal standards contained in the EPA’s regulations already specify the appropriate affirmative defense. No additional or different affirmative defense provision applicable through a SIP provision is warranted or appropriate. On its face, Mich. Admin. Code r. 336.1916 does not explicitly limit its scope to exclude federal emission limitations approved into the SIP. Thus, this would be an additional way in which the provision is substantially inadequate to meet CAA requirements.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to Mich. Admin. Code r. 336.1916, which provides for an affirmative defense to violations of applicable emission limitations during startup and shutdown events. The availability of an affirmative defense for excess emissions that occur during planned events is contrary to the EPA’s interpretation of the CAA to allow such affirmative defenses only for events beyond the control of the source, *i.e.*, during malfunctions. For this reason, the EPA is proposing to find that Mich.

Admin. Code r. 336.1916 is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

4. Minnesota

a. Petitioner’s Analysis

The Petitioner objected to a provision in the Minnesota SIP that provides automatic exemptions for excess emissions resulting from flared gas at petroleum refineries when those flares are caused by startup, shutdown, or malfunction (Minn. R. 7011.1415).¹⁵² The provision states that: “The combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas which is released to the flare as a result of relief valve leakage is exempt from the standards of performance set forth in this regulation.” The Petitioner noted that “process upset gas” is defined in the regulation as “any gas generated by a petroleum refinery process unit as a result of start-up, shutdown, upset, or malfunction” (Minn. R. 7011.1400(12)). The Petitioner argued that such an automatic exemption for emissions during startup, shutdown, or malfunction in a SIP provision is a violation of the fundamental requirements of the CAA and the EPA’s SSM Policy that all excess emissions be considered violations, and that such an exemption interferes with enforcement by the EPA and citizens.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for automatic exemptions from otherwise applicable SIP emission limitations and requirements. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations of such limitations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunction are not violations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs.

The automatic exemption provision identified by the Petitioner explicitly states that “process upset gas,” which is defined as gas generated by the affected

sources as a result of start-up, shutdown, upset, or malfunction, “is exempt from the standards” (Minn. R. 7011.1415). Any exceedances of the standards during those periods would therefore not be considered a violation under this provision. With respect to the Petitioner’s concern that these exemptions could interfere with enforcement by the EPA or citizens, the EPA agrees that this is one of the critical reasons why such provisions are impermissible under the CAA. By having SIP provisions that define what would otherwise be violations of the applicable emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations. The EPA believes that the inclusion of such automatic exemptions from SIP requirements in Minn. R. 7011.1415 is thus a substantial inadequacy and renders this specific SIP provision impermissible.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to Minn. R. 7011.1415. The EPA believes that this provision allows for automatic exemptions from the otherwise applicable SIP emission limitations and requirements, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in a way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find that Minn. R. 7011.1415 is substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to this provision.

5. Ohio

a. Petitioner’s Analysis

The Petitioner first objected to a generally applicable provision in the Ohio SIP that allows for discretionary exemptions during periods of scheduled maintenance (Ohio Admin. Code 3745–15–06(A)(3)).¹⁵³ The provision provides the state official with the authority to permit continued operation of a source during scheduled maintenance “where a complete source shutdown may result in damage to the air pollution sources or is otherwise impossible or

¹⁵² Petition at 46–47.

¹⁵³ Petition at 60–61.

impractical.” Upon application, the state official “shall authorize the shutdown of the air pollution control equipment if, in his judgment, the situation justifies continued operation of the sources.” The Petitioner also objected to two source category-specific and pollutant-specific provisions that provide for discretionary exemptions during malfunctions (Ohio Admin. Code 3745-17-07(A)(3)(c) and Ohio Admin. Code 3745-17-07(B)(11)(f)).¹⁵⁴

The Petitioner argued that these provisions could provide exemptions from the otherwise applicable SIP emission limitations, and such exemptions are impermissible under the CAA because the statute and the EPA’s interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations. Moreover, the Petitioner objected to these discretionary exemptions because the state official’s grant of permission to continue to operate during the period of maintenance, or to exempt sources from otherwise applicable SIP emission limitations during malfunctions, could be interpreted to excuse excess emissions during such time periods and could thus be read to preclude enforcement by the EPA or citizens in the event that the state official elects not to treat the events as violations. Thus, in addition to creating an impermissible exemption for the excess emissions, the Petitioner argued, the provisions are also inconsistent with the CAA as interpreted in the EPA’s SSM Policy because they allow the state official to make a unilateral decision that the excess emissions were not a violation and thus bar enforcement for the excess emissions by the EPA and citizens.

The Petitioner also objected to a source category-specific provision in the Ohio SIP that allows for an automatic exemption from applicable emission limitations and requirements during periods of startup, shutdown, malfunction, or regularly scheduled maintenance activities (Ohio Admin. Code 3745-14-11(D)). The Petitioner objected because this provision provides an exemption from the otherwise applicable SIP requirements, and such

exemptions are inconsistent with the requirements of the CAA as interpreted in the EPA’s SSM Policy. The Petitioner argued that the CAA and the EPA’s interpretation of the CAA in the SSM Policy require that all excess emissions be treated as violations. The Petitioner also objected to this provision because, by providing an outright exemption from otherwise applicable requirements, the state has defined these excess emissions as not violations, thereby precluding enforcement by the EPA or citizens for the excess emissions that would otherwise be violations.

Finally, the Petitioner objected to provisions that contain exemptions for Hospital/Medical/Infectious Waste Incinerator (HMIWI) sources during startup, shutdown, and malfunction (Ohio Admin. Code 3745-75-02(E), Ohio Admin. Code 3745-75-02(J), Ohio Admin. Code 3745-75-03(I), Ohio Admin. Code 3745-75-04(K), Ohio Admin. Code 3745-75-04(L)). The Petitioner requested that these exemptions be removed entirely from Ohio’s SIP.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations through the exercise of a state official’s discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that excess emissions during startup, shutdown, malfunctions, or maintenance are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that the inclusion of such exemptions from the emission limitations in Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f), and Ohio Admin. Code 3745-15-06(C) is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

The EPA believes that Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f), and Ohio Admin. Code 3745-15-06(C) are also

impermissible as unbounded director’s discretion provisions that make a state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation. In the case of Ohio Admin. Code 3745-15-06(A)(3), the provision authorizes the state official to allow continued operation at sources “during scheduled maintenance of air pollution control equipment.” The state official’s grant of permission to continue to operate during the period of maintenance could be interpreted to excuse excess emissions during that period and could thus be read to preclude enforcement by the EPA or through a citizen suit in the event that the state official elects not to treat the excess emissions as a violation. In addition, the provision vests the state official with the unilateral power to grant an exemption from the otherwise applicable SIP emission limitations, without any additional public process at the state or federal level. Although the provision does require sources to submit a report indicating the expected length of the event and estimated quantities of emissions, among other things, ultimately the state official makes his determination “if, in his judgment, the situation justifies continued operation of the sources.” The state official’s discretion is therefore not sufficiently bounded and extends to granting a complete exemption from applicable emission limitations that would be impermissible in the first instance.

The EPA believes that Ohio Admin. Code 3745-17-07(A)(3)(c), which exempts sources from visible particulate matter limitations during malfunctions, and Ohio Admin. Code 3745-17-07(B)(11)(f), which exempts sources from fugitive dust limitations during malfunctions, also impermissibly provide exemptions through exercise of a state official’s discretion because the provisions authorize exemptions if the source has complied with Ohio Admin. Code 3745-15-06(C). The Ohio Admin. Code 3745-15-06(C) provides the state official with the discretion to “evaluate” reports of malfunctions submitted by sources and to “take appropriate action upon a determination” that sources have not adequately met the requirements of the provision. Although the Petitioner did not request that the EPA evaluate Ohio Admin. Code 3745-15-06(C), it is the regulatory mechanism by which exemptions are granted in the two provisions to which the Petitioner did object. Similar to Ohio Admin. Code 3745-15-06(A)(3), which is the director’s discretion provision discussed earlier in this section of the notice, the EPA finds that Ohio Admin. Code 3745-

¹⁵⁴ The EPA notes that Petitioner did not categorize these provisions as discretionary exemptions, but both Ohio Admin. Code 3745-17-07(A)(3)(c) and Ohio Admin. Code 3745-17-07(B)(11)(f) provide for exemptions during malfunctions if sources have complied with Ohio Admin. Code 3745-15-06(C), which allows the director to “evaluate” malfunction reports required by the rule and to “take appropriate action upon a determination.” The EPA therefore believes that the mechanism by which exemptions are granted under Ohio Admin. Code 3745-17-07(A)(3)(c) and Ohio Admin. Code 3745-17-07(B)(11)(f) is by exercise of the state director’s discretion.

17-07(A)(3)(c) and Ohio Admin. Code 3745-17-07(B)(11)(f) could be interpreted to excuse excess emissions during malfunction events and could thus be read to preclude enforcement by the EPA or through a citizen suit in the event that the state official elects not to treat the excess emissions as a violation. In addition, the provision vests the state official with the unilateral power to grant an exemption from otherwise applicable SIP emission limitations, without any additional public process at the state or federal level. Although the provision does require the state official to consider the reports filed by sources before making a determination, the provision remains insufficiently bounded.

Most importantly, however, these provisions all purport to authorize the state official to create exemptions from the emission limitations, and such exemptions are impermissible in the first instance. Such director's discretion provisions undermine the emission limitations and the emissions reductions they are intended to achieve and render them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of an unbounded director's discretion provision in Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f), and Ohio Admin. Code 3745-15-06(C) is thus a substantial inadequacy and renders these specific SIP provisions impermissible for this reason, in addition to the creation of impermissible exemptions.

With regard to the Petitioner's objection to the exemption for portland cement kilns from otherwise applicable requirements at Ohio Admin. Code 3745-14-11(D), the EPA agrees that the CAA does not allow for automatic exemptions from otherwise applicable SIP emission limitations and requirements. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations of such limitations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, malfunction, or maintenance are not violations are inconsistent with the fundamental requirements of the

CAA with respect to emission limitations in SIPs.

The automatic exemption provision in Ohio Admin. Code 3745-14-11(D) explicitly states that the regulation's requirement that the use of control measures such as low-NOx burners during the ozone season and monitoring, reporting, and recordkeeping of ozone season NOx emissions "shall not apply" during periods of startup, shutdown, malfunction, and maintenance. The exemptions therefore provide that the excess emissions resulting from failure to run required control measures will not be violations, contrary to the requirements of the CAA. In addition, exemption from monitoring, recordkeeping, and reporting requirements during these events affects the enforceability of the emission limitation in the SIP provision. Moreover, failure to account accurately for excess emissions at sources during SSM events has a broader impact on NAAQS implementation and SIP planning, because such accounting directly informs the development of emissions inventories and emissions modeling. With respect to the Petitioner's concern that these exemptions preclude enforcement by the EPA or citizens, the EPA agrees that this is one of the critical reasons why such provisions are impermissible under the CAA. By having SIP provisions that define what would otherwise be violations of the applicable emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations. The EPA believes that the inclusion of such automatic exemptions from SIP requirements in Ohio Admin. Code 3745-14-11(D) is thus substantially inadequate to meet CAA requirements.

Finally, the EPA disagrees that the provisions providing exemptions for HMIWI must be removed from the SIP. Ohio Admin. Code 3745-75-02(E), Ohio Admin. Code 3745-75-02(J), Ohio Admin. Code 3745-75-03(I), Ohio Admin. Code 3745-75-04(K), and Ohio Admin. Code 3745-75-04(L) are not approved into Ohio's SIP, but rather those rules were approved as part of the separate state plan to meet the applicable emissions guidelines under CAA § 111(d) and 40 CFR part 60. Because those rules are not in the Ohio SIP and are not related to any provisions in the SIP, they do not represent a substantial inadequacy in the SIP.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Ohio Admin.

Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), and Ohio Admin. Code 3745-17-07(B)(11)(f). The EPA believes that these provisions allow for exemptions from the otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. In addition, Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f), and by extension, Ohio Admin. Code 3745-15-06(C), allow for such exemptions through a state official's unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level, and such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the discretion created by these provisions allows case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance. As described in section VII.A of this notice, such provisions are inconsistent with fundamental CAA requirements for SIP revisions. For these reasons, the EPA is proposing to find that Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f), and Ohio Admin. Code 3745-15-06(C) are substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to these provisions.

The EPA also proposes to grant the Petition with respect to Ohio Admin. Code 3745-14-11(D). The EPA believes that this provision allows for automatic exemptions from the otherwise applicable SIP emission limitations and requirements, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in a way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to this provision.

The EPA proposes to deny the Petition with respect to Ohio Admin. Code 3745-75-02(E), Ohio Admin. Code 3745-75-02(J), Ohio Admin. Code 3745-75-03(I), Ohio Admin. Code

3745-75-04(K), and Ohio Admin. Code 3745-75-04(L). These provisions are not part of the Ohio SIP and thus cannot represent a substantial inadequacy in the SIP.

G. Affected States in EPA Region VI

1. Arkansas

a. Petitioner's Analysis

The Petitioner objected to two provisions in the Arkansas SIP.¹⁵⁵ First, the Petitioner objected to a provision that provides an automatic exemption for excess emissions of volatile organic compounds (VOC) for sources located in Pulaski County that occur due to malfunctions (Reg. 19.1004(H)). The provision states that excess emissions "which are temporary and result solely from a sudden and unavoidable breakdown, malfunction or upset of process or emission control equipment, or sudden and unavoidable upset or operation will not be considered a violation * * *." The Petitioner argued that this language is impermissible because the CAA and the EPA's interpretation of the CAA in the SSM Policy require that all excess emissions be treated as violations.

Second, the Petitioner objected to a separate provision that provides a "complete affirmative defense" for excess emissions that occur during emergency conditions (Reg. 19.602). The Petitioner argued that this provision, which the state may have modeled after the EPA's title V regulations, is impermissible because its application is not clearly limited to operating permits.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations. In accordance with CAA sections 110(a)(2)(A) and 302(k), SIPs must contain "emission limitations" and those limitations must be continuous. Thus, any excess emissions above the level of the applicable SIP emission limitation must be considered a violation of such limitation, regardless of whether the state elects to exercise its enforcement discretion. SIP provisions that create exemptions from applicable emission limitations during malfunctions or emergency conditions, however defined, are inconsistent with

the fundamental requirements of the CAA.

The first provision identified by the Petitioner explicitly states that excess emissions of VOC "will not be considered a violation" of the applicable emission limitation if they occur due to an "unavoidable breakdown" or "malfunction." This exemption in Reg. 19.1004(H) is impermissible even though the state has limited the exemption to unavoidable breakdowns and malfunctions. The core problem remains that the provision provides an impermissible exemption from the otherwise applicable VOC emission limitations. In addition, by having a SIP provision that defines what would otherwise be violations of the applicable emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations. The EPA believes that the inclusion of such an automatic exemption in Reg. 19.1004(H) is thus a substantial inadequacy and renders this SIP provision impermissible under the CAA.

The second provision identified by the Petitioner defines "emergency" conditions that may cause a source to exceed a technology-based emission limitation under a permit and provides a "complete affirmative defense" to an action brought for non-compliance with such limitations if certain criteria are met. The EPA believes that Reg. 19.602 is substantially inadequate for three reasons. First, the provision does not explicitly limit the affirmative defense to civil penalties. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the CAA for malfunction events (*see* sections IV.B and VII.B of this notice), the EPA's interpretation of the CAA is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304. Second, the provision does not contain elements for establishing the affirmative defense consistent with all of the recommended criteria in the EPA's SSM Policy for SIP provisions. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that Reg. 19.602 does not include criteria that are sufficiently robust to qualify as an

acceptable affirmative defense provision. Finally, the provision can be read to provide additional defenses beyond those already provided in federal technology-based standards. The EPA believes that approvable affirmative defenses in a SIP provision cannot operate to create different or additional defenses from those that are provided in underlying federal technology-based emission limitations, such as NSPS or NESHAP. For these reasons, the EPA believes that Reg. 19.602 is substantially inadequate to meet the fundamental requirements of the CAA.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Reg. 19.1004(H) and Reg. 19.602. The EPA believes that Reg. 19.1004(H) allows for an exemption from otherwise applicable SIP emission limitations and that such exemptions are inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). Additionally, the EPA believes that Reg. 19.602 is an impermissible affirmative defense provision because it does not explicitly limit the defense to monetary penalties, establishes criteria that are inconsistent with those in the EPA's SSM Policy, and can be read to create different or additional defenses from those that are provided in underlying federal technology-based emission limitations. As a consequence, Reg. 19.602 is also inconsistent with CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to these provisions.

2. Louisiana

a. Petitioner's Analysis

The Petitioner objected to several provisions in the Louisiana SIP that allow for automatic and discretionary exemptions from SIP emission limitations during various situations, including startup, shutdown, maintenance, and malfunctions.¹⁵⁶ First, the Petitioner objected to provisions that provide automatic exemptions for excess emissions of VOC from wastewater tanks (LAC 33:III.2153(B)(1)(i)) and excess emissions of NOx from certain sources within the Baton Rouge Nonattainment Area (LAC 33:III.2201(C)(8)).¹⁵⁷ The

¹⁵⁵ Petition at 24. The Petitioner cites to 014-01-1 Ark. Code R. §§ 19.1004(H) and 19.602. The EPA interprets these citations as references to Reg. 19.1004(H) and Reg. 19.602 of the Arkansas Pollution Control & Ecology Commission (APC&EC), Regulation No. 19—Regulations of the Arkansas Plan of Implementation for Air Pollution Control, as approved by the EPA on Apr. 12, 2007 (72 FR 18394) (hereinafter referred to as Reg. 19.1004(H) and Reg. 19.602).

¹⁵⁶ Petition at 42-43.

¹⁵⁷ The EPA interprets the Petitioner's reference to La. Adm. Code tit. 33, § III:2153(B)(1)(i) as a

LAC 33:III.2153(B)(1)(i) provides that control devices “shall not be required” to meet emission limitations “during periods of malfunction and maintenance on the devices for periods not to exceed 336 hours per year.” Similarly, LAC 33:III.2201(C)(8) provides that certain sources “are exempted” from emission limitations “during start-up and shutdown * * * or during a malfunction.” The Petitioners argued that these provisions are impermissible because the CAA and the EPA’s interpretation of the CAA in the SSM Policy require that all excess emissions be treated as violations.

Second, the Petitioner objected to provisions that provide discretionary exemptions to various emission limitations.¹⁵⁸ Three of these provisions provide discretionary exemptions from otherwise applicable SO₂ and visible emission limitations in the Louisiana SIP for excess emissions that occur during certain startup and shutdown events (LAC 33:III.1107, LAC 33:III.1507(A)(1), LAC 33:III.1507(B)(1)), while the other two provide such exemptions for excess emissions from nitric acid plants during startups and “upsets” (LAC 33:III.2307(C)(1)(a) and LAC 33:III.2307(C)(2)(a)). For example, LAC 33:III.1107, which deals with the control of emissions from flares, states that exemptions “may be granted by the administrative authority during startup and shutdown periods if the flaring was not the result of failure to maintain and repair equipment.” The Petitioner argued that this language effectively allows a discretionary decision by a state official to exempt excess emissions during such events and thereby precludes enforcement by the EPA and citizens for what would otherwise be violations of the applicable SIP

citation to LAC 33:III.2153(B)(1)(i), as approved by the EPA on June 20, 2002 (67 FR 41840) (hereinafter referred to as LAC 33:III.2153(B)(1)(i)). Similarly, the EPA interprets the Petitioner’s reference to La. Adm. Code tit. 33, § III:2201(C)(8) as a citation to LAC 33:III.2201(C)(8), as approved by the EPA on July 5, 2011 (76 FR 38977) (hereinafter referred to as LAC 33:III.2201(C)(8)).

¹⁵⁸ The EPA interprets the Petitioner’s reference to La. Adm. Code tit. 33, § III:1107 as a citation to LAC 33:III.1107(A), as approved by the EPA on July 5, 2011 (76 FR 38977) (hereinafter referred to as LAC 33:III.1107(A)). Similarly, the EPA interprets the Petitioner’s reference to La. Adm. Code tit. 33, § III:1507(A)(1) and (B)(1) as citations to LAC 33:III.1507(A)(1) and (B)(1), as approved by the EPA on July 15, 1993 (58 FR 38060) (hereinafter referred to as LAC 33:III.1507(A)(1) and (B)(1)). Also, the EPA interprets the Petitioner’s reference to La. Adm. Code tit. 33, § III:2307(C)(1)(a) and (C)(2)(a) as a citation to LAC 33:III.2307(C)(1)(a) and (C)(2)(a), as approved by the EPA on July 5, 2011 (76 FR 38977) (hereinafter referred to as LAC 33:III.2307(C)(1)(a) and (C)(2)(a)).

emission limitations, contrary to the requirements of the CAA.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for exemptions for excess emissions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official’s discretion. In accordance with sections 110(a)(2)(A) and 302(k), SIPs must contain “emission limitations” and those limitations must be continuous. Thus, any excess emissions above the level of the applicable SIP emission limitation must be considered a violation of such limitation, regardless of whether the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, maintenance, or malfunctions are not violations of the applicable SIP emission limitations are inconsistent with the fundamental requirements of the CAA.

The first two SIP provisions identified by the Petitioner explicitly state that emission limitations for VOC and NO_x are either “not required” or “exempted” during specified types of SSM events. The EPA believes that such automatic exemptions are impermissible under the CAA. By having SIP provisions that define what would otherwise be violations of the applicable SIP emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations. Therefore, the EPA believes that the inclusion of such automatic exemptions in LAC 33:III.2153(B)(1)(i) and LAC 33:III.2201(C)(8) is a substantial inadequacy that renders these SIP provisions impermissible under the CAA.

The other five provisions identified by the Petitioner all provide the state with the discretion to “grant,” “authorize,” or “extend” exemptions from the otherwise applicable SIP emission limitations during various SSM events. The EPA believes that these provisions are impermissible as unbounded director’s discretion provisions that make a state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation of otherwise applicable SIP emission limitations. More importantly, the provisions purport to authorize the state official to create exemptions from applicable SIP emission limitations when such exemptions are impermissible in the first instance. As discussed in more detail in section VII.A of this notice, these types of director’s discretion provisions

undermine the purpose of emission limitations and the reductions they are intended to achieve, thereby rendering them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of such a director’s discretion provision in LAC 33:III.1107(A), LAC 33:III.1507(A)(1), LAC 33:III.1507(B)(1), LAC 33:III.2307(C)(1)(a), and LAC 33:III.2307(C)(2)(a) is therefore a substantial inadequacy that renders these specific SIP provisions impermissible under the CAA.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to LAC 33:III.2153(B)(1)(i) and LAC 33:III.2201(C)(8). The EPA believes that these provisions allow for exemptions from otherwise applicable emission limitations and that such exemptions are inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). The EPA also proposes to grant the Petition with respect to LAC 33:III.1107(A), LAC 33:III.1507(A)(1) & (B)(1), and LAC 33:III.2307(C)(1)(a) & (C)(2)(a). The discretion created by these provisions allows for revisions of the applicable SIP emission limitations without meeting the applicable SIP revision requirements of the CAA, and it allows case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance. Thus, these provisions are also inconsistent with CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that each of these provisions is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to these specific provisions.

3. New Mexico

a. Petitioner’s Analysis

The Petitioner objected to three provisions in the New Mexico SIP that provide affirmative defenses for excess emissions that occur during malfunctions (20.2.7.111 NMAC), during startup and shutdown (20.2.7.112 NMAC), and during emergencies (20.2.7.113 NMAC).¹⁵⁹ The Petitioner objected to the inclusion of these provisions in the SIP based on its view that affirmative defense provisions

¹⁵⁹ Petition at 54–57. The EPA interprets the Petitioner’s reference to N.M. Code R. § 20.2.7.111, N.M. Code R. § 20.2.7.112, and N.M. Code R. § 20.2.7.113, as citations to 20.2.7.111 NMAC, 20.2.7.112 NMAC, and 20.2.7.113 NMAC, as approved by the EPA on Sept. 14, 2009 (74 FR 46910) (hereinafter referred to as 20.2.7.111 NMAC, 20.2.7.112 NMAC, and 20.2.7.113 NMAC).

are always inconsistent with CAA requirements. The Petitioner also argued that each of these affirmative defenses is generally available to all sources, which is in contravention of the EPA's recommendation in the SSM Policy that affirmative defenses should not be available to "a single source or groups of sources that has the potential to cause an exceedance of the NAAQS." Finally, the Petitioner argued that the affirmative defense provision applicable to emergency events is impermissible because it was modeled after the EPA's title V regulations, which are not meant to apply to SIP provisions.

b. The EPA's Evaluation

The EPA disagrees with the Petitioner's contention that no affirmative defense provisions are permissible in SIPs under the CAA. As explained in more detail in sections IV.B and VII.B of this notice, the EPA interprets the CAA to allow affirmative defense provisions for malfunctions. As long as these provisions are narrowly drawn and consistent with the CAA, as recommended in the EPA's guidance for affirmative defense provisions in SIPs, the EPA believes that states may elect to have affirmative defense provisions for malfunctions. By contrast, however, based on evaluation of the legal and factual basis for affirmative defenses in SIPs, the EPA now believes that affirmative defense provisions are not appropriate in the case of planned source actions, such as startup and shutdown, because sources should be expected to comply with applicable emission limitations during those normal planned and predicted modes of source operation. Again, as explained in sections IV.B and VII.C of this notice, the EPA is changing its interpretation of the CAA with respect to affirmative defenses applicable during startup and shutdown events. As a result, 20.2.7.112 NMAC, which provides an affirmative defense to excess emissions that occur during startup or shutdown, is substantially inadequate to meet the requirements of the CAA.

With respect to the Petitioner's second concern, the EPA agrees that the state's inclusion of an affirmative defense for malfunctions that is available to all sources, including single sources or groups of sources with the potential to cause exceedances of the NAAQS or PSD increments, renders the provision inconsistent with the CAA. As explained more fully in section VII.B of this notice, the EPA believes that such affirmative defenses may be permissible if either there is no "potential" for exceedances, or alternatively, if the provision requires that the source make

an affirmative showing that any excess emissions did not in fact cause an exceedance of the NAAQS or PSD increments. The EPA has previously approved such provisions as meeting CAA requirements on a case-by-case basis in specific actions on SIP submissions. Here, however, 20.2.7.111 NMAC is not restricted in application to only those sources that do not have the potential to cause an exceedance, nor does it contain any criteria requiring an "after the fact" showing that excess emissions from a single source or group of sources did not cause an exceedance. Therefore, the provision is substantially inadequate to satisfy the CAA and EPA's interpretation of CAA requirements.

Finally, 20.2.7.113 NMAC provides an affirmative defense for excess emissions that occur during emergencies, a concept borrowed from the EPA's title V regulations. This provision defines "emergency" conditions that may cause a source to exceed a technology-based emission limitation and provides a "complete affirmative defense" to an action brought for non-compliance with such limitations if certain criteria are met. The 20.2.7.113 NMAC is substantially inadequate for three reasons. First, the provision does not explicitly limit the affirmative defense to civil penalties. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the CAA for malfunction events (*see* sections IV.B and VII.B of this notice), the EPA's interpretation of the CAA is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief. An affirmative defense provision that purports to bar any enforcement action for injunctive relief for violations of emission limitations is inconsistent with the requirements of CAA sections 113 and 304. Second, the provision does not contain elements for establishing the affirmative defense consistent with all of the recommended criteria in the EPA's SSM Policy for SIP provisions. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that 20.2.7.113 NMAC does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision. Finally, the provision can be read to provide additional defenses beyond those already provided in federal technology-based standards. The EPA believes that approvable affirmative defenses in a SIP provision

cannot operate to create different or additional defenses from those that are provided in underlying federal technology-based emission limitations, such as NSPS or NESHAP. For these reasons, the EPA believes that 20.2.7.113 NMAC is impermissible under the CAA.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to 20.2.7.112 NMAC, which includes an affirmative defense applicable during startup and shutdown events that is contrary to the EPA's interpretation of the CAA. The EPA believes that this provision is inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, this provision is inconsistent with the requirements of CAA sections 113 and 304. The EPA also proposes to grant the Petition with respect to 20.2.7.111 NMAC, which includes an affirmative defense applicable during malfunction events. This provision is inconsistent with the CAA because it neither limits the defense to only those sources that do not have the potential to cause exceedances of the NAAQS or PSD increments nor does it require sources to make an "after the fact" showing that no such exceedances actually occurred. Therefore, the EPA believes that this provision is similarly inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k), and with respect to CAA sections 113 and 304. Finally, the EPA proposes to grant the Petition with respect to 20.2.7.113 NMAC. The EPA believes that this provision is an impermissible affirmative defense because it does not explicitly limit the defense to monetary penalties, it establishes criteria that are inconsistent with those in EPA's SSM Policy, and it can be read to create different or additional defenses from those that are provided in underlying federal technology-based emission limitations. Thus, this provision too is inconsistent with CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k), and with respect to CAA sections 113 and 304. For these reasons, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to these provisions.

4. Oklahoma

a. Petitioner's Analysis

The Petitioner objected to two provisions in the Oklahoma SIP that together allow for discretionary

exemptions from emission limitations during startup, shutdown, maintenance, and malfunctions (OAC 252:100–9–3(a) and OAC 252:100–9–3(b)).¹⁶⁰ These provisions state that excess emissions during each of these types of events constitute violations of the applicable SIP emission limitations “unless the owner or operator of the facility has complied with the notification requirements,” which consist of a demonstration to the Director of the Air Quality Division that at least one of several criteria have been met. One example of the criteria includes a demonstration that the excess emissions resulted from “either malfunction or damage to the air pollution control or process equipment” or “scheduled maintenance.” The Petitioner argued that these provisions empower the director to excuse violations entirely and thereby preclude enforcement by the EPA or citizens. Specifically, if an owner or operator satisfies the director that the regulatory criteria under section 3(b) have been met, then the language of section 3(a) creates an exemption for the source and strongly implies that the excess emissions are not a violation of the applicable SIP emission limitations. Therefore, the Petitioner argued that these provisions are inconsistent with the requirements of the CAA.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, even where the exemption is only available at the exercise of a state official’s discretion. In accordance with sections 110(a)(2)(A) and 302(k), SIPs must contain “emission limitations” and those limitations must be continuous. Thus, any excess emissions above the level of the applicable SIP emission limitations must be considered a violation of such limitations, regardless of whether the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, malfunctions, or maintenance are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA.

The provisions identified by the Petitioner state that excess emissions during SSM events constitute violations “unless” the Director of the Air Quality

Division provides an exemption. The EPA believes that OAC 252:100–9–3(a) and OAC 252:100–9–3(b) are impermissible, because they are unbounded director’s discretion provisions that purport to make a state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation. The provisions authorize the state official to create exemptions from applicable SIP emission limitations on a case-by-case basis when such exemptions are impermissible in the first instance. These types of director’s discretion provisions undermine the purpose of emission limitations, and the reductions they are intended to achieve, thereby rendering them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of such a director’s discretion provision in OAC 252:100–9–3(a) and OAC 252:100–9–3(b) is therefore a substantial inadequacy and renders these SIP provisions impermissible.

The EPA further notes that the provision allowing exemptions for excess emissions that occur during scheduled maintenance is inconsistent with CAA requirements for the reason that maintenance is a normal mode of source operation, during which sources should be expected to meet applicable SIP emission limitations. Since the 1983 SSM Guidance, the EPA has indicated its view that excess emissions that occur during maintenance should not be excused. Similarly, in the 1999 SSM Guidance, the EPA did not recommend any affirmative defense for excess emissions that occur during maintenance. In this action, the EPA is reiterating its view that the CAA does not permit exemptions or affirmative defenses for excess emissions that occur during such planned events.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to OAC 252:100–9–3(a) and OAC 252:100–9–3(b).¹⁶¹ The discretion created by these provisions allows for revisions of the applicable SIP emission limitations without meeting the applicable SIP revision requirements of the CAA, and it allows case-by-case exemptions from emission limitations when such exemptions are not permissible in the first instance. As

¹⁶¹ The EPA notes that on July 16, 2010, Oklahoma submitted a SIP revision that would remove OAC 252:100–9–3(a) and OAC 252:100–9–3(b) and replace them with affirmative defense provisions. In this action, the EPA is only evaluating these provisions as they are currently found in the EPA-approved Oklahoma SIP. The EPA is not evaluating the July 16, 2010 SIP revision as part of this action. The EPA will address the July 16, 2010 SIP revision in a later action.

a result, these provisions are inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). Therefore, the EPA is proposing to find that these provisions are substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to these provisions.

H. Affected States in EPA Region VII

1. Iowa

a. Petitioner’s Analysis

The Petitioner first objected to a specific provision in the Iowa SIP that allows for automatic exemptions from otherwise applicable SIP emission limitations during periods of startup, shutdown, or cleaning of control equipment (Iowa Admin. Code r. 567–24.1(1)).¹⁶² The Petitioner noted that Iowa Admin. Code r. 567–24.1(1) provides that excess emissions from these periods are not violations of the emissions standard “if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions.” The Petitioner argued that such exemptions are inconsistent with the requirements of the CAA and the EPA’s SSM Policy. The Petitioner argued that the CAA and the EPA’s interpretation of the CAA in the SSM Policy require that all such excess emissions be treated as violations.

Second, the Petitioner objected to a provision that empowers the state to exercise enforcement discretion for violations of the otherwise applicable SIP emission limitations during malfunction periods (Iowa Admin. Code r. 567–24.1(4)).¹⁶³ The Petitioner noted that this provision—which states that “[d]etermination of any subsequent enforcement action will be made following review of [a] report” (emphasis added by Petitioner) submitted by the owner or operator of the source demonstrating certain conditions—could be interpreted to mean that “no enforcement is warranted at all, by anyone.”¹⁶⁴ The Petitioner argued that such an interpretation of this provision could preclude enforcement by the EPA or citizens, both for civil penalties and injunctive relief, and that the EPA’s interpretation of the CAA would forbid such a provision. The Petitioner thus requested that Iowa revise this provision to eliminate any confusion that a decision by Iowa state personnel not to enforce against a violation would in any way

¹⁶² Petition at 37–38.

¹⁶³ Petition at 37–38.

¹⁶⁴ Petition at 38.

¹⁶⁰ Petition at 61–63. The EPA interprets the Petitioner’s reference to Okla. Admin. Code § 252:100–9–3(a) and Okla. Admin. Code § 252:100–9–3(b) as citations to OAC 252:100–9–3(a) and OAC 252:100–9–3(b), as approved by the EPA on Nov. 3, 1999 (64 FR 59629) (hereinafter referred to as OAC 252:100–9–3(a) and (3)(b)).

foreclose enforcement by the EPA or citizens.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that excess emissions during startup, shutdown, or control equipment cleaning are not violations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The first provision identified by the Petitioner explicitly states that excess emission during periods of startup, shutdown, and cleaning of control equipment "is not a violation," contrary to the requirements of the CAA. The EPA believes that the inclusion of such an exemption from otherwise applicable SIP emission limitations in Iowa Admin. Code r. 567-24.1(1) is thus a substantial inadequacy and renders this specific SIP provision impermissible.

The EPA notes that these exemptions are impermissible even though the state has imposed some factual limitations on their potential scope. In Iowa Admin. Code r. 567-24.1(1), the state has conditioned the exemption for excess emissions during periods of startup, shutdown, or cleaning of control equipment, requiring that such activities be "accomplished expeditiously and in a manner consistent with good practice for minimizing emissions." Although this limitation on the scope of the exemptions is a helpful feature, the core problem remains that the provision provides impermissible exemptions from the otherwise applicable SIP emission limitations by defining the excess emission as "not a violation." Such provisions are impermissible under the CAA because the state has effectively negated the ability of the EPA or through a citizen suit to enforce against those violations.

However, the EPA disagrees with Petitioner that Iowa Admin. Code r. 567-24.1(4) is impermissible under the CAA. The EPA believes that this provision is permissible because it defines parameters for the exercise of enforcement discretion by state

personnel for violations of emission limitations during malfunctions. According to the EPA's SSM Policy interpreting the CAA, as discussed in section IX.A of this notice, a state has authority to have a SIP provision that pertains to the exercise of enforcement discretion concerning actions taken by state personnel. The provision at issue clearly states that any excess emission during malfunction "is a violation." The rule also delineates factors that will be considered by state personnel in determining whether to pursue enforcement for those regulatory violations that are due to excess emissions during malfunctions. The listing of these factors does not alter the statement that excess emissions are violations under the Iowa regulations. The provisions that describe the factors to be considered by state personnel only require that the state personnel consider such factors. The regulations do not state or imply that if a source makes an appropriate showing of meeting the factors, it is exempt from penalties or injunctive relief. The provision does not state or imply that any other entity, including the EPA or a member of the public, is precluded from taking an enforcement action if the state exercises its discretion not to enforce violations of the emission limitations during malfunctions. Iowa Admin. Code r. 567-24.1(4) expressly identifies excess emissions described in the rule as violations and allows for the exercise of enforcement discretion in addressing malfunctions. This is consistent with the CAA and the EPA's SSM Policy and therefore does not render the SIP provision substantially inadequate.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Iowa Admin. Code. R. 567-24.1(1). The EPA believes that this provision allows for exemptions from the otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For this reason, the EPA is proposing to find that Iowa Admin. Code. R. 567-24.1(1) is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

The EPA proposes to deny the Petition with respect to Iowa Admin. Code r. 567-24.1(4). The EPA believes that the provision is on its face clearly applicable only to Iowa state enforcement personnel and that the provision could not reasonably be read

by a court to foreclose enforcement by the EPA or through a citizen suit where Iowa state personnel elect to exercise enforcement discretion. The EPA solicits comments on this issue, in particular from the State of Iowa, to assure that there is no misunderstanding with respect to the correct interpretation of Iowa Admin. Code r. 567-24.1(4).

2. Kansas

a. Petitioner's Analysis

The Petitioner objected to three provisions in the Kansas SIP that allow for exemptions for excess emissions during malfunctions and necessary repairs (K.A.R. § 28-19-11(A)), scheduled maintenance (K.A.R. § 28-19-11(B)), and certain routine modes of operation (K.A.R. § 28-19-11(C)).¹⁶⁵ The Petitioner objected because all three of these provisions "state that excess emissions are not violations (or are permitted)," ¹⁶⁶ contrary to the fundamental requirement of the CAA that all excess emissions be considered violations. The Petitioner argued that all three of these provisions would thus appear impermissibly to preclude enforcement by the EPA or citizens for the excess emissions that would otherwise be violations.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during malfunctions, necessary repairs, and routine modes of operation are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. Two of the provisions identified by the Petitioner explicitly state that excess emissions under certain circumstances will "not be deemed violations," which is contrary to the requirements of the CAA. The EPA believes that the inclusion of such exemptions from the

¹⁶⁵ Petition at 38-39.

¹⁶⁶ Petition at 39.

emission limitations in K.A.R. § 28–19–11(A) and the first part of K.A.R. § 28–19–11(C) is thus a substantial inadequacy and renders these specific SIP provisions impermissible.

The EPA notes that these exemptions are impermissible even though the state has imposed some factual and temporal limitations on their potential scope. For example, in K.A.R. § 28–19–11(A), the state has specified that excess emissions during malfunctions or necessary repairs “shall not be deemed violations provided that: (1) The person responsible * * * notifies the department of the occurrence and nature of such malfunctions, breakdowns, or repairs, in writing, within ten (10) days of noted occurrence.” Similarly, in the first part of K.A.R. § 28–19–11(C) with respect to “[e]xcessive contaminant emission from fuel burning equipment used for indirect heating purposes resulting from fuel or load changes, start up, soot blowing, cleaning of fires, and rapping of precipitators,” the state has made the exemption available only in such events that “do not exceed a period or periods aggregating more than five (5) minutes during any consecutive one (1) hour period.” Although these extra limitations on the scope of the exemptions are helpful features, the core problem remains that both of the provisions provide impermissible exemptions from the emission limitations by defining the excess emissions as non-violations.

The EPA believes that both K.A.R. § 28–19–11(B) and the second part of K.A.R. § 28–19–11(C) are impermissible as unbounded director’s discretion provisions that purport to make a state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation. In the case of K.A.R. § 28–19–11(B), the provision authorizes a state official unilaterally to grant “prior approval” to permit “[e]missions in excess of the limitations specified in these emission control regulations resulting from scheduled maintenance of control equipment and appurtenances.” The provision vests the state official with unilateral power to grant an exemption from the otherwise applicable emission limitation, without any public process at the state or federal level. By deciding that an exceedance of the emission limitation is “permitted,” exercise of this discretion could preclude enforcement by the EPA or through a citizen suit. K.A.R. § 28–19–11(B) does contain a requirement that the source establish that it was not possible for the scheduled maintenance to occur during periods of shutdown but nevertheless empowers the state official

to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. Such a director’s discretion provision undermines the emission limitations in the SIP, and the emissions reductions they are intended to achieve, and renders them less enforceable by the EPA or through a citizen suit.

Similarly, the EPA believes that the second part of K.A.R. § 28–19–11(C) is impermissible because it allows a state official unilaterally to “authorize, upon request of the operator, an adjusted time schedule for permitting * * * excessive emissions” if the source can demonstrate that the period of “fuel or load changes, start up, soot blowing, cleaning of fires, and rapping of precipitators” is required to extend longer than the five minutes during a consecutive one-hour period allowed by the first part of K.A.R. § 28–19–11(C). Because the K.A.R. § 28–19–11(C) grant of an automatic exemption of excess emissions during these events is impermissible in the first instance, the provision’s authorization of the state official to extend the period of exemption for an even longer period upon request from a source is also impermissible. Moreover, the provision permits the state official to extend the time period of exemption without any additional public process at the state or federal level. This discretion authorizes the creation of an extended exemption on a case-by-case basis, where the exemption is not permissible in the first instance. Thus, this provision undermines the SIP emission limitations, and the emissions reductions they are intended to achieve, and renders them less enforceable by the EPA or through a citizen suit. The EPA believes that the inclusion of director’s discretion provisions in K.A.R. § 28–19–11(B) and K.A.R. § 28–19–11(C) is thus a substantial inadequacy and renders these specific SIP provisions impermissible for this reason.

The EPA notes that K.A.R. § 28–19–11(C) does condition the state official’s authorization of an extended time period in which excess emissions are not considered violations upon a source limiting “visible emissions” to not exceed 60 percent opacity. The CAA does, as discussed in section VII.A of this notice, permit states to develop alternative emission limitations or other forms of enforceable control measures or techniques that apply during startup or shutdown. The EPA believes that emission limitations in SIPs should generally be developed in the first instance to account for the types of normal operation outlined in K.A.R.

§ 28–19–11(C), such as cleaning and soot blowing. K.A.R. § 28–19–11(C) does not appear to comply with the Act’s requirements as interpreted in the EPA’s SSM Policy in a number of respects. The provision’s exemptions apply to all SIP emission limitations, and the alternative limitation in K.A.R. § 28–19–11(C) restricts only visible emissions and thus, at best, is an alternative emission limitation only for particulate matter. In addition, such alternative emission limitations must be developed in consultation with the EPA and must be narrowly drawn to apply to small groups of sources using specific types of control strategy. To the extent that the requirement limiting the opacity of visible emissions during periods of fuel or load changes, start up, soot blowing, cleaning of fires, and rapping of precipitators in K.A.R. § 28–19–11(C) was intended to function as an alternative emission limitation rather than as an exemption granted at the state official’s discretion from the otherwise applicable SIP emission limitations, the terms of the alternative limitation are substantially inadequate and do not render this specific SIP provision permissible under the CAA.

With respect to the Petitioner’s concern that the challenged exemptions preclude enforcement by the EPA or citizens, the EPA agrees that this is one of the critical reasons why such provisions are impermissible under the CAA. By having SIP provisions that automatically exempt or allow state officials to define what would otherwise be violations of the applicable SIP emission limitations as non-violations, the state has effectively negated the ability of the EPA or the public to enforce against those violations.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to K.A.R. § 28–19–11(A) and the first part of K.A.R. § 28–19–11(C). The EPA believes that both of these provisions allow for automatic exemptions from the otherwise applicable emission limitations, and that such outright exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in a way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304.

The EPA also proposes to grant the Petition with respect to K.A.R. § 28–19–11(B) and the second part of K.A.R.

§ 28–19–11(C). The EPA believes both allow for exemptions from otherwise applicable emission limitations through a state official's unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level. Such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the requirement that visible emissions not exceed 60-percent opacity during the periods of operation specified in K.A.R. § 28–19–11(C) is not a permissible alternative emission limitation under the EPA's SSM Policy interpreting the CAA.

For these reasons, the EPA is proposing to find that K.A.R. § 28–19–11(A), K.A.R. § 28–19–11(B), and K.A.R. § 28–19–11(C) are substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to these provisions.

3. Missouri

a. Petitioner's Analysis

The Petitioner objected to two provisions in the Missouri SIP that could be interpreted to provide discretionary exemptions.^{167 168} The first provides exemptions for visible emissions exceeding otherwise applicable SIP opacity limitations (Mo. Code Regs. Ann. tit 10, § 10–6.220(3)(C)). The second provides authorization to state personnel to decide whether excess emissions “warrant enforcement action” where a source submits information to the state showing that such emissions were “the consequence of a malfunction, start-up or shutdown.” (Mo. Code Regs. Ann. tit 10, § 10–6.050(3)(C)). The Petitioner argued that Mo. Code Regs. Ann. tit 10, § 10–6.050(3)(C) “clearly gives the

director the authority to decide whether excess emissions occurred during a malfunction, start-up, or shutdown, and whether they ‘warrant enforcement action.’”¹⁶⁹ According to the Petitioner, the provision could be interpreted to decide that enforcement is not warranted by anybody, which could preclude action by the EPA and citizens for both civil penalties and injunctive relief, and such an interpretation is inconsistent with the CAA and the EPA's SSM policy interpreting the CAA. Similarly, the Petitioner argued that Mo. Code Regs. Ann. tit 10, § 10–6.220(3)(C) could be construed to empower the director to preclude enforcement by the EPA and citizens. The Petitioner noted that the CAA and the EPA's SSM policy forbid such provisions if they would purport to preclude enforcement by the EPA or citizens.

b. The EPA's Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official's discretion. In accordance with the requirements of section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitations must be considered violations, whether or not the state elects to exercise its enforcement discretion.

The EPA believes that Mo. Code Regs. Ann. tit 10, § 10–6.220(3)(C) is impermissible as an insufficiently bounded director's discretion provision. The provision states that “[v]isible emissions over the limitations * * * of this rule are in violation of this rule unless the director determines that the excess emissions do not warrant enforcement action based on data submitted” by sources regarding startup, shutdown, and malfunction events. This provision could be read to mean that once the state official has determined that excess visible emissions do not warrant enforcement action, those excess emissions are not violations. Such an interpretation would make the state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation, which could preclude enforcement by the EPA or the public who might disagree about whether enforcement action is warranted. Most importantly, however, the provision may be read to authorize

the state official to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. The EPA believes that the inclusion of an insufficiently bounded director's discretion provision in Mo. Code Regs. Ann. tit 10, § 10–6.220(3)(C) is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason.

The EPA believes that Mo. Code Regs. Ann. tit 10, § 10–6.050(3)(C) is permissible because it defines parameters for the exercise of enforcement discretion by state personnel for violations of emission limitations. According to the EPA's SSM Policy, as discussed in section IX.A of this notice, a state has authority to have a SIP provision that pertains to the exercise of enforcement discretion concerning actions taken by state personnel. The provision only maintains that state enforcement personnel “shall consider” certain factors in determining whether to take an enforcement action under the state statutory enforcement provisions. The regulations do not state or imply that if a source makes an appropriate showing it is exempt from penalties or injunctive relief. The provisions that describe the factors to be considered by a state official only state that the official will consider such factors. The provision does not state or imply that any other entity, including the EPA or a member of the public, is precluded from taking an enforcement action if the state exercises its discretion not to pursue enforcement. The EPA believes that Mo. Code Regs. Ann. tit 10, § 10–6.050(3)(C) is consistent with the CAA and the EPA's SSM Policy and therefore does not render the SIP provision substantially inadequate.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Mo. Code Regs. Ann. tit 10, § 10–6.220(3)(C). The EPA believes that this provision could be read to allow for exemptions from the otherwise applicable SIP emission limitations through a state official's unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level. Such a provision is inconsistent with the fundamental requirements of the CAA with respect to SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find Mo. Code Regs. Ann. tit 10, § 10–6.220(3)(C) is substantially inadequate to meet CAA requirements and thus is proposing to issue a SIP call with respect to this provision.

¹⁶⁷ Petition at 49–50.

¹⁶⁸ The EPA notes that the Petitioner also identified additional provisions Mo. Code Regs. Ann. tit 10, § 10–6.200(3)(E)(1), Mo. Code Regs. Ann. tit 10, § 10–6.200(3)(E)(3)(C)(I), Mo. Code Regs. Ann. tit 10, § 10–6.200(3)(E)(4)(B), Mo. Code Regs. Ann. tit 10, § 10–6.200(3)(E)(5)(E), Mo. Code Regs. Ann. tit 10, § 10–6.200(3)(E)(6)(F), Mo. Code Regs. Ann. tit 10, § 10–6.200(3)(E)(7)(E), Mo. Code Regs. Ann. tit 10, § 10–6.200(3)(E)(11)(C), which provide for exemptions to HMIWIs, that it alleged are inconsistent with the CAA and the EPA's SSM Policy. However, the Petitioner did not request that the EPA address these provisions in its remedy request, and thus the EPA is not addressing these provisions in this action. (This is in contrast to the case of a similar HMIWI provision in Nebraska for which the Petition did specifically make such a request.) The EPA further notes that the provisions enumerated above are not part of Missouri's SIP but were approved as part of the separate state plan to meet the applicable emissions guidelines under CAA § 111(d) and 40 CFR Part 60. Therefore, a SIP call is not appropriate. The EPA may elect to evaluate these provisions in a later action.

¹⁶⁹ Petition at 50.

The EPA proposes to deny the Petition with respect to Mo. Code Regs. Ann. tit 10, § 10–6.050(3)(C). The EPA believes that the provision is on its face clearly applicable only to Missouri state enforcement personnel and that the provision could not reasonably be read by a court to foreclose enforcement by the EPA or through a citizen suit where Missouri state personnel elect to exercise enforcement discretion. The EPA solicits comments on this issue, in particular from the State of Missouri, to assure that there is no misunderstanding with respect to the correct interpretation of Mo. Code Regs. Ann. tit 10, § 10–6.050(3)(C).

4. Nebraska

a. Petitioner's Analysis

The Petitioner objected to two provisions in the Nebraska SIP.¹⁷⁰ First, the Petitioner objected to a generally applicable provision that provides authorization to state personnel to decide whether excess emissions “warrant enforcement action” where a source submits information to the state showing that such emissions were “the result of a malfunction, start-up or shutdown” (Neb. Admin. Code Title 129 § 11–35.001). The Petitioner argued that this provision “clearly gives the Director the authority to decide whether excess emission occurred during a malfunction, startup or shutdown, and whether they ‘warrant enforcement action.’”¹⁷¹ According to the Petitioner, the provision could be interpreted to give a state official the authority to decide that enforcement is not warranted by anybody, which could preclude action by the EPA and citizens for both civil penalties and injunctive relief, and such an interpretation is inconsistent with the CAA and the EPA’s SSM policy interpreting the CAA. The Petitioner thus requested that Nebraska revise the provision to eliminate any confusion that a decision by state personnel not to enforce against a violation would in any way foreclose enforcement by the EPA or citizens.

Second, the Petitioner objected to a specific provision in Nebraska state law that contains exemptions for excess emissions at HMIWI during startup, shutdown, and malfunction (Neb. Admin. Code Title 129 § 18–004.02). The Petitioner requested that these exemptions be removed entirely from Nebraska’s SIP.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise

applicable SIP emission limitations, whether automatic or through the exercise of a state official’s discretion. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of “emission limitations” in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitations must be considered violations, whether or not the state elects to exercise its enforcement discretion.

The EPA believes that Neb. Admin. Code Title 129 § 11–35.001 is permissible because it defines parameters for the exercise of enforcement discretion by state personnel for violations of emission limitations. According to the EPA’s SSM Policy, as discussed in section IX.A of this notice, a state has authority to have a SIP provision that pertains to the exercise enforcement discretion concerning actions taken by state personnel. The provision in question maintains that state enforcement personnel “shall consider” certain factors in determining whether to take an enforcement action under the state statutory enforcement provisions. The regulation does not expressly or implicitly place any limits on the state personnel’s ability to exercise discretion, and the enforcement discretion provided by this regulation is not an exemption to the SIP emission limitations. The provision does not state or imply that any other entity, including the EPA or a member of the public, is precluded from taking enforcement action if the state exercises its discretion not to pursue enforcement. The EPA believes that Neb. Admin. Code Title 129 § 11–35.001 is consistent with the CAA and the EPA’s SSM Policy and therefore does not render the SIP substantially inadequate.

The EPA disagrees that the provisions providing exemptions for HMIWI must be removed from the SIP. Nebraska Admin. Code Title 129 § 18–004.02 was not approved into Nebraska’s SIP, but rather it was approved as part of the separate state plan to meet the applicable emissions guidelines under CAA § 111(d) and 40 CFR Part 60. Because that rule is not in the Nebraska SIP is not related to any provisions in the SIP, it does not represent an inadequacy in the SIP.

c. The EPA’s Proposal

The EPA proposes to deny the Petition with respect to Neb. Admin. Code Title 129 § 11–35.001. The EPA believes that this provision is on its face

clearly applicable only to Nebraska state enforcement personnel and that the provision could not reasonably be read by a court to foreclose enforcement by the EPA or through a citizen suit where personnel from Nebraska elect to exercise enforcement discretion. The EPA solicits comments on this issue, in particular from the State of Nebraska, to assure that there is no misunderstanding with respect to the correct interpretation of this provision.

The EPA proposes to deny the Petition with respect to Neb. Admin. Code Title 129 § 18–004.02. This regulation is not part of the Nebraska SIP and thus cannot represent an inadequacy in the SIP.

5. Nebraska: Lincoln-Lancaster

a. Petitioner's Analysis

The Petitioner objected to a generally applicable provision in the Lincoln-Lancaster County Air Pollution Control Program (Art. 2 § 35), which governs the Lincoln-Lancaster County Air Pollution Control District of Nebraska, that is parallel “in all aspects pertinent to this analysis” to Neb. Admin. Code Title 129 § 11–35.001.¹⁷² The Lincoln-Lancaster County provision provides authorization to local personnel to decide whether excess emissions “warrant enforcement action” where a source submits information to the county showing that such emissions were “the result of a malfunction, start-up or shutdown.” The Petitioner argued that this provision “clearly gives the Director the authority to decide whether excess emission occurred during a malfunction, startup or shutdown, and whether they ‘warrant enforcement action.’”¹⁷³ According to the Petitioner, the provision could be interpreted to decide that enforcement is not warranted by anybody, which could preclude action by the EPA and citizens for both civil penalties and injunctive relief, and such an interpretation is inconsistent with the CAA and the EPA’s SSM Policy interpreting the CAA. The Petitioner thus requested that Nebraska or Lincoln-Lancaster County revise the provision to eliminate any confusion that a decision by local personnel not to enforce against a violation would in any way foreclose enforcement by the EPA or citizens.

b. The EPA’s Evaluation

The EPA agrees that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations, whether automatic or through the exercise of a state official’s discretion. In

¹⁷⁰ Petition at 51.

¹⁷¹ Petition at 51.

¹⁷² Petition at 51–52.

¹⁷³ Petition at 52.

accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitations must be considered violations, whether or not the state elects to exercise its enforcement discretion.

The EPA believes that Lincoln-Lancaster County Air Pollution Control Program, Art. 2 § 35 is permissible because it defines parameters for the exercise of enforcement discretion by local personnel for violations of emission limitations. According to the EPA's SSM Policy, as discussed in section IX.A of this notice, a state has authority to have a SIP provision that pertains to the exercise enforcement discretion concerning actions taken by state personnel. The provision in question maintains that local enforcement personnel "shall consider" certain factors in determining whether to take an enforcement action under the local statutory enforcement provisions. The regulation does not expressly or implicitly place any limits on the local personnel's ability to exercise discretion, and the enforcement discretion provided by the regulation is not an exemption to the SIP emission limitations. The provision does not state or imply that any other entity, including the EPA or a member of the public, is precluded from taking enforcement action if the county exercises its discretion not to pursue enforcement. The EPA believes that Lincoln-Lancaster County Air Pollution Control Program, Art. 2 § 35 is consistent with the CAA and EPA's SSM Policy and therefore does not render the SIP substantially inadequate.

c. The EPA's Proposal

The EPA proposes to deny the Petition with respect to Lincoln-Lancaster County Air Pollution Control Program, Art. 2 § 35. The EPA believes that this provision is on its face clearly applicable only to Lincoln-Lancaster County enforcement personnel and that the provision could not reasonably be read by a court to foreclose enforcement by the EPA or through a citizen suit where personnel from Lincoln-Lancaster County elect to exercise enforcement discretion. The EPA solicits comments on this issue, in particular from the State of Nebraska and from the Lincoln-Lancaster County Air Pollution Control Program, to assure that there is no misunderstanding with respect to the correct interpretation of this provision.

I. Affected States in EPA Region VIII

1. Colorado

a. Petitioner's Analysis

The Petitioner objected to two affirmative defense provisions in the Colorado SIP that provide for affirmative defenses to qualifying sources during malfunctions (5 Colo. Code Regs § 1001-2(II.E)) and during periods of startup and shutdown (5 Colo. Code Regs § 1001-2(II.J)).¹⁷⁴ The Petitioner acknowledged that this state has correctly revised its SIP in important ways in order to be consistent with CAA requirements, as interpreted in the EPA's SSM Policy, including providing affirmative defense provisions that are limited to monetary penalties, that do not apply in actions to enforce federal standards such as NSPS or NESHAP approved into the SIP, and that meet "almost word for word" the recommendations of the 1999 SSM Guidance. Nevertheless, the Petitioner had two concerns with these SIP provisions.

First, the Petitioner objected to both of these provisions based on its assertion that the CAA allows no affirmative defense provisions in SIPs. Second, the Petitioner asserted that even if affirmative defense provisions were permissible under the CAA, the state had properly followed EPA guidance in the affirmative defense provision applicable to startup and shutdown events but failed to do so in the affirmative defense provision applicable to malfunctions. Specifically, the Petitioner argued that the EPA's own guidance for affirmative defenses recommended that they "are not appropriate where a single source or a small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments."¹⁷⁵ Instead, the state's affirmative defense for malfunction events is potentially available to any source, if it can establish that the excess emissions during the event did not result in exceedances of ambient air quality standards that could be attributed to the source.¹⁷⁶ The Petitioner objected to this as not merely inconsistent with the EPA's 1999 SSM Guidance but an approach "that does not have the same deterrent effect" on sources and that would not have the same effects on sources to assure that they comply at all times in order to avoid violations. As a practical matter, the Petitioner also argued that including this element to the affirmative defense could "mire

enforcement proceedings in the question of whether or not the NAAQS or PSD increments were exceeded as a matter of fact."

b. The EPA's Evaluation

The EPA disagrees with the Petitioner's contention that no affirmative defense provisions are permissible in SIPs under the CAA. As explained in more detail in section IV.B of this notice, the EPA interprets the CAA to allow affirmative defense provisions for malfunctions. So long as these provisions are narrowly drawn and consistent with the CAA, as recommended in the EPA's guidance for affirmative defense provisions in SIPs, the EPA believes that states may elect to have affirmative defense provisions for malfunctions. However, based on evaluation of the legal and factual basis for affirmative defenses in SIPs, the EPA now believes that affirmative defense provisions are not appropriate in the case of planned source actions, such as startup and shutdown, because sources should be expected to comply with applicable emission limitations during those normal planned and predicted modes of source operation. Again, as explained in section IV.B of this notice, the EPA is changing its interpretation with respect to affirmative defenses for startup and shutdown. The EPA acknowledges that at the time of its approval of 5 Colo. Code Regs § 1001-2(II.J) into the SIP in 2006, the state had complied with the EPA's then-applicable interpretation of the CAA and had worked with the EPA to develop that provision.¹⁷⁷ However, based on further consideration of this issue prompted by the Petition, the EPA is revising its SSM Policy to interpret the CAA to allow affirmative defenses only in the case of events that are beyond the control of the source, *i.e.*, malfunctions.

With respect to the Petitioner's second concern, the EPA disagrees that the state's inclusion of an affirmative defense available to all sources, including single sources or groups of sources with the "potential" to cause exceedances of the NAAQS or PSD increments, renders the provision inconsistent with the CAA. The EPA's recommendations for appropriate criteria for affirmative defenses in the SSM Policy are guidance, and as guidance, the EPA believes that there can be facts and circumstances in which a state may elect to develop a SIP

¹⁷⁴ Petition at 25-27.

¹⁷⁵ *Id.* at 25.

¹⁷⁶ *See*, 5 Colo. Code Regs § 1001-2(II.E.1.).

¹⁷⁷ *See*, "Approval and Disapproval and Promulgation of Colorado Affirmative Defense Provisions for Startup and Shutdown," 71 FR 8958 (Feb. 22, 2006).

provision with somewhat different criteria, so long as they still meet the same statutory objectives. Conditioning the affirmative defense on a factual showing that there was no actual violation of air standards attributable to the excess emissions during the malfunction is an acceptable alternative means to the same end. For example, instead of providing no affirmative defense to sources with this “potential” for these impacts on air quality, the state could provide the affirmative defense to sources on the condition that the source must be able to demonstrate that the excess emissions did not have these impacts. The EPA considers this an appropriate means to the same end of providing the affirmative defense to sources in a way that provides relief from monetary penalties for events that were beyond their control, at the same time providing incentive to the source to prevent the violation and to take all practicable steps to minimize the impacts of the violation in order to qualify for the relief from penalties. As described in more detail in section VII.B of this notice, the EPA is revising its recommendations for affirmative defense provisions for malfunctions with respect to this specific point in this proposal.

Finally, the EPA understands the Petitioner’s concern about enforcement proceedings becoming “mired” in various questions of fact that must be established in an enforcement action. However, the EPA notes that all enforcement proceedings turn upon important questions of fact that must be proven, including facts necessary to establish whether there was a violation, the extent of the violation, and whether there are extenuating circumstances that should be taken into consideration in the assessment of monetary penalties or injunctive relief for the violation. Indeed, the statutory factors that Congress provided for the assessment of penalties in CAA section 113(e) explicitly include “the seriousness of the violation,” which would encompass the extent and severity of the environmental impact of the violation. Thus, the EPA does not agree that it is unreasonable to include an affirmative defense element that pertains to whether or not the excess emissions in question caused a violation of the NAAQS or PSD increments.

c. The EPA’s Proposal

The EPA proposes to grant the Petition with respect to 5 Colo. Code Regs § 1001–2(II.J) because it provides an affirmative defense for violations due to excess emissions applicable during startup and shutdown events, contrary

to the EPA’s current interpretation of the CAA. The EPA believes that this provision allows for an affirmative defense that is inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, this provision is inconsistent with the requirements of CAA sections 113 and 304. For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to this provision.

The EPA proposes to deny the Petition with respect to 5 Colo. Code Regs § 1001–2(II.E), because this provision includes an affirmative defense applicable to malfunction events that is consistent with the requirements of the CAA, as interpreted by the EPA in the SSM Policy. In particular, the EPA denies the Petition with respect to the claim that this provision is inconsistent with the CAA because it is available to sources or groups of sources that might have the potential to cause violations of the NAAQS or PSD increments. The EPA believes that an acceptable alternative approach is to require the source to establish, as an element of the affirmative defense, that the excess emissions in question did not cause such impacts. Accordingly, the EPA is proposing to find that this provision is consistent with CAA requirements and thus declining to make a finding of substantial inadequacy with respect to this provision.

2. Montana

a. Petitioner’s Analysis

The Petitioner objected to an exemption from otherwise applicable emission limitations for aluminum plants during startup and shutdown (Montana Admin. R 17.8.334).¹⁷⁸ The Petitioner argued that an automatic exemption for emissions during startup and shutdown events is inconsistent with the CAA and the EPA’s interpretation of the CAA in the SSM Policy. In addition, the Petitioner argued that these exemptions also could not qualify as source-specific alternative limits applicable during startup and shutdown because there “is nothing to indicate that the State addressed the feasibility of control strategies, minimization of the frequency and duration of startup and shutdown modes, worst-case emissions, and impacts on air quality.”¹⁷⁹ The Petitioner further objected that this

provision would be in contravention of the EPA’s recommendation that source-specific emission limitations for startup and shutdown would not be appropriate when a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments.

b. The EPA’s Evaluation

The EPA agrees that ARM 17.8.334 (in Administrative Rule of Montana) is inconsistent with the requirements of the CAA. This provision explicitly provides that affected sources are exempted from otherwise applicable SIP emission limitations during startup and shutdown. The relevant part of this SIP provision specifies that “[o]perations during startup and shutdown shall not constitute representative conditions for the purposes of determining compliance with this rule” and further specifies “nor shall emission in excess of the levels required in ARM 17.8.331 and 17.8.332 during periods of startup and shutdown be considered a violation of ARM 17.8.331 and 17.8.332.”¹⁸⁰ The latter regulatory cross-references are to emission limits for fluorides and opacity at the source, both of which relate to the attainment and maintenance of the NAAQS and PSD increments.¹⁸¹ Moreover, the provision in question also contains ambiguous regulatory text that suggests the exemption extends to other emission limitations applicable to this source category. By stating that operations during startup and shutdown are not representative conditions for determining compliance with “this rule,” the provision appears to provide the same exemptions from other emission limitations that may apply to aluminum plants with respect to other air emissions as well. The EPA’s longstanding interpretation of the CAA is that SIP provisions containing exemptions during startup and shutdown are not permissible.

The EPA also agrees that ARM 17.8.334 does not qualify as a source-specific emission limitation applicable during startup and shutdown, as recommended in the 1999 SSM Guidance. As explained in section VII.A of this notice, the EPA is clarifying that guidance to eliminate any misperception that exemptions from otherwise applicable emission limitations are permissible during startup and shutdown. States can elect to develop appropriate source-specific alternative emission limitations that

¹⁸⁰ See, Montana Admin. R 17.8.334(1).

¹⁸¹ The EPA notes that the state has elected to control fluoride emissions as a means of addressing particulate matter from the affected sources.

¹⁷⁸ Petition at 50–51.

¹⁷⁹ *Id.* at 51.

apply during startup and shutdown events. The EPA recommended that in order to be approvable (*i.e.*, meet CAA requirements), any new special emission limitations applicable to the source during startup and shutdown should be narrowly tailored and take into account considerations such as the technological limitations of the specific source category and the control technology that is feasible during startup and shutdown. Any such SIP revision that would alter the existing applicable emission limitations for a source during startup and shutdown must meet the same requirements as any other SIP submission, *i.e.*, compliance with CAA sections 110(a), 110(k), 110(l), and 193, and any other CAA provision substantively germane to the SIP revision. Given the text of ARM 17.8.334, however, the EPA believes the state intended not to create a source-specific emission limitation applicable during startup and shutdown but instead merely an exemption for such emissions. Likewise, the EPA does not believe that the issue of special emission limitations during startup or shutdown for a single source or group of sources was contemplated at the time the state created this SIP provision. Nevertheless, the EPA notes that its current SSM Policy does not interpret the CAA to be a bar to special emission limitations in these circumstances, if the state addresses the concern about impacts on NAAQS and PSD increments in some other comparable way.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to ARM 17.8.334. The EPA believes that this provision allows for exemptions from otherwise applicable SIP emission limitations during startup and shutdown and that such exemptions are inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). It is not necessary to reach the Petitioner's argument that this provision is not an appropriate source-specific emission limitation, because the provision at issue instead provides an impermissible exemption for emissions during startup and shutdown. Similarly, it is not necessary to reach the Petitioner's concern with respect to the issue of a single source or group of sources with the potential to cause an exceedance of the NAAQS or PSD increment, because the provision at issue provides an impermissible exemption. For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus proposes to issue a SIP call with respect to this provision.

3. North Dakota

a. Petitioner's Analysis

The Petitioner objected to two provisions in the North Dakota SIP that create exemptions from otherwise applicable emission limitations.¹⁸² The first provision creates exemptions from a number of cross-referenced opacity limits "where the limits specified in this article cannot be met because of operations and processes such as, but not limited to, oil field service and drilling operations, but only so long as it is not technically feasible to meet said specifications" (N.D. Admin. Code § 33-15-03-04(4)). The second provision creates an implicit exemption for "temporary operational breakdowns or cleaning of air pollution equipment" if the source meets certain conditions (N.D. Admin. Code § 33-15-05-01(2)(a)(1)). The Petitioner claimed that both provisions violate the CAA and the EPA's interpretation of the CAA in the SSM Policy because they create exemptions from otherwise applicable emission limitations for excess emissions during these events rather than treating the excess emissions as violations, and because the provisions could be construed to preclude enforcement of the emission limitations for these violations by the EPA and citizens.

b. The EPA's Evaluation

The EPA believes that N.D. Admin. Code 33-15-03-04.4 and N.D. Admin. Code 33-15-03-04.3¹⁸³ are inconsistent with the requirements of the CAA. These provisions explicitly allow exemptions from the otherwise applicable emission limitations for opacity in several other regulations: N.D. Admin. Code 33-15-03-01, N.D. Admin. Code 33-15-03-02, N.D. Admin. Code 33-15-03-03, and N.D. Admin. Code 33-15-03-03.1. The exemption created by N.D. Admin. Code 33-15-03-04.4 is indefinite in scope and has unclear limits, because it is available whenever a source cannot meet the emission limitations "because of operations or processes such as, but not limited to, oil field service and drilling operations," but "only so long as it is not technically feasible to meet said [emission limitations]". It is unclear whether the provision is intended to apply only to special

circumstances, such as malfunctions, or to a broader range of normal source operations. It is also unclear who determines what operations or processes make compliance impossible or who determines when it again becomes technically feasible to meet the limits. Whatever the parameters of this imprecise provision, however, it is clear that it contemplates outright exemptions from the applicable emission limitations under certain circumstances and at certain times.

The EPA believes that N.D. Admin. Code 33-15-03-04.3 is impermissible under the CAA as interpreted in the EPA's SSM Policy as an unbounded director's discretion provision. The provision states that the otherwise applicable emission limitations for opacity in the several other listed regulations do not apply "where an applicable opacity standard is established for a specific source." In accordance with this provision, a state official could modify the opacity limits in a permit or other document to allow emissions in excess of the otherwise applicable SIP limitations. As discussed in section VII.A of this notice, such director's discretion provisions are impermissible. Such an interpretation would make the state official the unilateral arbiter of whether the excess emissions in a given event constitute a violation, which could preclude enforcement by the EPA or the public who might disagree about whether enforcement action is warranted. Most importantly, however, the provision may be read to authorize the state official to create an exemption from the emission limitation, and such an exemption is impermissible in the first instance. The EPA believes that the inclusion of an unbounded director's discretion provision in N.D. Admin. Code 33-15-03-04.3 is thus a substantial inadequacy and renders this specific SIP provision impermissible for this reason.

In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunctions are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The exemptions provided in N.D. Admin. Code 33-15-03-04.4 are not consistent with CAA requirements, because they would exempt excess emissions that

¹⁸² Petition at 59.

¹⁸³ The EPA interprets the Petitioner's reference to N.D. Admin. Code § 33-15-03-04(4) as a citation to N.D. Admin. Code 33-15-03-04.4. The EPA notes also that the Petitioner specifically focused on concern with N.D. Admin. Code 33-15-04.4, but N.D. Admin. Code 33-15-03-04.3 also includes a related problem.

occur during the periods in question. In addition, the provision does not operate to create a source-specific emission limitation that applies during the periods in question, nor does it meet the recommended criteria and parameters for an affirmative defense for violations that occur as a result of a qualifying malfunction. Moreover, the amorphous nature of the provision, in which it is unclear who makes the determination whether the source should be excused from the emission limitations and what the precise parameters are for these exemptions, exacerbates the problem. Thus, the EPA also agrees with the Petitioner's concern that this provision could be interpreted to bar enforcement by the EPA or through a citizen suit, not only because it creates impermissible exemptions but also because of the inherent ambiguities about: (i) Who makes the determination whether the excess emissions are to be considered a violation; and (ii) what constitutes an event during which the excess emissions are to be excused. In its current form, the EPA has concerns not only about the impermissible exemptions created by the provision but also about its practical enforceability as a SIP provision meeting basic CAA requirements for implementation, maintenance, and enforcement of the NAAQS as contemplated in CAA section 110.

The EPA agrees that N.D. Admin. Code 33–15–05–01.2a(1)¹⁸⁴ is also inconsistent with CAA requirements for SIP provisions. This provision creates an implicit exemption for “temporary operational breakdowns or cleaning of air pollution equipment” if the source meets certain conditions. N.D. Admin. Code 33–15–05–01 in general imposes emission limitations for particulate matter from industrial processes, with the limitations stated in terms of the maximum amount of particulate matter allowed in any one hour. Notwithstanding these emission limitations, however, N.D. Admin. Code 33–15–05–01.2a(1) provides that:

[t]emporary operational breakdowns or cleaning of air equipment for any process *are permitted* provided that the owner or operator immediately advises the department of the circumstances and outlines an acceptable corrective program and provided such operations do not cause an immediate public health hazard (emphasis added).

Although N.D. Admin. Code 33–15–05–01.2a(1) does not explicitly state that the exceedances of the emission limitations are not violations, the EPA

believes that this is the most reasonable reading of the provision. Moreover, the title for this subsection is “exceptions,” and the immediately preceding provisions impose the emission limitations on sources. Thus, the provision creates an impermissible exemption from the otherwise applicable SIP emission limitations.

The EPA notes that although the state has imposed some conditions on the exemptions, *e.g.*, the requirement to notify state officials of occurrence of the event, this provision would not qualify as an affirmative defense consistent with CAA requirements. First, the exemptions would negate the availability of monetary penalties or injunctive relief in any enforcement proceeding. Second, the conditions for qualifying for the exemption are not consistent with the criteria that EPA recommends for elements of an affirmative defense for which the source bears the burden of proof in order to assure that they are narrowly drawn and available only in suitable circumstances. Third, the provision extends not just to “breakdowns,” which presumably equates to malfunctions, but also extends to “cleaning of air equipment,” which clearly encompasses excess emissions during normal source maintenance—events for which sources should be designed, operated, and maintained to comply with emission limitations, and during which sources should be expected to comply.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to N.D. Admin. Code 33–15–03–04.4 (cited in the Petition as N.D. Admin. Code § 33–15–03–04(4)). The EPA believes that this provision allows for exemptions from otherwise applicable SIP emission limitations during startup and shutdown and that such exemptions are inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, the EPA believes that this provision is sufficiently ambiguous that it would be difficult for the state, the EPA, or the public to enforce the provision effectively in its current form, and that this provision is thus inconsistent with the requirements of CAA section 110(a) on this basis as well. For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to this provision.

The EPA also proposes to grant the Petition with respect to N.D. Admin. Code 33–15–03–04.3 (cited in the Petition as N.D. Admin. Code § 33–15–

03–04(3)). The EPA believes that this provision allows for discretionary exemptions from otherwise applicable emission limitations through a state official's unilateral exercise of discretionary authority that is insufficiently bounded. Such provisions are inconsistent with the fundamental requirements of the CAA with respect to SIPs and SIP revisions. Moreover, the discretion created by these provisions allows case-by-case exemptions from emission limitations, when such exemptions are not permissible in the first instance. Such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

The EPA also proposes to grant the Petition with respect to N.D. Admin. Code 33–15–05–01.2a(1) (cited in the Petition as N.D. Admin. Code § 33–15–05–01(2)(a)(1)). The EPA believes that this provision allows for exemptions from otherwise applicable SIP emission limitations during operational breakdowns (*i.e.*, malfunctions) or cleaning of air equipment (*i.e.*, maintenance) and that such exemptions are inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is also proposing to find that this provision is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to this provision.

4. South Dakota

a. Petitioner's Analysis

The Petitioner objected to a provision in the South Dakota SIP that creates exemptions from otherwise applicable SIP emission limitations (S.D. Admin. R. 74:36:12:02(3)).¹⁸⁵ The Petitioner asserted that the provision imposes visible emission limitations on sources but explicitly excludes emissions that occur “for brief periods during such operations as soot blowing, start-up, shut-down, and malfunctions.” The Petitioner argued that such automatic exemptions for excess emissions is contrary to the requirements of the CAA for SIP provisions, as well as contrary to the EPA's 1982 SSM Guidance and 1999 SSM Guidance.

¹⁸⁴ The EPA interprets the Petitioner's reference to N.D. Admin. Code § 33–15–05–01(2)(a)(1) as a citation to N.D. Admin. Code 33–15–05–01.2a(1).

¹⁸⁵ Petition at 66.

b. The EPA's Evaluation

The EPA agrees that S.D. Admin. R. 74:36:12:02(3) is inconsistent with CAA requirements for SIP provisions. This provision creates an exemption from applicable visible emission limitations from the generally applicable SIP requirements. The S.D. Admin. R. 74:36:12:01 imposes a generally applicable opacity limit on all sources, measured using the EPA's Method 9. However, S.D. Admin. R. 74:36:12:02 provides exceptions to these limits and, in particular, in S.D. Admin. R. 74:36:12:02(3) includes an explicit exemption for emissions for "brief periods during such operations as soot blowing, start-up, shut-down, and malfunctions."

In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunctions are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. In addition, the EPA's SSM Policy has long interpreted the CAA not to permit exemptions for excess emissions during other modes of normal source operation, such as "soot blowing." The EPA notes that by its terms, S.D. Admin. R. 74:36:12:02(3) implies that it also would exempt excess emissions during other modes of normal source operation because it explicitly applies to events "such as" the four listed types, therefore implying it is not an exclusive list and could extend to other types of events as well. The exemptions provided in S.D. Admin. R. 74:36:12:02(3) are not consistent with CAA requirements, because they would exempt excess emissions that occur during the periods in question. Excess emissions must be treated as violations of the applicable emission limitations.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to S.D. Admin. R. 74:36:12:02(3). The EPA believes that this provision allows for exemptions from otherwise applicable SIP emission limitations during startup, shutdown, and malfunction, as well as during other modes of normal source operations such as "soot blowing." Automatic exemptions from otherwise applicable SIP emission limitations are inconsistent with the fundamental

requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is also proposing to find that this provision is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to this provision.

5. Wyoming

a. Petitioner's Analysis

The Petitioner objected to a specific provision in the Wyoming SIP that provides an exemption for excess particulate matter emissions from diesel engines during startup, malfunction, and maintenance (ENV-AQ-1 Wyo. Code R. § 2(d)).¹⁸⁶ The provision exempts emission of visible air pollutants from diesel engines from applicable SIP limitations "during a reasonable period of warmup following a cold start or where undergoing repairs and adjustment following malfunction." The Petitioner argued that this exemption "is contrary to EPA policy for source category-specific rules for startup and shutdown."¹⁸⁷ Accordingly, the Petitioner requested that this provision be eliminated from the SIP.

b. The EPA's Evaluation

The EPA believes that the CAA does not allow for exemptions from otherwise applicable SIP emission limitations. In accordance with the requirements of CAA section 110(a)(2)(A), SIPs must contain emission limitations and, in accordance with the definition of "emission limitations" in CAA section 302(k), such emission limitations must be continuous. Thus, any excess emissions above the level of the applicable emission limitation must be considered violations, whether or not the state elects to exercise its enforcement discretion. SIP provisions that create exemptions such that the excess emissions during startup, shutdown, or malfunctions are not violations of the applicable emission limitations are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs. The EPA believes that the inclusion of such an exemption in WAQSR Chapter 3, section 2(d) from otherwise applicable SIP emission limitations for violations during cold startup or following malfunction of diesel engines is a substantial inadequacy and renders this specific SIP provision impermissible.

¹⁸⁶ Petition at 74. The EPA notes that the Petitioner appears to have provided an incorrect citation to this provision; accordingly, in this notice, the EPA replaces that citation with the following: "Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 3, section 2(d)."

¹⁸⁷ *Id.*

The EPA notes that WAQSR Chapter 3, section 2(d) does not appear to comply with the CAA's requirements for source category-specific rules for startup and shutdown as interpreted in the EPA's SSM Policy. The provision provides that the otherwise applicable emission "limitation shall not apply during a reasonable period of warmup following a cold start." Recent court decisions have made clear that automatic exemptions from otherwise applicable SIP emission limitations for excess emissions during periods of startup are not in fact permissible under the CAA. As discussed in section VII.A of this notice, states may elect to develop alternative emission limitations or other forms of enforceable control measures or techniques that apply during startup or shutdown, but exemptions for excess emissions during such periods are inconsistent with the fundamental requirements of the CAA.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to WAQSR Chapter 3, section 2(d) (cited as ENV-AQ-1 Wyo. Code R. § 2(d) in the Petition). The EPA believes that this provision allows for exemptions from otherwise applicable SIP emission limitations, and that such exemptions are inconsistent with the fundamental requirements of the CAA with respect to emission limitations in SIPs as required by sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). In addition, by creating these impermissible exemptions, the state has defined violations in a way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304. For these reasons, the EPA is proposing to find that this provision is substantially inadequate to meet CAA requirements and thus proposing to issue a SIP call with respect to this provision.

J. Affected States and Local Jurisdictions in EPA Region IX

1. Arizona

a. Petitioner's Analysis

The Petitioner objected to two provisions in the Arizona Department of Air Quality's (ADEQ) Rule R18-2-310, which provide affirmative defenses for excess emissions during malfunctions (AAC Section R18-2-310(B)) and for excess emissions during startup or shutdown (AAC Section R18-2-310(C)).¹⁸⁸ First, the Petitioner asserted

¹⁸⁸ Petition at 20-22.

that all affirmative defenses for excess emissions are inconsistent with the CAA and should be removed from the Arizona SIP.

Additionally, quoting from the EPA's statement in the SSM Policy that such affirmative defenses should not be available to "a single source or small group of sources [that] has the potential to cause an exceedance of the NAAQS or PSD increments," the Petitioner contended that "sources with the power to cause an exceedance should be strictly controlled at all times, not just when they actually cause an exceedance."¹⁸⁹ Although acknowledging that R18-2-310 contains some limitations to address this issue, the Petitioner argued that the limitation in the SIP provision is not the same as entirely disallowing affirmative defenses for these types of sources, which removes the "incentive" for such sources to emit at levels close to those that would violate a NAAQS or PSD increment. Accordingly, the Petitioner requested that the EPA require Arizona either to entirely remove R18-2-310(B) and (C) from the SIP or to revise the rule so that affirmative defenses are not available to a single source or any small group of sources that has the potential to cause an exceedance of the NAAQS.

Second, the Petitioner asserted that the provision applicable to startup and shutdown periods (R18-2-310(C)) does not include an explicit requirement for a source seeking to establish an affirmative defense to prove that "the excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance." The Petitioner provided a table specifically comparing the provisions in R18-2-310(C) against the EPA's recommended criteria in the 1999 SSM Guidance to show that R18-2-310(C) does not contain a specific provision to address this recommended criterion and stated that the rule should be revised to require such a demonstration.

b. The EPA's Evaluation

The EPA disagrees with the Petitioner's contention that no affirmative defense provisions are permissible in SIPs under the CAA. As explained in more detail in section IV of this notice, the EPA interprets the CAA to allow affirmative defense provisions for malfunctions. So long as these provisions are narrowly drawn and consistent with the CAA, as recommended in the EPA's guidance for affirmative defense provisions in SIPs, the EPA believes that states may elect to

have affirmative defense provisions for malfunctions.

With respect to the potential air quality impacts of a "single source or small group of sources," the EPA believes that R18-2-310 satisfies the statutory requirements as interpreted in the EPA guidance. Rule R18-2-310 specifies five types of standards or limitations for which affirmative defenses are *not* available under the rule and includes among those five types: standards or limitations contained in any PSD or NSR permit issued by the EPA; standards or limitations included in a PSD permit issued by the ADEQ to meet the requirements of R18-2-406(A)(5) (Permit Requirements for Sources Located in Attainment and Unclassifiable Areas); and standards or limitations contained in R18-2-715(F) ("Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements") (R18-2-310(A)). Thus, no existing primary copper smelter subject to emission standards or limitations under R18-2-715(F) may seek an affirmative defense for any emissions in excess of those provisions, and likewise no major stationary source subject to permit conditions designed to protect the PSD increments in a PSD permit issued by ADEQ or the EPA may seek an affirmative defense for any emissions in excess of those permit conditions. Existing copper smelters are, to the EPA's knowledge, the only sources under ADEQ jurisdiction that have the potential to cause an exceedance of the NAAQS, and requirements to protect the PSD increments are implemented entirely through PSD permits issued by states and the EPA. Accordingly, the clear exclusion of these standards and limitations from the affirmative defense provisions in R18-2-310 adequately addresses the EPA's concerns with respect to potential violations of the NAAQS or PSD increments.

With respect to other emission standards or limitations (*i.e.*, those not specifically excluded from coverage under the rule), R18-2-310 requires each source seeking to establish an affirmative defense to demonstrate, among other things, that "[d]uring the period of excess emissions there were no exceedances of the relevant ambient air quality standards * * * that could be attributed to the emitting source" (R18-2-310(B)(7), (C)(1)(f)). The state's election to provide such an affirmative defense *contingent upon* a demonstration by the source that there were no exceedances of the relevant ambient air quality standards during the relevant period that could be attributed to the emitting source reasonably

assures that these affirmative defense provisions will not create incentives to emit at higher levels or interfere with attainment and maintenance of the NAAQS. As described in section VII.B of this notice, the EPA considers this type of requirement an acceptable alternative approach to address the concern of sources or small groups of sources that could adversely impact the NAAQS or PSD increments through excess emissions.

Second, with respect to the Petitioner's assertion that R18-2-310 should be revised to require a demonstration that excess emissions during startup or shutdown are not part of a recurring pattern indicative of inadequate design, operation, or maintenance, it is not necessary to reach this issue. Instead, the EPA is proposing to modify its interpretation of the CAA with respect to affirmative defenses for startup and shutdown to eliminate the recommended criteria for such provisions as articulated in the 1999 SSM Guidance and to find, instead, that all affirmative defense provisions for planned startup and shutdown periods are not appropriate for SIP provisions under the CAA. As discussed in sections IV and VII.C of this notice, the EPA believes that affirmative defense provisions are appropriate in SIPs for malfunctions but not for startup and shutdown.

c. The EPA's Proposal

The EPA proposes to deny the Petition with respect to the arguments concerning ADEQ's affirmative defense provisions for malfunctions in R18-2-310(B). For the reasons provided above and in our previous approval of R18-2-310 into the Arizona SIP,¹⁹⁰ the EPA believes that these affirmative defense provisions are consistent with the requirements of the CAA.

With respect to the arguments concerning ADEQ's affirmative defense provisions for startup and shutdown periods in R18-2-310(C), however, the EPA proposes to grant the Petition, because R18-2-310(C) is inconsistent with the requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k), as well as CAA sections 113 and 304. The EPA believes that a SIP provision establishing an affirmative defense for planned startup and shutdown periods is substantially inadequate to comply with CAA requirements. For these reasons, the EPA is proposing to issue a SIP call with respect to R18-2-310(C).

¹⁹⁰ See, 66 FR 48085 at 48087 (Sept. 18, 2001) (final rule approving R18-2-310 into Arizona SIP).

¹⁸⁹ Petition at 20.

2. Arizona: Maricopa County

a. Petitioner's Analysis

The Petitioner objected to two provisions in the Maricopa County Air Pollution Control Regulations that provide affirmative defenses for excess emissions during malfunctions (Maricopa County Air Pollution Control Regulation 3, Rule 140, § 401) and for excess emissions during startup or shutdown (Maricopa County Air Pollution Control Regulation 3, Rule 140, § 402).¹⁹¹ These provisions in Maricopa County Air Quality Department (MCAQD) Rule 140 are similar to the affirmative defense provisions in ADEQ R18–2–310.

First, the Petitioner asserted that the affirmative defense provisions in Rule 140 are problematic for the same reasons identified in the Petition with respect to ADEQ R18–2–310. Specifically, the Petitioner argued that affirmative defenses should not be allowed in any SIP and, alternatively, that to the extent affirmative defenses are permissible, the provisions in Rule 140 addressing exceedances of the ambient standards are “inappropriately permissive and do not comply with EPA guidance.”¹⁹² Accordingly, the Petitioner requested that the EPA require Arizona and/or MCAQD either to entirely remove these provisions from the SIP or to revise them so that they are not available to a single source or small group of sources that has the potential to cause a NAAQS exceedance. Second, the Petitioner asserted that the provisions for startup and shutdown in Rule 140 do not include an explicit requirement for a source seeking to establish an affirmative defense to prove that “the excess emissions in question were not part of a recurring pattern indicative of inadequate design, operation, or maintenance.” The Petitioner argued that Rule 140 should be revised to require such a demonstration.

b. The EPA's Evaluation

First, with respect to the potential air quality impacts of a “single source or small group of sources,” the EPA believes that MCAQD Rule 140 satisfies the statutory requirements as interpreted in the EPA's guidance. Rule 140 specifies four types of standards or limitations for which affirmative defenses are *not* available under the rule, including standards and limitations contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit

issued by the EPA, and standards and limitations included in a PSD permit issued by MCAQD to meet the requirements of subsection 308.1(e) of Rule 240 (Permit Requirements For New Major Sources And Major Modifications To Existing Major Sources) (Rule 140, sections 103.3, 103.4). Thus, no major stationary source subject to permit conditions designed to protect the PSD increments in a PSD permit issued by MCAQD or the EPA may seek an affirmative defense for any emissions in excess of those permit conditions. These provisions adequately address the EPA's concerns regarding potential violations of the PSD increments.

Rule 140 also requires each source seeking to establish an affirmative defense to demonstrate, among other things, that “[d]uring the period of excess emissions there were no exceedances of the relevant ambient air quality standards * * * that could be attributed to the emitting source” (Rule 140, sections 401.7, 402.1(f)). The state's election to provide such an affirmative defense *contingent upon* a demonstration by the source that there were no exceedances of the relevant ambient air quality standards during the relevant period that could be attributed to the emitting source reasonably assures that these affirmative defenses provisions will not create incentives to emit at higher levels or interfere with attainment and maintenance of the NAAQS. As described in section VII.B of this notice, the EPA considers this type of requirement an acceptable alternative approach to address the concern of sources or small groups of sources that could adversely impact the NAAQS or PSD increments through excess emissions.

Second, with respect to the Petitioner's assertion that MCAQD Rule 140 should be revised to require a demonstration that excess emissions during startup or shutdown are not part of a recurring pattern indicative of inadequate design, operation, or maintenance, it is not necessary to reach this issue. Instead, the EPA is proposing to modify its interpretation of the CAA with respect to affirmative defenses for startup and shutdown to eliminate the recommended criteria for such provisions as articulated in the 1999 SSM Guidance and to find, instead, that all affirmative defense provisions for planned startup and shutdown periods are not appropriate for SIP provisions under the CAA. As discussed in sections IV and VII.C of this notice, the EPA believes that affirmative defense provisions are appropriate in SIPs for malfunctions but not for startup and shutdown.

c. The EPA's Proposal

The EPA proposes to deny the Petition with respect to the arguments concerning MCAQD's affirmative defense provisions for malfunctions in Rule 140, section 401. For the reasons provided above and in our previous approval of Rule 140 into the Arizona SIP,¹⁹³ the EPA believes that these affirmative defense provisions are consistent with the requirements of the CAA.

With respect to the arguments concerning ADEQ's affirmative defense provisions for startup and shutdown periods in Rule 140, section 402, however, the EPA proposes to grant the Petition, because it is inconsistent with the requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k), as well as CAA sections 113 and 304. The EPA believes that a SIP provision establishing an affirmative defense for planned startup and shutdown periods is substantially inadequate to comply with CAA requirements. For these reasons, the EPA is proposing to issue a SIP call with respect to Maricopa County Air Pollution Control Regulation 3, Rule 140, § 402.

3. Arizona: Pima County

a. Petitioner's Analysis

The Petitioner objected to a provision in the Pima County Department of Environmental Quality's (PCDEQ) Rule 706 that pertains to enforcement discretion.¹⁹⁴ Quoting from paragraph (D) of Rule 706, which provides that “[t]he Control Officer may defer prosecution of a Notice of Violation issued for an exceedance of a control standard if * * *” certain conditions are met, the Petitioner argued that ambiguity in this provision could be construed to preclude enforcement by the EPA or citizens. The Petitioner requested that the EPA require the PCDEQ and/or Arizona to revise this provision to make clear that a decision by the Pima County Control Officer not to enforce under the rule would in no way affect enforcement by the EPA or citizens.

b. The EPA's Evaluation

The EPA disagrees with the Petitioner's assertion that Rule 706 creates ambiguity that could be construed to preclude enforcement by the EPA or through a citizen suit. Paragraph (D) of Rule 706 states that “[t]he control officer *may* defer prosecution of a Notice of Violation

¹⁹³ See, 67 FR 54957 (Aug. 27, 2002) (final rule approving Rule 140 into Arizona SIP).

¹⁹⁴ Petition at 23–24.

¹⁹¹ Petition at 23.

¹⁹² Petition at 23.

issued for an exceedance of a control standard *if* four specific conditions are met (PCDEQ Rule 706, paragraph (D), emphasis added). Rule 706 does not address the EPA or citizen enforcement in any way and on its face does nothing to preclude enforcement by the EPA or through a citizen suit. Even with respect to the PCDEQ's authorities, the rule authorizes but does not require the Control Officer to defer prosecution where the identified criteria are met.

c. The EPA's Proposal

The EPA proposes to deny the Petition with respect to PCDEQ Rule 706. The EPA believes that the provision regarding enforcement in paragraph (D) of this rule clearly applies only to the PCDEQ Control Officer and could not reasonably be read by a court to foreclose enforcement by the EPA or through a citizen suit where the PCDEQ Control Officer elects to exercise enforcement discretion. The EPA solicits comment on this issue, in particular from the State of Arizona and from the PCDEQ, to assure that there is no misunderstanding with respect to the correct interpretation of Rule 706.

K. Affected States in EPA Region X

1. Alaska

a. Petitioner's Analysis

The Petitioner objected to a provision in the Alaska SIP that provides an excuse for "unavoidable" excess emissions that occur during SSM events, including startup, shutdown, scheduled maintenance, and "upsets" (Alaska Admin. Code tit. 18 § 50.240).¹⁹⁵ The provision provides: "Excess emissions determined to be unavoidable under this section will be excused and are not subject to penalty. This section does not limit the department's power to enjoin the emission or require corrective action." The Petitioner argued that this provision excuses excess emissions in violation of the CAA and the EPA's SSM Policy, which require all such emissions to be treated as violations of the applicable SIP emission limitations. The Petitioner further argued that it is unclear whether the provision could be interpreted to bar enforcement actions brought by the EPA or citizens, because it is drafted as if the state were the sole enforcement authority. Finally, the Petitioner pointed out, the provision is worded as if it were an affirmative defense, but it uses criteria for enforcement discretion.

b. The EPA's Evaluation

The EPA interprets Alaska Admin. Code tit. 18 § 50.240 as providing an affirmative defense under which excess emissions that occur during certain SSM events may be "excused" if the requisite showing is made by the source. This provision is substantially inadequate for three reasons. First, provisions that allow a state official's decision to bar EPA or citizen enforcement are impermissible under the CAA. Although Alaska Admin. Code tit. 18 § 50.240 states that it "does not limit the department's power to enjoin the emission nor require corrective action" (emphasis added), it also states that "[e]xcess emissions determined to be unavoidable under this section will be excused and are not subject to penalty." The net effect of this language appears to bar the EPA and the public from seeking injunctive relief. Moreover, the provision is ambiguous as to whether the EPA or the public could pursue an action for civil penalties if they disagreed with the state official's determination that excess emissions were unavoidable.

Second, as explained more fully in sections IV.B and VII.C of this notice, the EPA believes that affirmative defense provisions that apply to startup, shutdown, or maintenance events are inconsistent with the requirements of the CAA. Consequently, Alaska Admin. Code tit. 18 § 50.240, which applies to excess emissions that occur during startup, shutdown, and scheduled maintenance, is impermissible for this reason as well.

Finally, while the EPA continues to believe that affirmative defense provisions applying to malfunctions can be consistent with the CAA, as long as the criteria set forth in the SSM Policy are carefully adhered to (as explained in more detail in sections IV.B and VII.B of this notice), the criteria in Alaska Admin. Code tit. 18 § 50.240 are not sufficiently similar to those recommended in the EPA's SSM Policy to assure that the affirmative defense is available only in appropriately narrow circumstances. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that Alaska Admin. Code tit. 18 § 50.240 does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision for malfunctions (*i.e.*, upsets). For example, the defense available in Alaska Admin. Code tit. 18 § 50.240 is not limited to

excess emissions caused by sudden, unavoidable, breakdown of technology beyond the control of the owner or operator. Similarly, the provision contains neither a statement that the defense does not apply in situations where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments nor a requirement that sources make an after-the-fact showing that no such exceedance occurred. Accordingly, the EPA agrees with the Petitioner's contention that the provision is substantially inadequate to satisfy the requirements of the CAA.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Alaska Admin. Code tit. 18 § 50.240. The provision applies to startup, shutdown, and maintenance events, contrary to the EPA's interpretation of the CAA to allow such affirmative defenses only for malfunctions. Additionally, the section of Alaska Admin. Code tit. 18 § 50.240 applying to "upsets" is inadequate because the criteria referenced are not sufficiently similar to those recommended in the EPA's SSM Policy for affirmative defense provisions applicable to malfunctions. Thus, the provision is inconsistent with the requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). Moreover, the provision appears to bar the EPA and citizens from seeking penalties and injunctive relief. As a result, Alaska Admin. Code tit. 18 § 50.240 is inconsistent with the fundamental requirements of CAA sections 113 and 304. For these reasons, the EPA is proposing to find that the provision is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to the provision.

2. Idaho

a. Petitioner's Analysis

The Petitioner objected to a provision in the Idaho SIP that appears to grant enforcement discretion to the state as to whether to impose penalties for excess emissions during certain SSM events (Idaho Admin. Code r. 58.01.01.131).¹⁹⁶ The provision provides that "[t]he Department shall consider the sufficiency of the information submitted and the following criteria to determine if an enforcement action to impose penalties is warranted * * *." The Petitioner argued that this provision could be interpreted to give the Department authority to decide that

¹⁹⁵ Petition at 18–20.

¹⁹⁶ Petition at 33.

enforcement is not warranted by anyone, thereby precluding action by the EPA and citizens for civil penalties or injunctive relief.

b. The EPA's Evaluation

The EPA's SSM Policy interprets the CAA to allow states to elect to have appropriately drawn SIP provisions addressing the exercise of enforcement discretion by state personnel. As the Petitioner recognized, Idaho Admin. Code r. 58.01.01.131 appears to be a statement of enforcement discretion, and it delineates factors that will be considered by the Department in determining whether to pursue enforcement for violations due to excess emissions. Subsection 101.03 of the provision clearly states that "[a]ny decision by the Department * * * shall not excuse the owner or operator from compliance with the relevant emission standard." There is no language suggesting that the Department's determination to forgo state enforcement against a source would in any way preclude the EPA or the public from demonstrating that violations occurred or from taking enforcement action. Consequently, the EPA believes the provision is consistent with the requirements of the CAA.

c. The EPA's Proposal

The EPA proposes to deny the Petition with respect to Idaho Admin. Code r. 58.01.01.131. The EPA interprets this provision to allow both the EPA and the public to seek civil penalties or injunctive relief, regardless of how the state chooses to exercise its enforcement discretion. The EPA solicits comments on this issue, in particular from the State of Idaho, to assure that there is no misunderstanding with respect to the correct interpretation of Idaho Admin. Code r. 58.01.01.131.

3. Oregon

a. Petitioner's Analysis

The Petitioner objected to a provision in the Oregon SIP that grants enforcement discretion to the state to pursue violations for excess emissions during certain SSM events (Or. Admin. R. 340-028-1450).¹⁹⁷ The provision provides that "[i]n determining if a period of excess emissions is avoidable, and whether enforcement action is warranted, the Department, based upon information submitted by the owner and or operator, shall consider whether the following criteria are met * * *." The Petitioner argued that this provision could be interpreted to give the Department authority to decide that

enforcement is not warranted by anyone, thereby precluding action by the EPA and citizens for civil penalties or injunctive relief.

b. The EPA's Evaluation

After the Petition was filed, the provision of the Oregon SIP cited by the Petitioner was recodified and revised by the state and was submitted to the EPA as part of a SIP revision. The EPA approved the SIP revision on December 27, 2011.¹⁹⁸ The provision has been recodified and revised at Or. Admin. R. 340-214-0350. The provision as recodified provides that "[i]n determining whether to take enforcement action for excess emissions, the Department considers, based upon information submitted by the owner or operator," a list of factors.

The EPA's SSM Policy interprets the CAA to allow states to elect to have SIP provisions that pertain to the exercise of enforcement discretion by state personnel. As revised by Oregon and approved by the EPA into the SIP, Or. Admin. R. 340-214-0350 is plainly a statement of enforcement discretion, and it delineates factors that will be considered by the Department in determining whether to pursue state enforcement for violations of the applicable SIP emission limitations due to excess emissions. There is no language in this provision suggesting that the Department's determination to forgo enforcement against a source would in any way preclude the EPA or the public from demonstrating that violations occurred and taking enforcement action. Consequently, the EPA believes the current SIP provision is consistent with the requirements of the CAA.

c. The EPA's Proposal

The EPA proposes to deny the Petition with respect to Or. Admin. R. 340-028-1450. This provision has since been recodified and approved by the EPA at Or. Admin. R. 340-214-0350. The EPA interprets the recodified provision to allow both the EPA and the public to seek civil penalties or injunctive relief, regardless of how the state chooses to exercise its enforcement discretion. The EPA solicits comments on this issue, in particular from the State of Oregon, to assure that there is no misunderstanding with respect to the correct interpretation of Or. Admin. R. 340-214-0350.

4. Washington

a. Petitioner's Analysis

The Petitioner objected to a provision in the Washington SIP that provides an excuse for "unavoidable" excess emissions that occur during certain SSM events, including startup, shutdown, scheduled maintenance, and "upsets" (Wash. Admin. Code § 173-400-107).¹⁹⁹ The provision provides that "[e]xcess emissions determined to be unavoidable under the procedures and criteria under this section shall be excused and are not subject to penalty." The Petitioner argued that this provision excuses excess emissions in violation of the CAA and the EPA's SSM Policy, which require all such emissions to be treated as violations of the applicable SIP emission limitations. The Petitioner further argued that it is unclear whether the provision could be interpreted to bar enforcement actions brought by the EPA or citizens, because it is drafted as if the state were the sole enforcement authority. Finally, the Petitioner pointed out, the provision is worded as if it were an affirmative defense, but it uses criteria for enforcement discretion.

b. The EPA's Evaluation

The EPA interprets Wash. Admin. Code § 173-400-107 as an affirmative defense under which excess emissions that occur during certain SSM events can be "excused" if the requisite showing is made by the source. This provision is substantially inadequate for four reasons. First, provisions that allow a state official's decision to bar the EPA or citizen enforcement are impermissible under the CAA. The Wash. Admin. Code § 173-400-107 provides that "[t]he owner or operator of a source shall have the burden of proving to Ecology or the authority or the decision-maker in an enforcement action that excess emissions were unavoidable." This language makes clear that the state's determination is not binding on the EPA or the public, because it refers to other authorities and decision-makers besides the state agency. However, the provision also states that "[e]xcess emissions determined to be unavoidable * * * shall be excused and not subject to penalty." This language could be interpreted to preclude those excess emissions deemed "unavoidable" from being considered violations of the applicable SIP emission limitations, and thus it could preclude enforcement by the EPA or through a citizen suit.

Second, it is unclear whether the affirmative defense applies only to

¹⁹⁷ Petition at 63.

¹⁹⁸ 76 FR 80725 at 80747.

¹⁹⁹ Petition at 71-72.

actions for monetary penalties or could also be used to bar actions seeking injunctive relief. Although the EPA believes that narrowly drawn affirmative defenses are permitted under the CAA for malfunction events, as discussed in sections IV.B and VII.B of this notice, the EPA's interpretation is that such affirmative defenses can only shield the source from monetary penalties and cannot be a bar to injunctive relief.

Third, as explained more fully in sections IV.B and VII.C of this notice, the EPA believes that affirmative defense provisions that apply to startup, shutdown, or maintenance events are inconsistent with the requirements of the CAA on their face. Consequently, Wash. Admin. Code § 173-400-107, which applies to excess emissions that occur during startup, shutdown, and scheduled maintenance, is impermissible for this reason as well.

Finally, while the EPA continues to believe that affirmative defense provisions applying to malfunctions can be consistent with the CAA as long as the criteria set forth in the SSM Policy are carefully adhered to, as discussed in sections IV.B and VII.B of this notice, the criteria in Wash. Admin. Code § 173-400-107 are not sufficiently similar to those recommended in the EPA's SSM Policy to assure that the affirmative defense is available only in appropriately narrow circumstances. The EPA acknowledges that the SSM Policy is only guidance concerning what types of SIP provisions could be consistent with the requirements of the CAA. Nonetheless, through this rulemaking, the EPA is proposing to determine that Wash. Admin. Code § 173-400-107 does not include criteria that are sufficiently robust to qualify as an acceptable affirmative defense provision for malfunctions (*i.e.*, "upsets"). For example, the defense available in Wash. Admin. Code § 173-400-107 is not limited to excess emissions caused by sudden, unavoidable, breakdown of technology beyond the control of the owner or operator. Similarly, the provision contains neither a statement that the defense does not apply in situations where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments nor a requirement that sources make an after-the-fact showing that no such exceedance occurred. As a result, the EPA believes that the provision is substantially inadequate to satisfy the requirements of the CAA.

c. The EPA's Proposal

The EPA proposes to grant the Petition with respect to Wash. Admin. Code § 173-400-107. The provision applies to startup, shutdown, and maintenance events, contrary to the EPA's interpretation of the CAA to allow such affirmative defenses only for malfunctions. Furthermore, the section of Wash. Admin. Code § 173-400-107 applying to "upsets" is inadequate because the criteria referenced are not sufficiently similar to those recommended in the EPA's SSM Policy for affirmative defenses for excess emissions due to malfunctions. Finally, the provision is unclear as to whether the EPA and the public could still seek injunctive relief if a state official made a determination that excess emissions were unavoidable. As a result, the EPA believes that Wash. Admin. Code § 173-400-107 is inconsistent with the fundamental requirements of CAA sections 110(a)(2)(A), 110(a)(2)(C), and 302(k). For these reasons, the EPA is proposing to find that the provision is substantially inadequate to meet CAA requirements and proposes to issue a SIP call with respect to the provision.

X. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a "significant regulatory action" because it raises novel legal or policy issues. Accordingly, the EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011) and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. The EPA's proposed action in response to the Petition merely reiterates the EPA's interpretation of the statutory requirements of the CAA and does not require states to collect any additional information. To the extent that the EPA proposes to grant the Petition and thus proposes to issue a SIP call to a state under CAA section 110(k)(5), the EPA is only proposing an action that requires the state to revise its SIP to comply with existing requirements of the CAA.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice-and-comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.²⁰⁰

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. Courts have interpreted the RFA to require a regulatory flexibility analysis only when small entities will be subject to the requirements of the rule. *See, e.g., Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000); *Mid-Tex Elec. Co-op, Inc. v. FERC*, 773 F.2d 327 (D.C. Cir. 1985). This proposed rule will not impose any requirements on small entities. Instead, the proposed action merely reiterates the EPA's interpretation of the statutory requirements of the CAA. To the extent that the EPA proposes to grant the Petition and thus proposes to issue a SIP call to a state under CAA section 110(k)(5), the EPA is only proposing an action that requires the state to revise its SIP to comply with existing requirements of the CAA. The EPA's action, therefore, would leave to states the choice of how to revise the SIP provision in question to make it consistent with CAA requirements and determining, among other things, which of the several lawful approaches to the treatment of excess emissions during SSM events will be applied to particular sources. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This rule does not contain a federal mandate that may result in expenditures of \$100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any one year. The action may impose a duty on

²⁰⁰ Small entities include small businesses, small organizations, and small governmental jurisdictions. For purposes of assessing the impacts of this notice on small entities, *small entity* is defined as: (1) A small business that is a small industrial entity as defined in the U.S. Small Business Administration (SBA) size standards (see 13 CFR 121.201); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

certain state governments to meet their existing obligations to revise their SIPs to comply with CAA requirements. The direct costs of this action on states would be those associated with preparation and submission of a SIP revision by those states for which the EPA issues a SIP call. Examples of such costs could include development of a state rule, conducting notice and public hearing, and other costs incurred in connection with a SIP submission. These aggregate costs would be far less than the \$100-million threshold in any one year. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. The regulatory requirements of this action would apply to the states for which the EPA issues a SIP call. To the extent that such states allow local air districts or planning organizations to implement portions of the state's obligation under the CAA, the regulatory requirements of this action would not significantly or uniquely affect small governments because those governments have already undertaken the obligation to comply with the CAA.

E. Executive Order 13132—Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 because it will simply maintain the relationship and the distribution of power between the EPA and the states as established by the CAA. The proposed SIP calls are required by the CAA because the EPA is proposing to find that the current SIPs of the affected states are substantially inadequate to meet fundamental CAA requirements. In addition, the effects on the states will not be substantial because where a SIP call is finalized for a state, the SIP call will require the affected state to submit only those revisions necessary to address the SIP deficiencies and applicable CAA requirements. While this action may impose direct effects on the states, the expenditures would not be substantial because they would be far less than \$25 million in the aggregate in any one

year.²⁰¹ Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with the EPA policy to promote communications between the EPA and state and local governments, the EPA specifically solicits comment on this proposed rule from state and local officials.

F. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). In this action, the EPA is not addressing any tribal implementation plans. This action is limited to states. Thus, Executive Order 13175 does not apply to this action. However, the EPA invites comment on this proposed action from tribal officials.

G. Executive Order 13045—Protection of Children From Environmental Health Risks and Safety Risks

The EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it merely prescribes the EPA's action for states regarding their obligations for SIPs under the CAA.

H. Executive Order 13211—Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a “significant energy action” as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action merely prescribes the EPA's action for states regarding their obligations for SIPs under the CAA.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (“NTTAA”), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications,

test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the EPA decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, the EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898—Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, Feb. 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the U.S.

The EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. The rule is intended to ensure that all communities and populations across the affected states, including minority, low-income and indigenous populations overburdened by pollution, receive the full human health and environmental protection provided by the CAA. This proposed action concerns states' obligations regarding the treatment they give, in rules included in their SIPs under the CAA, to excess emissions during startup, shutdown, and malfunctions. This proposed action would require 36 states to bring their treatment of these emissions into line with CAA requirements, which would lead to sources' having greater incentives to control emissions during such events.

K. Determination Under Section 307(d)

Pursuant to CAA section 307(d)(1)(U), the Administrator determines that this action is subject to the provisions of section 307(d). Section 307(d)(1)(U) provides that the provisions of section

²⁰¹ “EPA's Action Development Process-Guidance on Executive Order 13132: Federalism,” dated November 2008.

307(d) apply to “such other actions as the Administrator may determine.”

L. Judicial Review

Section 307(b)(1) of the CAA indicates which Federal Courts of Appeal have venue for petitions of review of final agency actions by the EPA under the CAA. This section provides, in part, that petitions for review must be filed in the Court of Appeals for the District of Columbia Circuit (i) when the agency action consists of “nationally applicable regulations promulgated, or final actions taken, by the Administrator,” or (ii) when such action is locally or regionally applicable, if “such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination.”

This rule responding to the Petition is “nationally applicable” within the meaning of section 307(b)(1). First, the rulemaking addresses a Petition that raises issues that are applicable in all states and territories in the U.S. For example, the Petitioner requested that the EPA revise its SSM Policy with respect to whether affirmative defense provisions in SIPs are consistent with CAA requirements. The EPA’s response is relevant for all states nationwide. Second, the rulemaking will address a Petition that raises issues relevant to specific existing SIP provisions in 39 states across the U.S. that are located in each of the 10 EPA Regions, 10 different

federal circuits, and multiple time zones. Third, the rulemaking addresses a common core of knowledge and analysis involved in formulating the decision and a common interpretation of the requirements of the CAA being applied to SIPs in states across the country. Fourth, the rulemaking, by addressing issues relevant to appropriate SIP provisions in one state, may have precedential impacts upon the SIPs of other states nationwide. Courts have found similar rulemaking actions to be of nationwide scope and effect.²⁰²

This determination is appropriate because in the 1977 CAA Amendments that revised CAA section 307(b)(1), Congress noted that the Administrator’s determination that an action is of “nationwide scope or effect” would be appropriate for any action that has “scope or effect beyond a single judicial circuit.” H.R. Rep. No. 95–294 at 323–324, reprinted in 1977 U.S.C.C.A.N. 1402–03. Here, the scope and effect of this rulemaking extends to numerous judicial circuits because the action on the petition extends to states throughout the country. In these circumstances, section 307(b)(1) and its legislative history authorize the Administrator to find the rule to be of “nationwide scope or effect” and thus to indicate that

²⁰² See, e.g., *State of Texas, et al. v. EPA*, 2011 U.S. App. LEXIS 5654 (5th Cir. 2011) (finding SIP call to 13 states to be of nationwide scope and effect and thus transferring the case to the U.S. Court of Appeals for the D.C. Circuit in accordance with CAA section 307(b)(1)).

venue for challenges to be in the D.C. Circuit. Thus, any petitions for review must be filed in the Court of Appeals for the District of Columbia Circuit. Accordingly, the EPA is proposing to determine that this will be a rulemaking of nationwide scope or effect.

In addition, pursuant to CAA section 307(d)(1)(V), the EPA is determining that this rulemaking action will be subject to the requirements of section 307(d).

XI. Statutory Authority

The statutory authority for this action is provided by CAA section 101 *et seq.* (42 U.S.C. 7401 *et seq.*).

List of Subjects in 40 CFR Part 52

Affirmative defense, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Carbon monoxide, Environmental protection, Excess emissions, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Lead, Methane, Nitrogen dioxide, Nitrous oxide, Ozone, Particulate matter, Perfluorocarbons, Reporting and recordkeeping requirements, Startup, shutdown, and malfunction, State implementation plan, Sulfur hexafluoride, Sulfur oxides, Volatile organic compounds.

Dated: February 12, 2013.

Gina McCarthy,

Assistant Administrator.

[FR Doc. 2013–03734 Filed 2–21–13; 8:45 am]

BILLING CODE 6560–50–P

Attachment 10

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-HQ-OAR-2012-0322; FRL-9924-05-OAR]

RIN 2060-AR68

State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final action.

SUMMARY: The Environmental Protection Agency (EPA) is taking final action on a petition for rulemaking filed by the Sierra Club (Petitioner) that concerns how provisions in EPA-approved state implementation plans (SIPs) treat excess emissions during periods of startup, shutdown or malfunction (SSM). Further, the EPA is clarifying, restating and revising its guidance concerning its interpretation of the Clean Air Act (CAA or Act) requirements with respect to treatment in SIPs of excess emissions

that occur during periods of SSM. The EPA evaluated existing SIP provisions in a number of states for consistency with the EPA's interpretation of the CAA and in light of recent court decisions addressing this issue. The EPA is issuing a finding that certain SIP provisions in 36 states (applicable in 45 statewide and local jurisdictions) are substantially inadequate to meet CAA requirements and thus is issuing a "SIP call" for each of those 36 states. Further, the EPA is establishing a due date for states subject to this SIP call action to submit corrective SIP revisions. Finally, this final action embodies the EPA's updated SSM Policy as it applies to SIP provisions. The SSM Policy provides guidance to states for compliance with CAA requirements for SIP provisions applicable to excess emissions during SSM events.

DATES: This final action shall become applicable on May 22, 2015. The deadline for each affected state to submit its corrective SIP revision is November 22, 2016.

ADDRESSES: The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2012-0322. All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some

information is not publicly available, e.g., Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically at <http://www.regulations.gov> or in hard copy at the U.S. Environmental Protection Agency, EPA Docket Center, William Jefferson Clinton West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Office of Air and Radiation Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Ms. Lisa Sutton, U.S. EPA, Office of Air Quality Planning and Standards, State and Local Programs Group (C539-01), Research Triangle Park, NC 27711, telephone number (919) 541-3450, email address: sutton.lisa@epa.gov.

SUPPLEMENTARY INFORMATION: For information related to a specific SIP, please contact the appropriate EPA Regional Office:

EPA Regional Office	Contact for Regional Office (person, mailing address, telephone number)	State
I	Alison Simcox, Environmental Scientist, EPA Region 1, 5 Post Office Square, Suite 100, Boston, MA 02109-3912, (617) 918-1684.	Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island and Vermont.
II	Karl Mangels, Chief, Air Planning Section, EPA Region 2, 290 Broadway, 25th Floor, New York, NY 10007-1866, (212) 637-4078.	New Jersey, New York, Puerto Rico and Virgin Islands.
III	Amy Johansen, EPA Region 3, 1650 Arch Street, Philadelphia, PA 19103-2029, (215) 814-2156.	District of Columbia, Delaware, Maryland, Pennsylvania, Virginia and West Virginia.
IV	Joel Huey, EPA Region 4, Atlanta Federal Center, 61 Forsyth Street SW., Atlanta, GA 30303-8960, (404) 562-9104.	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee.
V	Mary Portanova, Air and Radiation Division (AR-18J), EPA Region 5, 77 West Jackson Boulevard, Chicago, IL 60604-3507, (312) 353-5954.	Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin.
VI	Alan Shar (6PD-L), EPA Region 6, Fountain Place 12th Floor, Suite 1200, 1445 Ross Avenue, Dallas, TX 75202-2733, (214) 665-6691.	Arkansas, Louisiana, New Mexico, Oklahoma and Texas.
VII	Lachala Kemp, EPA Region 7, Air Planning and Development Branch, 11201 Renner Boulevard, Lenexa, KS 66219-9601, (913) 551-7214. Alternate contact is Ward Burns, (913) 551-7960.	Iowa, Kansas, Missouri and Nebraska.
VIII	Adam Clark, Air Quality Planning Unit (8P-AR) Air Program, EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129, (303) 312-7104.	Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.
IX	Andrew Steckel, EPA Region 9, Air Division, 75 Hawthorne Street (AIR-4), San Francisco, CA 94105-3901, (415) 947-4115.	Arizona, California, Hawaii, Nevada and the Pacific Islands.
X	Dave Bray, Office of Air, Waste and Toxics (AWT-150), EPA Region 10, 1200 Sixth Avenue, Suite 900, Seattle, WA 98101-3140, (206) 553-4253.	Alaska, Idaho, Oregon, and Washington.

I. General Information

A. Does this action apply to me?

Entities potentially affected by this action include states, U.S. territories, local authorities and eligible tribes that are currently administering, or may in the future administer, EPA-approved implementation plans (“air agencies”).¹ The EPA’s action on the petition for rulemaking filed by the Sierra Club with the EPA Administrator on June 30, 2011 (the Petition), is potentially of interest to all such entities because the EPA is addressing issues related to basic CAA requirements for SIPs. The particular issues addressed in this rulemaking are the same issues that the Petition identified, which relate specifically to section 110 of the CAA. Pursuant to section 110, through what is generally referred to as the “SIP program,” the states and the EPA together provide for implementation, maintenance and enforcement of the national ambient air quality standards (NAAQS). While recognizing similarity to (and in some instances overlap with) issues concerning other air programs, e.g., concerning SSM provisions in the EPA’s regulatory programs for New Source Performance Standards (NSPS) pursuant to section 111 and National Emission Standards for Hazardous Air Pollutants (NESHAP) pursuant to section 112, the EPA notes that the issues addressed in this rulemaking are specific to SSM provisions in the SIP program. Through this rulemaking, the EPA is both clarifying and applying its interpretation of the CAA with respect to SIP provisions applicable to excess emissions during SSM events in general. In addition, the EPA is issuing findings that some of the specific SIP provisions in some of the states identified in the Petition and some SIP provisions in additional states are substantially

¹ The EPA respects the unique relationship between the U.S. government and tribal authorities and acknowledges that tribal concerns are not interchangeable with state concerns. Under the CAA and EPA regulations, a tribe may, but is not required to, apply for eligibility to have a tribal implementation plan (TIP). For convenience, the EPA refers to “air agencies” in this rulemaking collectively when meaning to refer in general to states, the District of Columbia, U.S. territories, local air permitting authorities and eligible tribes that are currently administering, or may in the future administer, EPA-approved implementation plans. This final action does not include action on any provisions in any TIP. The EPA therefore refers to “state” or “states” rather than “air agency” or “air agencies” when meaning to refer to the District of Columbia and/or one, some, or all of the states at issue in this rulemaking. The EPA also uses “state” or “states” rather than “air agency” or “air agencies” when quoting or paraphrasing the CAA or other document that uses that term even when the original referenced passage may have applicability to tribes as well.

inadequate to meet CAA requirements, pursuant to CAA section 110(k)(5), and thus those states (named in section II.C of this document) are directly affected by this rulemaking. For example, where a state’s existing SIP includes an affirmative defense provision that would purport to alter the jurisdiction of the federal courts to assess monetary penalties for violations of CAA requirements, then the EPA is determining that the SIP provision is substantially inadequate because the provision is inconsistent with fundamental requirements of the CAA. This action may also be of interest to the public and to owners and operators of industrial facilities that are subject to emission limitations in SIPs, because it will require changes to certain state rules applicable to excess emissions during SSM events. This action embodies the EPA’s updated SSM Policy concerning CAA requirements for SIP provisions relevant to excess emissions during SSM events.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this document will also be available on the World Wide Web. Following signature by the EPA Administrator, a copy of this document will be posted on the EPA’s Web site, under “State Implementation Plans to Address Emissions During Startup, Shutdown and Malfunction,” at <http://www.epa.gov/air/urbanair/sipstatus>. The EPA’s initial proposed response to the Petition in the February 2013 proposal, the EPA’s revised proposed response to the Petition in the September 2014 supplemental notice of proposed rulemaking (SNPR) and the EPA’s Response to Comments document may be found in the docket for this action.

C. How is the preamble organized?

The information presented in this preamble is organized as follows:

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 - E. Executive Order 13132: Federalism
 - F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

- G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks
- H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use
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D. What is the meaning of key terms used in this document?

For the purpose of this document, the following definitions apply unless the context indicates otherwise:

The terms *Act* or *CAA* or *the statute* mean or refer to the Clean Air Act.

The term *affirmative defense* means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding. The term *affirmative defense provision* means more specifically a state law provision in a SIP that specifies particular criteria or preconditions that, if met, would purport to preclude a court from imposing monetary penalties or other forms of relief for violations of SIP requirements in accordance with CAA section 113 or CAA section 304.

The term *Agency* means or refers to the EPA. When not capitalized, this term refers to an agency in general and not specifically to the EPA.

The terms *air agency* and *air agencies* mean or refer to states, the District of Columbia, U.S. territories, local air permitting authorities with delegated authority from the state and tribal authorities with appropriate CAA jurisdiction.

The term *alternative emission limitation* means, in this document, an emission limitation in a SIP that applies to a source during some but not all periods of normal operation (e.g., applies only during a specifically defined mode of operation such as startup or shutdown). An alternative emission limitation is a component of a continuously applicable SIP emission limitation, and it may take the form of a control measure such as a design, equipment, work practice or operational standard (whether or not numerical). This definition of the term is independent of the statutory use of the term "alternative means of emission limitation" in sections 111(h)(3) and 112(h)(3), which pertain to the conditions under which the EPA may pursuant to sections 111 and 112 promulgate emission limitations, or components of emission limitations, that are not necessarily in numeric format.

The term *automatic exemption* means a generally applicable provision in a SIP that would provide that if certain conditions

existed during a period of excess emissions, then those exceedances would not be considered violations of the applicable emission limitations.

The term *director's discretion provision* means, in general, a regulatory provision that authorizes a state regulatory official unilaterally to grant exemptions or variances from otherwise applicable emission limitations or control measures, or to excuse noncompliance with otherwise applicable emission limitations or control measures, which would be binding on the EPA and the public.

The term *EPA* refers to the United States Environmental Protection Agency.

The term *emission limitation* means, in the context of a SIP, a legally binding restriction on emissions from a source or source category, such as a numerical emission limitation, a numerical emission limitation with higher or lower levels applicable during specific modes of source operation, a specific technological control measure requirement, a work practice standard, or a combination of these things as components of a comprehensive and continuous emission limitation in a SIP provision. In this respect, the term *emission limitation* is defined as in section 302(k) of the CAA. By definition, an emission limitation can take various forms or a combination of forms, but in order to be permissible in a SIP it must be applicable to the source continuously, *i.e.*, cannot include periods during which emissions from the source are legally or functionally exempt from regulation. Regardless of its form, a fully approvable SIP emission limitation must also meet all substantive requirements of the CAA applicable to such a SIP provision, *e.g.*, the statutory requirement of section 172(c)(1) for imposition of reasonably available control measures and reasonably available control technology (RACT and RACT) on sources located in designated nonattainment areas.

The term *excess emissions* means the emissions of air pollutants from a source that exceed any applicable SIP emission limitation. In particular, this term includes those emissions above the otherwise applicable SIP emission limitation that occur during startup, shutdown, malfunction or other modes of source operation, *i.e.*, emissions that would be considered violations of the applicable emission limitation but for an impermissible automatic or discretionary exemption from such emission limitation.

The term *February 2013 proposal* means the notice of proposed rulemaking that the EPA signed on February 12, 2013, and published in the **Federal Register** on February 22, 2013. The February 2013 proposal comprises the EPA's initial proposed response to the Petition. The EPA subsequently issued the September 2014 SNPR that updated and revised the EPA's February 2013 proposal with respect to affirmative defense provisions in SIPs.

The term *malfunction* means a sudden and unavoidable breakdown of process or control equipment.

The term *NAAQS* means national ambient air quality standard or standards. These are the national primary and secondary ambient

air quality standards that the EPA establishes under CAA section 109 for criteria pollutants for purposes of protecting public health and welfare.

The term *Petition* refers to the petition for rulemaking titled, "Petition to Find Inadequate and Correct Several State Implementation Plans under Section 110 of the Clean Air Act Due to Startup, Shutdown, Malfunction, and/or Maintenance Provisions," filed by the Sierra Club with the EPA Administrator on June 30, 2011.

The term *Petitioner* refers to the Sierra Club.

The term *practically enforceable* means, in the context of a SIP emission limitation, that the limitation is enforceable as a practical matter (e.g., contains appropriate averaging times, compliance verification procedures and recordkeeping requirements). The term uses "practically" as it means "in a practical manner" and not as it means "almost" or "nearly." In this document, the EPA uses the term "practically enforceable" as interchangeable with the term "practicably enforceable."

The term *shutdown* means, generally, the cessation of operation of a source for any reason. In this document, the EPA uses this term in the generic sense. In individual SIP provisions it may be appropriate to include a specifically tailored definition of this term to address a particular source category for a particular purpose.

The term *SIP* means or refers to a State Implementation Plan. Generally, the SIP is the collection of state statutes and regulations approved by the EPA pursuant to CAA section 110 that together provide for implementation, maintenance and enforcement of a national ambient air quality standard (or any revision thereof) promulgated under section 109 for any air pollutant in each air quality control region (or portion thereof) within a state. In some parts of this document, statements about SIPs in general would also apply to tribal implementation plans in general even though not explicitly noted.

The term *SNPR* means the supplemental notice of proposed rulemaking that the EPA signed and posted on the Agency Web site on September 5, 2014, and published in the **Federal Register** on September 17, 2014. Supplementing the February 2013 proposal, the SNPR comprises the EPA's revised proposed response to the Petition with respect to affirmative defense provisions in SIPs.

The term *SSM* refers to startup, shutdown or malfunction at a source. It does not include periods of maintenance at such a source. An SSM event is a period of startup, shutdown or malfunction during which there may be exceedances of the applicable emission limitations and thus excess emissions.

The term *SSM Policy* refers to the cumulative guidance that the EPA has issued as of any given date concerning its interpretation of CAA requirements with respect to treatment of excess emissions during periods of startup, shutdown and malfunction at a source in SIP provisions. The most comprehensive statement of the EPA's SSM Policy prior to this final action

is embodied in a 1999 guidance document discussed in more detail in this final action. That specific guidance document is referred to as the *1999 SSM Guidance*. The final action described in this document embodies the EPA's updated SSM Policy for SIP provisions relevant to excess emissions during SSM events. In section XI of this document, the EPA provides a statement of the Agency's SSM SIP Policy as of 2015.

The term *startup* means, generally, the setting in operation of a source for any reason. In this document, the EPA uses this term in the generic sense. In an individual SIP provision it may be appropriate to include a specifically tailored definition of this term to address a particular source category for a particular purpose.

II. Overview of Final Action and Its Consequences

A. Summary

The EPA is in this document taking final action on a petition for rulemaking that the Sierra Club filed with the EPA Administrator on June 30, 2011. The Petition concerns how air agency rules in EPA-approved SIPs treat excess emissions during periods of SSM of industrial source process or emission control equipment. Many of these rules were added to SIPs and approved by the EPA in the years shortly after the 1970 amendments to the CAA, which for the first time provided for the system of clean air plans that were to be prepared by air agencies and approved by the EPA. At that time, it was widely believed that emission limitations set at levels representing good control of emissions during periods of so-called "normal" operation (which, until no later than 1982, was meant by the EPA to refer to periods of operation other than during startup, shutdown, maintenance or malfunction) could in some cases not be met with the same emission control strategies during periods of startup, shutdown, maintenance or malfunction.² Accordingly, it was common for state plans to include provisions for special, more lenient treatment of excess emissions during such periods of startup, shutdown, maintenance or

² Since at least 1982, however, the EPA has used the term "normal" in the SSM Policy in the ordinary sense of the word to distinguish between predictable modes of source operation such as startup and shutdown and genuine "malfunctions," which are by definition supposed to be unpredictable and unforeseen events and which could not have been precluded by proper source design, maintenance and operation. See, e.g., 1982 SSM Guidance, Attachment at 2, in which the EPA states, "[s]tart-up and shutdown of process equipment are part of the normal operation of a source and should be accounted for in the design and implementation of the operating procedure for the process and control equipment." The 1982 SSM Guidance is in the rulemaking docket at EPA-HQ-OAR-2012-0322-0005.

malfunction. Many of these provisions took the form of absolute or conditional statements that excess emissions from a source, when they occur during startup, shutdown, malfunction or otherwise outside of the source's so-called "normal" operations, were not to be considered violations of the air agency rules; i.e., these emissions were considered exempt from legal control.

Excess emission provisions for startup, shutdown, maintenance and malfunctions were often included as part of the original SIPs that the EPA approved in 1971 and 1972. In the early 1970s, because the EPA was inundated with proposed SIPs and had limited experience in processing them, not enough attention was given to the adequacy, enforceability and consistency of these provisions. Consequently, many SIPs were approved with broad and loosely defined provisions to control excess emissions. Starting in 1977, however, the EPA discerned and articulated to air agencies that exemptions for excess emissions during such periods were inconsistent with certain requirements of the CAA.³ The EPA also realized that such provisions allow opportunities for sources to emit pollutants during such periods repeatedly and in quantities that could cause unacceptable air pollution in nearby communities with no legal pathway within the existing EPA-approved SIP for air agencies, the EPA, the public or the courts to require the sources to make reasonable efforts to reduce these emissions. The EPA has attempted to be more careful after 1977 not to approve SIP submissions that contain illegal SSM provisions and has issued several guidance memoranda to advise states on how to avoid impermissible provisions⁴ as they expand and revise their SIPs. The EPA has also found several SIPs to be deficient because of problematic SSM provisions and called upon the affected states to amend their SIPs. However, in light of the other high-priority work facing both air agencies and the EPA,

³ In 1977, the EPA took actions related to specific sources located in Utah and Idaho in which the EPA expressed its views regarding issues such as automatic exemptions from applicable emission limitations. See Memorandum, "Statutory, Regulatory, and Policy Context for this Rulemaking," at n.2, February 4, 2013, in the rulemaking docket at EPA-HQ-OAR-2012-0322-0029.

⁴ The term "impermissible provision" as used throughout this document is generally intended to refer to a SIP provision that the EPA now believes to be inconsistent with requirements of the CAA. As described later in this document (see section VIII.A), the EPA is proposing to find a SIP "substantially inadequate" to meet CAA requirements where the EPA determines that the SIP includes an impermissible provision.

the EPA had not until the February 2013 proposal initiated a broader effort to require a larger number of states to remove impermissible provisions from their SIPs and to adopt other, approvable approaches for addressing excess emissions when appropriate. Public interest in the issue of SSM provisions in SIPs is evidently high, on the basis of the large number of public submissions made to the rulemaking docket in response to the February 2013 proposal (representing approximately 69,000 unique commenters) and the SNPR (over 20,000 commenters, some of whom had also made submissions in response to the earlier proposal). The EPA has attempted to further count commenters according to general categories (state and local governments, industry commenters, public interest groups and individual commenters), as described in section V.D.1 of this document. Public interest groups, including the Petitioner, have sued the EPA in several state-specific cases concerning SIP issues, and they have been urging the EPA to give greater priority generally to addressing the issue of SSM provisions in SIPs. In one of these SIP cases, the EPA entered into a settlement agreement requiring it to respond to the Petition from the Sierra Club. A copy of the settlement agreement is provided in the docket for this rulemaking.⁵

The EPA emphasizes that there are other approaches that would be consistent with CAA requirements for SIP provisions that states can use to address emissions during SSM events. While automatic exemptions and director's discretion exemptions from otherwise applicable emission limitations are not consistent with the CAA, SIPs may include criteria and procedures for the use of enforcement discretion by air agency personnel. Similarly, SIPs may, rather than exempt emissions during SSM events, include emission limitations that subject those emissions to alternative numerical limitations or other technological control requirements or work practice requirements during startup and shutdown events, so long as those components of the emission limitations meet applicable CAA requirements. In this action, the EPA is again articulating

⁵ See Settlement Agreement executed November 30, 2011, in the rulemaking docket at EPA-HQ-OAR-2012-0322-0039, to address a lawsuit filed by Sierra Club and WildEarth Guardians in the United States District Court for the Northern District of California: *Sierra Club et al. v. Jackson*, No. 3:10-cv-04060-CRB (N.D. Cal.). A subsequent Modification to the Settlement Agreement specifies a deadline of May 22, 2015, for signature on the final action to respond to the Petition.

its interpretation of the CAA in the SSM Policy that reflects these principles and is applying this interpretation to issue a SIP call for specific existing provisions in the SIPs of 36 states. In some cases, the EPA's review involved a close reading of the provision in the SIP and its context to discern whether it was in fact an exemption, a statement regarding exercise of enforcement discretion by the air agency or an affirmative defense. Each state will ultimately decide how to address the SIP inadequacies identified by the EPA in this final action. The EPA acknowledges that for some states, this rulemaking entailed the EPA's evaluation of SIP provisions that may date back several decades. Aware of that fact, the EPA is committed to working closely with each of the affected states to develop approvable SIP submissions consistent with the guidance articulated in the updated SSM Policy in this final action. Section IX of this document presents the EPA's analysis of each specific SIP provision at issue in this action. The EPA's review also involved interpretation of several relevant sections of the CAA. While the EPA has already developed and has been implementing the SSM Policy that is based on its interpretation of the CAA for SIP provisions, this action provides the EPA an opportunity to update the SSM Policy and its basis in the CAA through notice and comment. To that end, section XI of this document contains a restatement of the EPA's SSM Policy for SIP provisions as revised and updated for 2015. Also, supplementary to the February 2013 proposal, the EPA provided a background memorandum to summarize the legal and administrative context for this action which is available in the docket for this rulemaking.⁶ This final document is intended to clarify how states can resolve the identified deficiencies in their SIPs as well as to provide all air agencies guidance as they develop SIPs in the future.

In summary, the EPA is agreeing with the Petitioner that many of the identified SIP provisions are not permissible under the CAA. However, in some cases the EPA is instead concluding that an identified SIP provision is actually consistent with CAA requirements. In addition, the EPA notes, this final action does not include

⁶ See Memorandum, "Statutory, Regulatory, and Policy Context for this Rulemaking," February 4, 2013, in the rulemaking docket at EPA-HQ-OAR-2012-0322-0029. The EPA notes that with respect to the legal basis for affirmative defense provisions in SIPs, the Agency has revised its views as a result of a court decision, as explained in more detail in the SNPR. Thus, the portions of that background memorandum that concern affirmative defense provisions are no longer germane to this action.

a final finding of substantial inadequacy and SIP call for specific SIP provisions included in the February 2013 proposal for several air agencies, because of SIP revisions made subsequent to that proposal. The state of Kentucky has already submitted, and the EPA has approved, SIP revisions that corrected the problematic provisions applicable in the Jefferson County (Louisville, Kentucky) area.⁷ The state of Wyoming has already submitted, and the EPA has approved, SIP revisions that corrected the problematic provisions applicable statewide.⁸ The state of North Dakota has likewise already submitted, and the EPA has approved, SIP revisions that corrected a portion of the problematic provisions applicable statewide.⁹

Of the 41 states for which SIP provisions were identified by the Petition or identified independently by the Agency in the SNPR, the EPA is issuing a SIP call for 36 states. The EPA is aware of other SSM-related SIP provisions that were not identified in the Petition but that may be inconsistent with the EPA's interpretation of the CAA. For SIP provisions that have potential defects other than an impermissible affirmative defense, the EPA elected to focus on the provisions specifically raised in the Petition. The EPA may address these other provisions later in a separate notice-and-comment action. States are encouraged to consider the updated SSM Policy laid out in this final action in reviewing their own SIP provisions. With respect to affirmative defense provisions, however, the EPA elected to identify some additional provisions not included in the Petition. This is necessary to minimize potential confusion relating to other recent rulemakings and court decisions that pertain generally to affirmative defense provisions. Therefore, in order to give updated and comprehensive guidance with respect to affirmative defense provisions, the EPA has also addressed additional affirmative defense provisions in 17 states in the SNPR and in this final action. See section V.D.3 of this document for further explanation as to which SSM-related SIP provisions the

⁷ See "Approval and Promulgation of Implementation Plans; Kentucky; Approval of Revisions to the Jefferson County Portion of the Kentucky SIP; Emissions During Startups, Shutdowns, and Malfunctions," 79 FR 33101 (June 10, 2014).

⁸ See "Approval and Promulgation of Implementation Plans; Wyoming; Revisions to the Air Quality Standards and Regulations," 79 FR 62859 (October 21, 2014).

⁹ See "Approval and Promulgation of Implementation Plans; North Dakota; Revisions to the Air Pollution Control Rules," 79 FR 63045 (October 22, 2014).

EPA reviewed for consistency with CAA requirements as part of this rulemaking.

B. What the Petitioner Requested

The Petition includes three interrelated requests concerning the treatment in SIPs of excess emissions by sources during periods of SSM.

First, the Petitioner argued that SIP provisions providing an affirmative defense for monetary penalties for excess emissions in judicial proceedings are contrary to the CAA. Thus, the Petitioner advocated that the EPA should rescind its interpretation of the CAA expressed in the SSM Policy that allows appropriately drawn affirmative defense provisions in SIPs. The Petitioner made no distinction between affirmative defenses for excess emissions related to malfunction and those related to startup or shutdown. Further, the Petitioner requested that the EPA issue a SIP call requiring states to eliminate all such affirmative defense provisions in existing SIPs. As explained later in this final document, the EPA has decided to fully grant this request. Although the EPA initially proposed to grant in part and to deny in part this request in the February 2013 proposal, a subsequent court decision concerning the legal basis for affirmative defense provisions under the CAA caused the Agency to reexamine this question. As a result, the EPA issued the SNPR to present its revised interpretation of the CAA with respect to this issue and to propose action on the Petition and on specific existing affirmative defense provisions in the SIPs of 17 states consistent with the reasoning of that court decision. In this final action, the EPA is revising its SSM Policy with respect to affirmative defenses for violations of SIP requirements. The EPA believes that SIP provisions that function to alter the jurisdiction of the federal courts under CAA section 113 and section 304 to determine liability and to impose remedies are inconsistent with fundamental legal requirements of the CAA, especially with respect to the enforcement regime explicitly created by statute.

Second, the Petitioner argued that many existing SIPs contain impermissible provisions, including automatic exemptions from applicable emission limitations during SSM events, director's discretion provisions that in particular provide discretionary exemptions from applicable emission limitations during SSM events, enforcement discretion provisions that appear to bar enforcement by the EPA or citizens for such excess emissions and inappropriate affirmative defense

provisions that are not consistent with the CAA or with the recommendations in the EPA's SSM Policy. The Petitioner identified specific provisions in SIPs of 39 states that it considered inconsistent with the CAA and explained the basis for its objections to the provisions. As explained later in this final document, the EPA agrees with the Petitioner that some of these existing SIP provisions are legally impermissible and thus finds such provisions "substantially inadequate"¹⁰ to meet CAA requirements. Among the reasons for the EPA's action is to eliminate SIP provisions that interfere with enforcement in a manner prohibited by the CAA. Simultaneously, where the EPA agrees with the Petitioner, the EPA is issuing a SIP call that directs the affected state to revise its SIP accordingly. For the remainder of the identified provisions, however, the EPA disagrees with the contentions of the Petitioner and is thus denying the Petition with respect to those provisions and taking no further action. The EPA's action issuing the SIP calls on this portion of the Petition will assure that these SIPs comply with the fundamental requirements of the CAA with respect to the treatment of excess emissions during periods of SSM. The majority of the state-specific provisions affected by this SIP call action are inconsistent with the EPA's longstanding interpretation of the CAA through multiple iterations of its SSM Policy. With respect to SIP provisions that include an affirmative defense for violations of SIP requirements, however, the EPA has revised its prior interpretation of the statute that would have allowed such provisions under certain very limited conditions. Based upon an evaluation of the relevant statutory provisions in light of more recent court decisions, the EPA is issuing a SIP call to address existing affirmative defense provisions that would operate to alter or eliminate the jurisdiction of courts to assess liability and impose remedies and that would thereby contradict explicit provisions of the CAA relating to judicial authority.

Third, the Petitioner argued that the EPA should not rely on interpretive letters from states to resolve any ambiguity, or perceived ambiguity, in state regulatory provisions in SIP submissions. The Petitioner reasoned that all regulatory provisions should be clear and unambiguous on their face and that any reliance on interpretive letters to alleviate facial ambiguity in SIP provisions can lead to later

problems with compliance and enforcement. Extrapolating from several instances in which the basis for the original approval of a SIP provision related to excess emissions during SSM events was arguably not clear, the Petitioner contended that the EPA should never use interpretive letters to resolve such ambiguities. As explained later in this proposal, the EPA acknowledges the concern of the Petitioner that provisions in SIPs should be clear and unambiguous. However, the EPA does not agree with the Petitioner that reliance on interpretive letters in a rulemaking context is never appropriate. Without the ability to rely on a state's interpretive letter that can in a timely way clarify perceived ambiguity in a provision in a SIP submission, however small that ambiguity may be, the EPA may have no recourse other than to disapprove the state's SIP submission. Thus, the EPA is denying the request that actions on SIP submissions never rely on interpretive letters. Instead, the EPA explains how proper documentation of reliance on interpretive letters in notice-and-comment rulemaking nevertheless addresses the practical concerns of the Petitioner.

C. To which air agencies does this rulemaking apply and why?

In general, the final action may be of interest to all air agencies because the EPA is clarifying, restating and revising its longstanding SSM Policy with respect to what the CAA requires concerning SIP provisions relevant to excess emissions during periods of SSM. For example, the EPA is granting the Petitioner's request that the EPA rescind its prior interpretation of the CAA that, as stated in prior guidance in the SSM Policy, allowed appropriately drawn affirmative defense provisions applicable to malfunctions. The EPA is also reiterating, clarifying or revising its prior guidance with respect to several other issues related to SIP provisions applicable to SSM events in order to ensure that future SIP submissions, not limited to those that affected states make in response to this action, are fully consistent with the CAA. For example, the EPA is reiterating and clarifying its prior guidance concerning how states may elect to replace existing exemptions for excess emissions during SSM events with properly developed alternative emission limitations that apply to the affected sources during startup, shutdown or other normal modes of source operation (*i.e.*, that apply to excess emissions during those normal modes of operation as opposed to during malfunctions). This action also

¹⁰The term "substantially inadequate" is used in the CAA and is discussed in detail in section VIII.A of this document.

addresses the use of interpretive letters for purposes of resolving an actual or perceived ambiguity in a SIP submission during the EPA's evaluation of the SIP revision at issue.

In addition, this final action is directly relevant to the states with SIP provisions relevant to excess emissions that the EPA has determined are inconsistent with CAA requirements or with the EPA's interpretation of those requirements in the SSM Policy. In this final action, the EPA is either granting

or denying the Petition with respect to the specific existing SIP provisions in each of 39 states identified by the Petitioner as allegedly inconsistent with the CAA. The 39 states (for which the Petitioner identified SIP provisions applicable in 46 statewide and local jurisdictions and no tribal areas)¹¹ are listed in table 1, "List of States with SIP Provisions for Which the EPA Either Grants or Denies the Petition, in Whole or in Part." After evaluating the Petition, the EPA is granting the Petition with

respect to one or more provisions in 34 of the 39 states listed, and these are the states for which the action on the Petition, according to table 1, is either "Grant" or "Partially grant, partially deny." Conversely, the EPA is denying the petition with respect to all provisions that the Petitioner identified in 5 of the 39 states, and these (Idaho, Nebraska, New Hampshire, Oregon and Wyoming) are the states for which the final action on the Petition, according to table 1, is "Deny."

TABLE 1—LIST OF STATES WITH SIP PROVISIONS FOR WHICH THE EPA EITHER GRANTS OR DENIES THE PETITION, IN WHOLE OR IN PART

EPA region	State	Final action on petition
I	Maine	Grant.
	New Hampshire	Deny.
	Rhode Island	Grant.
II	New Jersey	Partially grant, partially deny.
III	Delaware	Grant.
	District of Columbia	Partially grant, partially deny.
	Virginia	Grant.
IV	West Virginia	Grant.
	Alabama	Grant.
	Florida	Grant.
V	Georgia	Grant.
	Kentucky	Partially grant, partially deny.
	Mississippi	Grant.
	North Carolina	Grant.
	South Carolina	Partially grant, partially deny.
	Tennessee	Grant.
	Illinois	Grant.
VI	Indiana	Grant.
	Michigan	Grant.
	Minnesota	Grant.
	Ohio	Partially grant, partially deny.
VII	Arkansas	Grant.
	Louisiana	Grant.
	New Mexico	Grant.
	Oklahoma	Grant.
VIII	Iowa	Partially grant, partially deny.
	Kansas	Grant.
	Missouri	Partially grant, partially deny.
IX	Nebraska	Deny.
	Colorado	Grant.
	Montana	Grant.
	North Dakota	Partially grant, partially deny.
	South Dakota	Grant.
X	Wyoming	Deny.
	Arizona	Partially grant, partially deny.
X	Alaska	Grant.
	Idaho	Deny.
	Oregon	Deny.
	Washington	Grant.

For each state for which the final action on the Petition is either "Grant" or "Partially grant, partially deny," the EPA finds that certain specific provisions in each state's SIP are substantially inadequate to meet CAA requirements for the reason that these

provisions are inconsistent with the CAA with regard to how the state treats excess emissions from sources during periods of SSM. With respect to the affirmative defense provisions identified in the Petition, the EPA finds that they improperly impinge upon the statutory

jurisdiction of the courts to determine liability and impose remedies for violations of SIP emission limitations. The EPA believes that certain specific provisions in these SIPs fail to meet fundamental statutory requirements intended to attain and maintain the

¹¹The state has the primary responsibility to implement SIP obligations, pursuant to CAA section 107(a). However, as CAA section 110(a)(2)(E) allows, a state may authorize and rely

on a local or regional government, agency or instrumentality to carry out the SIP or a portion of the SIP within its jurisdiction. As a result, some of the SIP provisions at issue in this rulemaking apply

to specific portions of a state. Thus, in certain states, submission of a corrective SIP revision may involve rulemaking in more than one jurisdiction.

NAAQS, protect prevention of significant deterioration (PSD) increments and improve visibility. Equally importantly, the EPA believes that the same provisions may undermine the ability of states, the EPA and the public to enforce emission limitations in the SIP that have been relied upon to ensure attainment or maintenance of the NAAQS or to meet other CAA requirements.

For each state for which the final action on the Petition is either “Grant” or “Partially grant, partially deny,” the EPA is also in this final action calling for a SIP revision as necessary to correct the identified deficient provisions. The SIP revisions that the states are directed to make will rectify a number of different types of defects in existing SIPs, including automatic exemptions from emission limitations, impermissible director’s discretion provisions, enforcement discretion provisions that have the effect of barring enforcement by the EPA or through a citizen suit and affirmative defense provisions that are inconsistent with CAA requirements. A corrective SIP revision addressing automatic or impermissible discretionary exemptions will ensure that excess emissions during periods of SSM are treated in accordance with CAA requirements. Similarly, a corrective SIP revision addressing ambiguity in who may enforce against violations of these emission limitations will also ensure that CAA requirements to provide for enforcement are met. A SIP revision to remove affirmative defense provisions will assure that the SIP provision does not purport to alter or eliminate the

jurisdiction of federal courts to assess liability or to impose remedies consistent with the statutory authority provided in CAA section 113 and section 304. The particular provisions for which the EPA is requiring SIP revisions are summarized in section IX of this document. Many of these provisions were added to the respective SIPs many years ago and have not been the subject of action by the state or the EPA since.

For each of the states for which the EPA is denying or is partially denying the Petition, the EPA finds that the particular provisions identified by the Petitioner are not substantially inadequate to meet the requirements pursuant to CAA section 110(k)(5), because the provisions: (i) Are, as they were described in the Petition and as they appear in the existing SIP, consistent with the requirements of the CAA; or (ii) are, as they appear in the existing SIP after having been revised subsequent to the date of the Petition, consistent with the requirements of the CAA; or (iii) have, subsequent to the date of the Petition, been removed from the SIP. Thus, in this final action, the EPA is taking no action to issue a SIP call with respect to those states for those particular SIP provisions.

In addition to evaluating specific SIP provisions identified in the Petition, the EPA has independently evaluated additional affirmative defense provisions in the SIPs of six states (applicable in nine statewide and local jurisdictions).¹² As explained in the SNPR, the EPA determined that this approach was necessary in order to take into consideration recent judicial

decisions concerning affirmative defense provisions and CAA requirements. As the result of this evaluation, the EPA finds that specific affirmative defense provisions in 17 states (applicable in 23 statewide and local jurisdictions) are substantially inadequate to meet CAA requirements for the reason that these provisions impinge upon the statutory jurisdiction of the federal courts to determine liability and impose remedies for violations of SIP emission limitations.¹³ By improperly impinging upon the jurisdiction of the federal courts, the EPA believes, these provisions fail to meet fundamental statutory requirements intended to attain and maintain the NAAQS, protect PSD increments and improve visibility. As with the affirmative defense provisions identified in the Petition, the EPA believes that these provisions may undermine the ability of states, the EPA and the public to enforce emission limitations in the SIP that have been relied upon to ensure attainment or maintenance of the NAAQS or to meet other CAA requirements.

In this final action, the EPA is issuing a SIP call to each of 36 states (for provisions applicable in 45 statewide and local jurisdictions) with respect to these provisions. The 36 states are listed in table 2, “List of All States With SIP Provisions Subject to SIP Call.” The EPA emphasizes that this SIP call action pertains to the specific SIP provisions identified and discussed in section IX of this document. The actions required of individual states in response to this SIP call action are discussed in more detail in section IX of this action.

TABLE 2—LIST OF ALL STATES WITH SIP PROVISIONS SUBJECT TO SIP CALL

EPA region	State	Area
I	Maine	State.
	Rhode Island	State.
II	New Jersey	State.
III	Delaware	State.
	District of Columbia	State.
	Virginia	State.
	West Virginia	State.
IV	Alabama	State.
	Florida	State.
	Georgia	State.
	Kentucky	State.

¹² The six states in which the EPA independently evaluated affirmative defense provisions are: California; South Carolina, New Mexico, Texas, Washington and West Virginia. The EPA evaluated the New Mexico SIP with respect to provisions applicable to the state and Albuquerque-Bernalillo County. The EPA evaluated the Washington SIP with respect to provisions applicable to the state, the Energy Facility Site Evaluation Council and the Southwest Clean Air Agency.

¹³ The 17 states for which the EPA finds that specific affirmative defense provisions are substantially inadequate to meet CAA requirements are counted as follows: The EPA evaluated affirmative defense provisions identified by the Petitioner for 14 states: Alaska; Arizona; Arkansas; Colorado; District of Columbia; Georgia; Illinois; Indiana; Kentucky; Michigan; Mississippi; New Mexico; Virginia; and Washington. The EPA evaluated affirmative defense provisions that it independently identified among two states identified by the Petitioner: South Carolina; and

West Virginia. Further, the EPA independently identified and evaluated affirmative defense provisions in two states that were not included in the Petition: California; and Texas. In the final action, the EPA is finding one or more affirmative defense provisions to be substantially inadequate in all but one of the 18 states for which the EPA evaluated affirmative defense provisions; for one state, Kentucky, the affirmative defense provision, which was applicable in Jefferson County, was corrected prior to the EPA’s issuing its SNPR.

TABLE 2—LIST OF ALL STATES WITH SIP PROVISIONS SUBJECT TO SIP CALL—Continued

EPA region	State	Area
V	Mississippi	State.
	North Carolina	State and Forsyth County.
	South Carolina	State.
	Tennessee	State, Knox County and Shelby County.
	Illinois	State.
VI	Indiana	State.
	Michigan	State.
	Minnesota	State.
	Ohio	State.
	Arkansas	State.
VII	Louisiana	State.
	New Mexico	State and Albuquerque-Bernalillo County.
	Oklahoma	State.
	Texas	State.
	Iowa	State.
VIII	Kansas	State.
	Missouri	State.
	Colorado	State.
	Montana	State.
	North Dakota	State.
IX	South Dakota	State.
	Arizona	State and Maricopa County.
	California	Eastern Kern APCD, Imperial County APCD and San Joaquin Valley Unified APCD.
X	Alaska	State.
	Washington	State, Energy Facility Site Evaluation Council and Southwest Clean Air Agency.

D. What are the next steps for states that are receiving a finding of substantial inadequacy and a SIP call?

The EPA is finalizing a finding of substantial inadequacy and issuing a SIP call for the states listed in table 2 (see section II.C of this document). The EPA is also establishing a deadline by which these states must make a SIP submission to rectify the specifically identified deficiencies in their respective SIPs. Pursuant to CAA section 110(k)(5), the EPA has authority to set a SIP submission deadline that is up to 18 months from the date of the final finding of substantial inadequacy. After considering comment on this issue, the EPA is in this final action establishing a deadline of November 22, 2016, by which each affected state is to respond to the SIP call. The deadline falls 18 months from the date of signature and dissemination of this final finding of substantial inadequacy. Thereafter, the EPA will review the adequacy of that new SIP submission in accordance with the CAA requirements of sections 110(a), 110(k)(3), 110(l) and 193, including the EPA's interpretation of the CAA reflected in the SSM Policy as clarified and updated through this rulemaking. The EPA believes that states should be provided the maximum time allowable under CAA section 110(k)(5) in order to have sufficient time to make appropriate SIP revisions following their own SIP development process. Such a schedule will allow for

the necessary SIP development process to correct the deficiencies yet still achieve the necessary SIP improvements as expeditiously as practicable consistent with the maximum time allowed by statute.

E. What are potential impacts on affected states and sources?

The issuance of a SIP call requires an affected state to take action to revise its SIP. That action by the state may, in turn, affect sources as described later in this document. The states that are receiving a SIP call in this final action will in general have options as to exactly how to revise their SIPs. In response to a SIP call, a state retains broad discretion concerning how to revise its SIP, so long as that revision is consistent with the requirements of the CAA. Some provisions that are affected by this SIP call, for example an automatic exemption provision, have to be removed entirely and an affected source could no longer depend on the exemption to avoid all liability for excess emissions during SSM events. Some other provisions, for example a problematic enforcement discretion provision, could either be removed entirely from the SIP or retained if revised appropriately to apply only to state enforcement personnel, in accordance with the EPA's interpretation of the CAA as described in the EPA's SSM Policy. The EPA notes that if a state removes a SIP provision that pertains to the state's exercise of

enforcement discretion, this removal would not affect the ability of the state to apply its traditional enforcement discretion in its enforcement program. It would merely make the exercise of such discretion case-by-case in nature, as is the normal form of such discretion.

In addition, affected states may choose to consider reassessing particular emission limitations, for example to determine whether those emission limitations can be revised such that well-managed emissions during planned operations such as startup and shutdown would not exceed the revised emission limitation, while still protecting air quality and meeting other applicable CAA requirements. Such a revision of an emission limitation will need to be submitted as a SIP revision for the EPA's approval if the existing limitation to be changed is already included in the SIP or if the existing SIP relies on the particular existing emission limitation to meet a CAA requirement. In such instances, the EPA would review the SIP revision for consistency with all applicable CAA requirements. A state that chooses to revise particular emission limitations, in addition to removing or revising the aspect of the existing SIP provision that is inconsistent with CAA requirements, could include those revisions in the same SIP submission that addresses the SSM provisions identified in the SIP call, or it could submit them separately.

The implications for a regulated source in a given state, in terms of

whether and how it would potentially have to change its equipment or practices in order to operate with emissions that comply with the revised SIP, will depend on the nature and frequency of the source's SSM events and how the state has chosen to revise the SIP to address excess emissions during SSM events. The EPA did not conduct an analysis that would indicate, *e.g.*, how many owners or operators of sources in each affected state would likely change any procedures or processes for control of emissions from those sources during periods of SSM. The impacts of revised SIP provisions will be unique to each affected state and its particular mix of affected sources, and thus the EPA cannot predict what those impacts might be. Furthermore, the EPA does not believe the results of such analysis, had one been conducted, would significantly affect this rulemaking that pertains to whether SIP provisions comply with CAA requirements. The EPA recognizes that after all the responsive SIP revisions are in place and are being implemented by the states, some sources may need to take steps to control emissions better so as to comply with emission limitations continuously, as required by the CAA, or to increase durability of components and monitoring systems to detect and manage malfunctions promptly.

The EPA Regional Offices will work with states to help them understand their options and the potential consequences for sources as the states prepare their SIP revisions in response to this SIP call.

F. What happens if an affected state fails to meet the SIP submission deadline?

If, in the future, the EPA finds that a state that is subject to this SIP call action has failed to submit a complete SIP revision as required, or the EPA disapproves such a SIP revision, then the finding or disapproval would trigger an obligation for the EPA to impose a federal implementation plan (FIP) within 24 months after that date. That FIP obligation would be discharged without promulgation of a FIP only if the state makes and the EPA approves the called-for SIP submission. In addition, if a state fails to make the required SIP revision, or if the EPA disapproves the required SIP revision, then either event can also trigger mandatory 18-month and 24-month sanctions clocks under CAA section 179. The two sanctions that apply under CAA section 179(b) are the 2-to-1 emission offset requirement for all new and modified major sources subject to the nonattainment new source review

(NSR) program and restrictions on highway funding. More details concerning the timing and process of the SIP call, and potential consequences of the SIP call, are provided in section VIII of this document.

G. What is the status of SIP provisions affected by this SIP call action in the interim period starting when the EPA promulgates the final SIP call and ending when the EPA approves the required SIP revision?

When the EPA issues a final SIP call to a state, that action alone does not cause any automatic change in the legal status of the existing affected provision(s) in the SIP. During the time that the state takes to develop a SIP revision in response to the SIP call and the time that the EPA takes to evaluate and act upon the resulting SIP submission from the state pursuant to CAA section 110(k), the existing affected SIP provision(s) will remain in place. The EPA notes, however, that the state regulatory revisions that the state has adopted and submitted for SIP approval will most likely be already in effect at the state level during the pendency of the EPA's evaluation of and action upon the new SIP submission.

The EPA recognizes that in the interim period, there may continue to be instances of excess emissions that adversely affect attainment and maintenance of the NAAQS, interfere with PSD increments, interfere with visibility and cause other adverse consequences as a result of the impermissible provisions. The EPA is particularly concerned about the potential for serious adverse consequences for public health in this interim period during which states, the EPA and sources make necessary adjustments to rectify deficient SIP provisions and take steps to improve source compliance. However, given the need to resolve these longstanding SIP deficiencies in a careful and comprehensive fashion, the EPA believes that providing sufficient time consistent with statutory constraints for these corrections to occur will ultimately be the best course to meet the ultimate goal of eliminating the inappropriate SIP provisions and replacing them with provisions consistent with CAA requirements.

III. Statutory, Regulatory and Policy Background

The Petition raised issues related to excess emissions from sources during periods of SSM and the correct treatment of these excess emissions in SIPs. In this context, "excess emissions" are air emissions that exceed the

otherwise applicable emission limitations in a SIP, *i.e.*, emissions that would be violations of such emission limitations. The question of how to address excess emissions correctly during SSM events has posed a challenge since the inception of the SIP program in the 1970s. The primary objective of state and federal regulators is to ensure that sources of emissions are subject to appropriate emission controls as necessary in order to attain and maintain the NAAQS, protect PSD increments, improve visibility and meet other statutory requirements. Generally, this is achieved through enforceable emission limitations on sources that apply, as required by the CAA, continuously.

Several key statutory provisions of the CAA are relevant to the EPA's evaluation of the Petition. These provisions relate generally to the basic legal requirements for the content of SIPs, the authority and responsibility of air agencies to develop such SIPs and the EPA's authority and responsibility to review and approve SIP submissions in the first instance, as well as the EPA's authority to require improvements to a previously approved SIP if the EPA later determines that to be necessary for a SIP to meet CAA requirements. In addition, the Petition raised issues that pertain to enforcement of provisions in a SIP. The enforcement issues relate generally to what constitutes a violation of an emission limitation in a SIP, who may seek to enforce against a source for that violation, and whether the violator should be subject to monetary penalties as well as other forms of judicial relief for that violation.

The EPA has a longstanding interpretation of the CAA with respect to the treatment of excess emissions during periods of SSM in SIPs. This statutory interpretation has been expressed, reiterated and elaborated upon in a series of guidance documents issued in 1982, 1983, 1999 and 2001. In addition, the EPA has applied this interpretation in individual rulemaking actions in which the EPA: (i) Approved SIP submissions that were consistent with the EPA's interpretation;¹⁴ (ii) disapproved SIP submissions that were not consistent with this interpretation;¹⁵ (iii) itself promulgated regulations in FIPs that were consistent

¹⁴ See "Approval and Promulgation of Implementation Plans; Texas; Excess Emissions During Startup, Shutdown, Maintenance, and Malfunction Activities," 75 FR 68989 (November 10, 2010).

¹⁵ See "Approval and Promulgation of State Implementation Plans; Michigan," 63 FR 8573 (February 20, 1998).

with this interpretation;¹⁶ or (iv) issued a SIP call requiring a state to revise an impermissible SIP provision.¹⁷

The EPA's SSM Policy is a policy statement and thus constitutes guidance. As guidance, the SSM Policy does not bind states, the EPA or other parties, but it does reflect the EPA's interpretation of the statutory requirements of the CAA. The EPA's evaluation of any SIP provision, whether prospectively in the case of a new provision in a SIP submission or retrospectively in the case of a previously approved SIP submission, must be conducted through a notice-and-comment rulemaking in which the EPA will determine whether a given SIP provision is consistent with the requirements of the CAA and applicable regulations.¹⁸

The Petition raised issues related to excess emissions from sources during periods of SSM, and the consequences of failing to address these emissions correctly in SIPs. In broad terms, the Petitioner expressed concerns that the exemptions for excess emissions and the other types of alleged deficiencies in existing SIP provisions "undermine the emission limits in SIPs and threaten states' abilities to achieve and maintain the NAAQS, thereby threatening public health and public welfare, which includes agriculture, historic properties and natural areas."¹⁹ The Petitioner asserted that such exemptions for SSM events are "loopholes" that can allow dramatically higher amounts of emissions and that these emissions "can swamp the amount of pollutants emitted at other times."²⁰ In addition, the Petitioner argued that these automatic and discretionary exemptions, as well as other SIP provisions that interfere with the enforcement structure of the CAA, undermine the objectives of the CAA.

The EPA notes that the types of SIP deficiencies identified in the Petition are not legal technicalities. Compliance with the applicable requirements is intended to achieve the air quality protection and improvement purposes and objectives of the CAA. The EPA believes that the results of automatic and discretionary exemptions in SIP provisions, and of other provisions that

interfere with effective enforcement of SIPs, are real-world consequences that adversely affect public health. Commenters on the February 2013 proposal provided illustrative examples of impacts that these types of SIP provisions have on the communities located near sources that rely on automatic or discretionary exemptions for excess emissions during SSM events, rather than by designing, operating and maintaining their sources to meet the applicable emission limitations.²¹ These comments also illustrated the ways in which such exemptions, incorrect enforcement discretion provisions and affirmative defense provisions have interfered with the enforcement structure of the CAA by raising inappropriate impediments to enforcement by states, the EPA or citizens.

The EPA's memorandum providing a detailed discussion of the statutory, regulatory and policy background for this action can be found in the docket for this rulemaking.²²

IV. Final Action in Response To Request To Rescind the EPA Policy Interpreting the CAA To Allow Affirmative Defense Provisions

A. What the Petitioner Requested

The Petitioner's first request was for the EPA to rescind its SSM Policy element interpreting the CAA to allow affirmative defense provisions in SIPs for excess emissions during SSM events.²³ Related to this request, the Petitioner also asked the EPA: (i) To find that SIPs containing an affirmative defense to monetary penalties for excess emissions during SSM events are substantially inadequate because they do not comply with the CAA; and (ii) to issue a SIP call pursuant to CAA section 110(k)(5) to require each such state to revise its SIP.²⁴ Alternatively, if the EPA denies these two related requests, the Petitioner asked the EPA: (i) To require states with SIPs that contain such affirmative defense

provisions to revise them so that they are consistent with the EPA's 1999 SSM Guidance for excess emissions during SSM events; and (ii) to issue a SIP call pursuant to CAA section 110(k)(5) to states with provisions inconsistent with the EPA's interpretation of the CAA.²⁵

The Petitioner requested that the EPA rescind its SSM Policy element interpreting the CAA to allow SIPs to include affirmative defenses for violations due to excess emissions during any type of SSM events because the Petitioner contended there is no legal basis for the Agency's interpretation. Specifically, the Petitioner cited to two statutory grounds, CAA sections 113(b) and 113(e), related to the type of judicial relief available in an enforcement proceeding and to the factors relevant to the scope and availability of such relief, that the Petitioner claimed would bar the approval of any type of affirmative defense provision in SIPs. The Petitioner drew no distinction between affirmative defense provisions for malfunctions versus affirmative defense provisions for startup and shutdown or other normal modes of operation; in the Petitioner's view all are equally inconsistent with CAA requirements.

In the Petitioner's view, the CAA "unambiguously grants jurisdiction to the district courts to determine penalties that should be assessed in an enforcement action involving the violation of an emissions limit."²⁶ The Petitioner first argued that in any judicial enforcement action in a district court, CAA section 113(b) provides that "such court shall have jurisdiction to restrain such violation, to require compliance, to assess such penalty, . . . and to award any other appropriate relief." The Petitioner reasoned that the EPA's SSM Policy is therefore fundamentally inconsistent with the CAA because it purports to remove the discretion and authority of the district courts to assess monetary penalties for violations if a source is shielded from monetary penalties under an affirmative defense provision in the approved SIP.²⁷ The Petitioner concluded that the EPA's interpretation of the CAA in the SSM Policy element allowing any affirmative defenses is impermissible "because the inclusion of an affirmative defense provision in a SIP limits the courts' discretion—granted by Congress—to assess penalties for Clean Air Act violations."²⁸

¹⁶ See "Federal Implementation Plan for the Billings/Laurel, MT [Montana], Sulfur Dioxide Area," 73 FR 21418 (April 21, 2008).

¹⁷ See "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 76 FR 21639 (April 18, 2011).

¹⁸ See generally *Catawba County, North Carolina v. EPA*, 571 F.3d 20, 33–35 (D.C. Cir. 2009) (upholding the EPA's process for developing and applying its guidance for designations).

¹⁹ Petition at 2.

²⁰ Petition at 12.

²¹ The EPA notes that a number of commenters described the impacts of SIP provisions of these types. See, e.g., comments of *Sierra Club, et al.*, EPA-HQ-OAR-2012-0322-0622, pp. 28–35 (describing impacts on several specific communities); comments of American Bottom Conservancy, EPA-HQ-OAR-2012-0322-0579 (describing impacts on one specific community); and comments of Citizen for Env't Justice and Env'l Integrity Project, EPA-HQ-OAR-2012-0322-0621, pp. 8–17 (discussing impacts of such provisions on enforcement more generally).

²² See Memorandum, "Statutory, Regulatory, and Policy Context for this Rulemaking," February 4, 2013, in the rulemaking docket at EPA-HQ-OAR-2012-0322-0029.

²³ Petition at 11.

²⁴ *Id.*

²⁵ Petition at 12.

²⁶ Petition at 10.

²⁷ *Id.*

²⁸ *Id.*

Second, in reliance on CAA section 113(e)(1), the Petitioner argued that in a judicial enforcement action in a district court, the statute explicitly specifies a list of factors that the court is to consider in assessing penalties.²⁹ The Petitioner argued that the EPA's SSM Policy authorizes states to create affirmative defense provisions with criteria for monetary penalties that are inconsistent with the factors that the statute specifies and that the statute explicitly directs courts to weigh in any judicial enforcement action. By specifying particular factors for courts to consider, the Petitioner reasoned, Congress has already definitively spoken to the question of what factors are germane in assessing monetary penalties under the CAA for violations. The Petitioner concluded that the EPA has no authority to allow a state to include an affirmative defense provision in a SIP with different criteria to be considered in awarding monetary penalties because "[p]reventing the district courts from considering these statutory factors is not a permissible interpretation of the Clean Air Act."³⁰ A more detailed explanation of the Petitioner's arguments appears in the 2013 February proposal.³¹

B. What the EPA Proposed

In the February 2013 proposal, consistent with its interpretation of the Act at that time, the EPA proposed to deny in part and to grant in part the Petition with respect to this overarching issue. As a revision to the SSM Policy as embodied in the 1999 SSM Guidance, the EPA proposed a distinction between affirmative defenses for unplanned events such as malfunctions and planned events such as startup and shutdown. The EPA explained the basis for its initial proposed action in detail, including why the Agency then believed that there was a statutory basis for narrowly drawn affirmative defense provisions that met certain criteria applicable to malfunction events but no such statutory basis for affirmative defense provisions applicable to startup and shutdown events. In the February 2013 proposal, the EPA also proposed to deny in part and to grant in part the Petition with respect to specific affirmative defense provisions in the SIPs of various states identified in the Petition consistent with that interpretation. With respect to these specific existing SIP provisions, the EPA distinguished between those provisions

that were consistent with the Agency's interpretation of the CAA as set forth in 1999 SSM Guidance and were limited to malfunction events and other affirmative defense provisions that were not limited to malfunctions or otherwise not consistent with the Agency's interpretation of the CAA and included one or more deficiencies.

Subsequent to the February 2013 proposal, however, a judicial decision by the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) in *NRDC v. EPA* concerning the legal basis for affirmative defense provisions in the EPA's own regulations caused the Agency to reconsider the legal basis for any affirmative defense provisions in SIPs, regardless of the type of events to which they apply, the criteria they may contain or the types of judicial remedies they purport to limit or eliminate.³² Thus, the EPA issued an SNPR to revise its proposed response to the Petition with respect to whether affirmative defense provisions in SIPs are consistent with fundamental legal requirements of the CAA.³³ In the SNPR, the EPA also revised its proposed response related to each of the specific affirmative defense provisions identified in the Petition. Changes to the proposed response included revision of the basis for the proposed finding of substantial inadequacy for many of the provisions (to incorporate the EPA's revised interpretation of the CAA into that basis). Other changes to the proposed response included reversal of the proposed denial of the Petition for some provisions that the Agency previously believed to be consistent with CAA requirements but subsequently determined were not authorized by the Act under the analysis prompted by the *NRDC v. EPA* decision. In order to provide comprehensive guidance to all states concerning affirmative defense provisions in SIPs and to avoid confusion that may arise due to recent court decisions relevant to such provisions under the CAA, the EPA also addressed additional existing SIP affirmative defense provisions of which it was aware although the provisions were not specifically identified in the Petition. The EPA initially examined the specific affirmative defense provisions identified by the Petitioner in 14 states but subsequently broadened its review to include additional provisions in four states, including two states that were not included in the Petition. Most importantly, the EPA provided a detailed explanation in the SNPR as to

why it now believes that the logic of the court in the *NRDC v. EPA* decision vacating the affirmative defense in an Agency emission limitation under CAA section 112 likewise extends to affirmative defense provisions in SIPs.

C. What Is Being Finalized in This Action

The EPA is taking final action to grant the Petition on the request to rescind its SSM Policy element that interpreted the CAA to allow states to elect to create affirmative defense provisions in SIPs. The EPA is also taking final action to grant the Petition on the request to make a finding of substantial inadequacy and to issue SIP calls for specific existing SIP provisions that include an affirmative defense as identified in the SNPR. The specific SIP provisions at issue are discussed in section IX of this document. These existing affirmative defense provisions include some provisions that the EPA had previously determined were consistent with the CAA as interpreted in the 1999 SSM Guidance and other provisions that were not consistent even with that interpretation of the CAA. As explained in the SNPR, the EPA has now concluded that the enforcement structure of the CAA, embodied in section 113 and section 304, precludes any affirmative defense provisions that would operate to limit a court's jurisdiction or discretion to determine the appropriate remedy in an enforcement action. These provisions are not appropriate under the CAA, no matter what type of event they apply to, what criteria they contain or what forms of remedy they purport to limit or eliminate.

The EPA is revising its interpretation of the CAA with respect to affirmative defenses based upon a reevaluation of the statutory provisions that pertain to enforcement of SIP provisions in light of recent court opinions. Section 113(b) provides courts with explicit jurisdiction to determine liability and to impose remedies of various kinds, including injunctive relief, compliance orders and monetary penalties, in judicial enforcement proceedings. This grant of jurisdiction comes directly from Congress, and the EPA is not authorized to alter or eliminate this jurisdiction under the CAA or any other law. With respect to monetary penalties, CAA section 113(e) explicitly includes the factors that courts and the EPA are required to consider in the event of judicial or administrative enforcement for violations of CAA requirements, including SIP provisions. Because Congress has already given federal courts the jurisdiction to determine

²⁹ Petition at 11.

³⁰ Petition at 11.

³¹ See February 2013 proposal, 78 FR 12459 at 12468 (February 22, 2013).

³² See *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014).

³³ See SNPR, 79 FR 55919 (September 17, 2014).

what monetary penalties are appropriate in the event of judicial enforcement for a violation of a SIP provision, neither the EPA nor states can alter or eliminate that jurisdiction by superimposing restrictions on that jurisdiction and discretion granted by Congress to the courts. Affirmative defense provisions by their nature purport to limit or eliminate the authority of federal courts to determine liability or to impose remedies through factual considerations that differ from, or are contrary to, the explicit grants of authority in section 113(b) and section 113(e). Accordingly, pursuant to section 110(k) and section 110(l), the EPA cannot approve any such affirmative defense provision in a SIP. If such an affirmative defense provision is included in an existing SIP, the EPA has authority under section 110(k)(5) to require a state to remove that provision.

States have great discretion in how to devise SIP provisions, but they do not have discretion to create provisions that contradict fundamental legal requirements of the CAA. The jurisdiction of federal courts to determine liability and to impose statutory remedies for violations of SIP emission limitations is one such fundamental requirement. The court in the recent *NRDC v. EPA* decision did not remand the regulation to the EPA for better explanation of the legal basis for an affirmative defense; the court instead vacated the affirmative defense and indicated that there could be no valid legal basis for such a provision because it contradicted fundamental requirements of the CAA concerning the jurisdiction of courts in judicial enforcement of CAA requirements. A more detailed explanation of the EPA's basis for determining that affirmative defense provisions in SIPs are similarly contrary to the requirements of the CAA appears in the SNPR.³⁴

Couching an affirmative defense provision in terms of merely defining whether the emission limitation applies and thus whether there is a "violation," as suggested by some commenters, is also problematic. If there is no "violation" when certain criteria or conditions for an "affirmative defense" are met, then there is in effect no emission limitation that applies when the criteria or conditions are met; the affirmative defense thus operates to create an exemption from the emission limitation. As explained in the February 2013 proposal, the CAA requires that emission limitations must apply continuously and cannot contain

exemptions, conditional or otherwise. This interpretation is consistent with the decision in *Sierra Club v. Johnson* concerning the term "emission limitation" in section 302(k).³⁵ Characterizing the exemptions as an "affirmative defense" runs afoul of the requirement that emission limitations must apply continuously.

The EPA recognizes that the original policy objectives behind states' affirmative defense provisions were likely well-intentioned, *e.g.*, to encourage better source design, maintenance and operation through the incentive of being shielded from certain statutory remedies for violations under certain specified conditions. Nevertheless, creation of SIP provisions that would operate to limit or eliminate the jurisdiction of courts to determine liability or to impose remedies provided for by statute is inconsistent with the enforcement structure of the CAA. The EPA emphasizes that the absence of an affirmative defense provision in a SIP, whether as a freestanding generally applicable provision or as a specific component of a particular emission limitation, does not mean that all exceedances of SIP emission limitations will automatically be subject to enforcement or automatically be subject to imposition of particular remedies. Pursuant to the CAA, all parties with authority to bring an enforcement action to enforce SIP provisions (*i.e.*, the state, the EPA or any parties who qualify under the citizen suit provision of section 304) have enforcement discretion that they may exercise as they deem appropriate in any given circumstances. For example, if the event that causes excess emissions is an actual malfunction that occurred despite reasonable care by the source operator to avoid malfunctions, then each of these parties may decide that no enforcement action is warranted. In the event that any party decides that an enforcement action is warranted, then it has enforcement discretion with respect to what remedies to seek from the court for the violation (*e.g.*, injunctive relief, compliance order, monetary penalties or all of the above), as well as the type of injunctive relief and/or amount of monetary penalties sought.³⁶ Further, courts have the discretion under section 113 to decline to impose penalties or injunctive relief in appropriate cases as explained below.

Similarly, the absence of an affirmative defense provision in a SIP does not alter the legal rights of sources under the CAA. In the event of an enforcement action for an exceedance of a SIP emission limit, a source can elect to assert any common law or statutory defenses that it determines is supported, based upon the facts and circumstances surrounding the alleged violation. Under section 113(b), courts have explicit authority to impose injunctive relief, issue compliance orders, assess monetary penalties or fees and impose any other appropriate relief. Under section 113(e), courts are required to consider the enumerated statutory factors when assessing monetary penalties, including "such other factors as justice may require." For example, if the exceedance of the SIP emission limitation occurs due to a malfunction, that exceedance is a violation of the applicable emission limitation, but the source retains the ability to defend itself in an enforcement action and to oppose the imposition of particular remedies or to seek the reduction or elimination of monetary penalties, based on the specific facts and circumstances of the event. Thus, elimination of a SIP affirmative defense provision that purported to take away the statutory jurisdiction of the court to exercise its authority to impose remedies does not disarm sources in potential enforcement actions. Sources retain all of the equitable arguments they could previously have made under an affirmative defense provision; they must simply make such arguments to the reviewing court as envisioned by Congress in section 113(b) and section 113(e). Congress vested the courts with the authority to judge how best to weigh the evidence in an enforcement action and determine appropriate remedies.

Removal of such impermissible SIP affirmative defense provisions is necessary to preserve the enforcement structure of the CAA, to preserve the jurisdiction of courts to adjudicate questions of liability and remedies in judicial enforcement actions and to preserve the potential for enforcement by states, the EPA and other parties under the citizen suit provision as an effective deterrent to violations. In turn, this deterrent encourages sources to be properly designed, maintained and operated and, in the event of violation of SIP emission limitations, to take appropriate action to mitigate the impacts of the violation. In this way, as intended by the existing enforcement structure of the CAA, sources can mitigate the potential for enforcement actions against them and the remedies

³⁵ 551 F.3d 1019 (D.C. Cir. 2008).

³⁶ The EPA notes that only the state and the Agency have authority to seek criminal penalties for knowing and intentional violation of CAA requirements. The EPA has this explicit authority under section 113(c).

³⁴ See 79 FR 55919 at 12931–34 (September 17, 2014).

that courts may impose upon them in such enforcement actions, based upon the facts and circumstances of the event.

D. Response to Comments Concerning Affirmative Defense Provisions in SIPs

The EPA received numerous comments concerning the portion of the Agency's proposed response to the Petition in the February 2013 proposal that addressed the question of whether affirmative defense provisions are consistent with CAA requirements for SIPs. As explained in the SNPR, those particular comments submitted on the original February 2013 proposal are no longer germane, given that the EPA has substantially revised its initial proposed action on the Petition and its basis, both with respect to the overarching issue of whether such provisions are valid in SIPs under the CAA and with respect to specific affirmative defense provisions in existing SIPs of particular states. Accordingly, as the EPA indicated in the SNPR, it considers those particular comments on the February 2013 proposal no longer relevant and has determined that it is not necessary to respond to them. Concerning affirmative defense provisions, the appropriate focus of this rulemaking is on the comments that addressed the EPA's revised proposal in the SNPR.

With respect to the revised proposal concerning affirmative defense provisions in the SNPR, the EPA received numerous comments, some supportive and some critical of the Agency's proposed action on the Petition as revised in the SNPR. Many of these comments raised conceptual issues and arguments concerning the EPA's revised interpretation of the CAA with respect to affirmative defense provisions in SIPs in light of the *NRDC v. EPA* decision and concerning the EPA's application of that interpretation to specific affirmative defense provisions discussed in the SNPR. For clarity and ease of discussion, the EPA is responding to these overarching comments, grouped by issue, in this section of this document.

1. Comments that the EPA is misapplying the decision of the D.C. Circuit in *NRDC v. EPA* to SIP provisions because the decision only applies to the Agency's own regulations pursuant to CAA section 112.

Comment: Many commenters stated that the EPA's reliance on the D.C. Circuit's decision in *NRDC v. EPA* is misplaced in the SNPR because the opinion is limited to disapproval of a Maximum Achievable Control Technology (MACT) standard's affirmative defense for unavoidable malfunctions. The commenters noted

that the *NRDC v. EPA* decision did not address the issue of affirmative defense provisions in SIPs. The commenters argued that the D.C. Circuit's opinion only stands for the narrow proposition that the EPA may not include an affirmative defense to civil penalties in a NESHAP³⁷ under CAA section 112.

One commenter noted that the EPA, in the SNPR, stated that the *NRDC v. EPA* decision did not turn on any factors specific to CAA section 112 as support for the EPA applying the decision to SIPs. However, the commenter argued that this fact is not probative because neither party raised any argument specific to CAA section 112 and it is reasonable for a court to limit its analysis to the arguments presented before it.

One commenter also noted that the EPA is not bound to apply D.C. Circuit law to actions reviewable in other circuits.

Response: As explained in the SNPR, the EPA believes the reasoning of the court in the *NRDC v. EPA* decision indicates that states, like the EPA, have no authority in SIP provisions to alter the jurisdiction of federal courts to assess penalties for violations of CAA requirements through affirmative defense provisions.³⁸ If states lack authority under the CAA to alter the jurisdiction of the federal courts through affirmative defense provisions in SIPs, then the EPA lacks authority to approve any such provision in a SIP.

The EPA agrees with the commenters' statement that the *NRDC v. EPA* decision pertained to a challenge to the EPA's NESHAP regulations issued pursuant to CAA section 112 to regulate hazardous air pollutants (HAPs) from sources that manufacture Portland cement. However, the EPA disagrees with the commenters' contention that, because the *NRDC v. EPA* decision was based on a NESHAP, it is somehow inappropriate for the EPA to rely on the reasoning of the D.C. Circuit's decision as a basis for this action.

As acknowledged by a commenter, the EPA explained in the SNPR that the *NRDC v. EPA* decision did not turn on the specific provisions of CAA section 112.³⁹ However, the commenter missed the importance of this point. Although the *NRDC v. EPA* decision analyzed the

³⁷ The NESHAPs are found in 40 CFR part 61 and 40 CFR part 63. The NESHAPs promulgated after the 1990 CAA Amendments are found in 40 CFR part 63. These standards require application of technology-based emissions standards referred to as Maximum Achievable Control Technology (MACT). Consequently, these post-1990 NESHAPs are also referred to as MACT standards.

³⁸ See 79 FR 55929–30; 55931–34.

³⁹ SNPR, 79 FR 55919 at 55932.

legal validity of an affirmative defense provision created by the EPA in conjunction with a specific NESHAP, the court based its decision upon the provisions of sections 113 and 304. Sections 113 and 304 pertain to enforcement of the CAA requirements more broadly, including to enforcement of SIP requirements. The court addressed section 112 and not sections germane specifically to SIPs, as only that section was before it. The EPA has applied the *NRDC* court's analysis to sections 113 and 304 with respect to SIPs and has concluded that the *NRDC* court's analysis is the better reading of the statutory provisions.

The affirmative defense provision in the Portland Cement NESHAP required the source to prove, by a preponderance of the evidence in an enforcement proceeding, that the source met specific criteria concerning the nature of the event. These specific criteria required to establish the affirmative defense in the Portland Cement NESHAP are functionally the same as the criteria that the EPA previously recommended to states for SIP provisions in the 1999 SSM Guidance and that the EPA repeated in the February 2013 proposal document. Accordingly, the EPA believes that the opinion of the court in *NRDC v. EPA* has significant impacts on the Agency's SSM Policy with respect to affirmative defense provisions. The reasoning by the *NRDC* court, as logically extended to SIP provisions, indicates that neither states nor the EPA have authority to alter either the rights of other parties to seek relief or the jurisdiction of federal courts to impose relief for violations of CAA requirements in SIPs. The EPA believes that the court's decision in *NRDC v. EPA* compelled the Agency to reevaluate its interpretation of the CAA as described in the SNPR.

The EPA also disagrees with commenters who suggested that a decision of the D.C. Circuit should have no bearing on actions that affect states in other circuit courts. The CAA vests authority with the D.C. Circuit to review nationally applicable regulations and any action of nationwide scope or effect. Accordingly, any decision of the D.C. Circuit in conducting such review is binding nationwide with respect to the action under review, and the D.C. Circuit's reasoning is also binding with respect to review of future EPA actions raising the same issues that will be subject to review within that Circuit. Given that the EPA has determined that this action has nationwide scope and effect, it is subject to exclusive review in the D.C. Circuit, so the EPA believes it is appropriate to apply the reasoning

of the *NRDC* court, which interprets CAA sections 113 and 304, to determine the legality of affirmative defense provisions in this national action.⁴⁰

2. Comments that the EPA is misapplying the decision of the D.C. Circuit in *NRDC v. EPA* to SIP provisions because the court did not address the legality of affirmative defense provisions in SIPs.

Comment: Many commenters alleged that the EPA inappropriately relied on the D.C. Circuit's decision in *NRDC v. EPA* in the SNPR because the court specifically stated that its decision did not address whether affirmative defense provisions in SIPs were appropriate. The commenters pointed to the second footnote in the decision, in which the court explicitly stated: "We do not here confront the question whether an affirmative defense may be appropriate in a State Implementation Plan."⁴¹ Accordingly, the commenters argued that the *NRDC v. EPA* decision is "non-binding" with respect to SIP provisions.

Response: The EPA disagrees that the footnote relied upon by commenters renders application of the legal interpretation of the *NRDC* court to SIP provisions improper. The EPA specifically acknowledged and discussed the footnote in the *NRDC v. EPA* decision in the SNPR. The EPA explained its view of the significance of the footnote: "footnote 2 in the opinion does not signify that the court intended to take any position with respect to the application of its interpretation of the CAA to SIP provisions, let alone to suggest that its interpretation would not apply more broadly." As discussed in the SNPR in detail, the EPA believes the logic of the court's decision in *NRDC v. EPA* regarding the interpretation of sections 113 and 304 concerning affirmative defenses does extend to SIP provisions.

3. Comment that the EPA is inappropriately relying on the *NRDC v. EPA* decision because the DC Circuit's decision was decided in error.

Comment: One commenter alleged that the EPA's reliance on the *NRDC v. EPA* decision is misplaced because the court in that decision mistakenly relied on section 304(a) when holding that the EPA cannot restrict the jurisdiction of the courts with affirmative defense provisions. The commenter alleged that Congress did not intend to give the judiciary "fully-unfettered discretion" in section 304(a) because such a reading cannot be squared with section 304(b), which provides that "[n]o action can be commenced . . . if the Administrator or

State has commenced and is diligently prosecuting a civil action in a court of the United States."

Response: The EPA does not agree with the commenter's premise that the *NRDC* court erred by not considering section 304(b) as well as section 304(a). As the court correctly reasoned, section 304(a) authorizes any person to bring an enforcement action for violations of emission limitations. Section 304(f) defines the term "emission limitation" for this purpose very broadly. Section 304(b) does not alter the rights of any person who has given proper notice to bring such an action under section 304(a), unless the EPA or the state is diligently prosecuting a civil action to require compliance. The fact that section 304(b) limits the ability of any person to bring an enforcement action (as opposed to intervening in such action) if the EPA or the state is pursuing enforcement has no bearing upon whether the EPA or a state could seek to alter or eliminate the jurisdiction of the courts to determine liability or to impose remedies for violations of SIP emission limitations in judicial enforcement. The EPA also does not believe that this rulemaking is the appropriate forum in which to challenge the court's decision.

4. Comments that the court's reasoning in the *NRDC v. EPA* decision does not apply to affirmative defenses in SIP provisions because if a source qualifies for an affirmative defense, then there has been no violation.

Comment: Several commenters stated that the D.C. Circuit's analysis in the *NRDC v. EPA* opinion is based on statutory language that indicates Congress intended the courts, not the EPA, to decide what constitutes an appropriate penalty once a violation has occurred. The commenters argued that if a SIP provision contains an affirmative defense, and if a source meets the requirements to qualify for that affirmative defense, then there is no violation of the SIP requirements. One commenter contended that if there is no violation, then the courts have no jurisdiction to award any remedies and thus there can be no concern that the affirmative defense provision alters or eliminates the jurisdiction of the courts. Another commenter argued that affirmative defense provisions in the context of a SIP can be described as limitations on the application of an emission limitation to the conditions under which the emission reduction technology can be effectively operated. The commenters stated that the *NRDC* court did not address the EPA's or states' authority to establish requirements that determine, in the first

instance, whether a violation has occurred.

Response: The EPA disagrees with the commenters' arguments that affirmative defense provisions are appropriate in SIPs if they merely define what constitutes a violation. As explained in detail in the SNPR, the EPA believes that SIP provisions with affirmative defenses that operate to limit or eliminate the jurisdiction of the courts to determine liability and to impose remedies are not consistent with CAA requirements. Under the commenters' theory, such provisions would not improperly impinge on the jurisdiction of the courts to impose remedies for violations by redefining what constitutes a "violation."

First, the EPA does not agree that all affirmative defense provisions in the SIPs at issue in this action are constructed in this way. Some, including those that the EPA previously approved as consistent with the Agency's 1999 SSM Guidance, explicitly provide that the excess emissions that occur are still violations, but a source could be excused from monetary penalties if the source met the criteria for the affirmative defense. Under the EPA's prior interpretation of the CAA, the legal basis for any affirmative defense started with the fact that the excess emissions still constituted a violation and injunctive relief would still be available as appropriate. As explained in the SNPR and this document, the EPA no longer interprets the CAA to allow even narrowly drawn affirmative defense provisions in SIPs, let alone those advocated by the commenters that would provide a complete bar to any type of judicial remedy provided for in section 113(b).

Second, even if a specific affirmative defense provision were worded in the way that the commenters' claim, then that provision would be deficient for other reasons. Under the commenters' premise, if certain criteria are met then there is no "violation" for excess emissions during SSM events. The EPA's view is that this formulation of an affirmative defense in effect means that there is no emission limitation that applies when the criteria are met, *i.e.*, the affirmative defense operates to create a conditional exemption for emissions from the source during SSM events. Such an approach would be inconsistent with the decision in *Sierra Club v. Johnson* concerning the term "emission limitation" in section 302(k).⁴² Exemptions for emissions during SSM events, whether automatic

⁴⁰ CAA section 307(b)(1).

⁴¹ 749 F.3d 1055, 1064, n.2.

⁴² 551 F.3d 1019 (D.C. Cir. 2008).

or conditional based upon the criteria of an affirmative defense, are inconsistent with the requirement for continuous controls on sources.

Finally, the EPA believes that the commenters' premise that an affirmative defense provision merely defines what a violation is also runs afoul of other fundamental requirements for SIP provisions. To the extent any such provision would allow state personnel to decide, unilaterally, whether excess emissions during an SSM event constitute a violation (*e.g.*, through application of an "affirmative defense"), this would interfere with the ability of the EPA or other parties to enforce for violations of SIP requirements. The EPA interprets the CAA to prohibit SIP provisions that impose the enforcement discretion decisions of a state on other parties. This includes provisions that are structured or styled as an affirmative defense but in effect allow *ad hoc* conditional exemptions from emission limitations and preclude enforcement for excess emission during SSM events.

5. Comments that the *NRDC v. EPA* decision, which concerned an emission limitation under section 112, does not apply in the context of section 110, because section 110 affords states flexibility in how to develop emission limitations in SIP provisions.

Comment: Commenters argued that the EPA's extension of the logic of the *NRDC v. EPA* decision to affirmative defenses in SIP provisions is incorrect because the EPA's NESHAP standards are governed by section 112, whereas SIP provisions are governed by section 110. Under the latter, commenters asserted, states are afforded wide discretion in how to develop emission limitations.⁴³ The commenters stated that section 110 governs the development of state SIPs to satisfy the NAAQS, which may address many different types of sources, major and minor, industrial and non-industrial, small and large, and old and new. The commenters alleged that states have independent authority to include affirmative defenses in SIP provisions, so long as the provisions are otherwise approvable, because the state has met its section 110 planning responsibilities and the SIP is enforceable.

Response: The EPA agrees with the commenters that section 110 governs the development of state SIPs and that states are accorded great discretion in determining how to meet CAA requirements in SIPs. However, as explained in the February 2013 proposal, the SNPR and sections IV.D.13 and V.D.2 of this document, states are

obligated to develop SIP provisions that meet fundamental CAA requirements. The EPA has the responsibility to review SIP provisions developed by states to ensure that they in fact meet fundamental CAA requirements. As explained in the SNPR and this document, the EPA no longer believes that affirmative defense provisions meet CAA requirements. Based on the logic of the court in the *NRDC v. EPA* decision, the better reading of the statute is that such provisions have the effect of limiting or eliminating the statutory jurisdiction of the courts to determine liability or impose remedies.

The EPA also disagrees with the commenters' arguments that "emission limitations" under section 112 and section 110 are not comparable with respect to meeting fundamental CAA requirements. As an initial matter, both section 112 MACT standards and section 110 SIP emission limitations can be composed of various elements that include, among other things, numerical emission limitations, work practice standards and monitoring and recordkeeping requirements. However, whether there are other components that are part of the emission limitation to make it apply continuously is not relevant for purposes of determining whether an affirmative defense provision that provides relief from penalties for a violation of either a MACT standard under section 112 or a SIP provision under section 110 is consistent with the CAA.

As explained in the SNPR, the EPA has revised its interpretation of the CAA with respect to affirmative defense provisions in SIPs, based upon the logic of the court in the *NRDC v. EPA* decision. Section 304(a) sets forth the basis for a civil enforcement action and section 113(a)(1) does the same for administrative or judicial enforcement actions brought by the EPA. Sections 113(b) and 304(a) provide the federal district courts with jurisdiction to hear civil enforcement cases. Furthermore, section 113(e) confers jurisdiction on the district court in a civil enforcement case to determine the amount of penalty to be assessed where a violation has been established.

6. Comments that the *NRDC v. EPA* decision does not pertain to the appropriateness of affirmative defense provisions in the context of state administrative or civil enforcement.

Comment: Some commenters noted that the *NRDC* court only reviewed whether affirmative defense provisions could be used to limit CAA citizen suit remedies in judicial enforcement actions. The commenters alleged that the use of an affirmative defense in a

citizen suit under federal regulations does not dictate the appropriateness of similar provisions in the context of state administrative or civil actions.

According to the commenters, a SIP represents an air quality management system and the state administrative process is distinct from federal citizen suits. Similarly, the commenters believed that SIP emission limitations are enforceable via state regulation penalty provisions that are separate from the CAA civil penalty provisions. Because the *NRDC* court spoke only to the appropriateness of affirmative defense provisions in the context of federal citizen suits, the commenters asserted, the decision is inapplicable in the EPA's SIP call action.

Response: The EPA agrees that the court in the *NRDC v. EPA* decision did not speak directly to the issue of whether states can establish affirmative defenses to be used by sources exclusively in state administrative enforcement actions or in judicial enforcement in state courts. The reasoning of the *NRDC* court indicates only that such provisions would be inconsistent with the CAA in the context of judicial enforcement of SIP requirements in federal court. Indeed, the *NRDC* court suggested that if the EPA elected to consider factors comparable to the affirmative defense criteria in its own administrative enforcement proceedings, it may be able to do so. The implication of the commenters, however, is that the EPA should interpret the CAA to allow affirmative defenses in SIP provisions, so long as it is unequivocally clear that sources cannot assert the affirmative defenses in federal court enforcement actions and cannot assert the affirmative defenses in enforcement actions brought by any party other than the state.

The EPA of course agrees that states can exercise their own enforcement discretion and elect not to bring an enforcement action or seek certain remedies, using criteria analogous to an affirmative defense. It does not follow, however, that states can impose this enforcement discretion on other parties by adopting SIP provisions that would apply in federal judicial enforcement, or in enforcement brought by the EPA or other parties. To the extent that the state developed an "enforcement discretion" type provision that applied only in its own administrative enforcement actions or only with respect to enforcement actions brought by the state in state courts, such a provision may be appropriate. This authority is not unlimited because the state could not create affirmative defense provision that in effect undermines its legal authority

⁴³ See, *e.g.*, *Train v. NRDC*, 421 U.S. 60, 79 (1975).

to enforce SIP requirements. Section 110(a)(2)(C) requires states to have a program that provides for enforcement of the state's SIP, and enforcement discretion provisions that unreasonably limit the state's own authority to enforce the requirements of the SIP would be inconsistent with section 110(a)(2)(C). The EPA's obligations with respect to SIPs include determining whether states have adequate enforcement authority.

7. Comments that the EPA's proposal is inappropriate because it runs counter to previous court decisions, including the decision of the U.S. Court of Appeals for the Fifth Circuit (Fifth Circuit) in *Luminant Generation v. EPA*.

Comment: Many commenters on the SNPR argued that the decision of the Fifth Circuit in *Luminant Generation v. EPA* precludes the EPA's proposed action concerning affirmative defenses in SIP provisions, in general and with respect to the provisions in the Texas SIP in particular. The commenters noted that the court upheld the EPA's approval of an affirmative defense provision for unavoidable excess emissions during unplanned SSM events in the Texas SIP.⁴⁴ The commenters argued that the Fifth Circuit ruled that in approving the Texas SIP affirmative defense provision, the EPA "acted neither contrary to law nor in excess of its statutory authority."⁴⁵ According to the commenters, the court specifically considered and rejected arguments by litigants concerning sections 113 and 304. Some commenters argued that the court also considered and "decisively rejected" the legal arguments articulated by the EPA in the SNPR. The commenters alleged that the *Luminant Generation v. EPA* decision demonstrates that affirmative defenses for malfunctions are permissible in SIP provisions. The commenters contended that, because the Fifth Circuit in *Luminant Generation v. EPA* specifically considered whether an affirmative defense provision applicable to malfunctions included in a SIP violates the CAA, unlike the D.C. Circuit in *NRDC v. EPA*, the EPA should follow the *Luminant Generation v. EPA* decision rather than the D.C. Circuit decision in *NRDC v. EPA*.

Some commenters also pointed out that the D.C. Circuit, in the recent *NRDC v. EPA* decision, mentioned and cited the *Luminant Generation v. EPA* opinion and did not expressly disagree

with the Fifth Circuit's holding. One commenter noted that if the *NRDC* court believed that the issue it was deciding was the same as the issue decided in *Luminant Generation v. EPA*, the D.C. Circuit would have explicitly stated that it was declining to follow the Fifth Circuit on the issue instead of acknowledging that the issue upon which the Fifth Circuit ruled was not before the D.C. Circuit.

Several commenters also argued that, because the Fifth Circuit previously determined in *Luminant Generation v. EPA* that the Texas SIP affirmative defense provision at issue in this SIP call action is consistent with CAA sections 113 and 304, the EPA does not have any legal authority under the CAA to finalize the action proposed in SNPR. Some commenters further stated that the EPA lacks authority to disagree with the Fifth Circuit's determination of the law as applied to a state within the Fifth Circuit's jurisdiction. These commenters believed that if the EPA were to finalize the action discussed in the SNPR with respect to the affirmative defense for malfunctions in the Texas SIP, this action would violate the mandate rule. Some commenters also alleged that courts outside the Fifth Circuit, including the D.C. Circuit, will apply principles of claim preclusion, or *res judicata*, to give effect to the Fifth Circuit's prior adjudication on the legal basis for the affirmative defense in the Texas SIP. One commenter claimed that the EPA's "failure" to address how the holdings in *Luminant Generation v. EPA* will no longer apply and how the EPA is exempt from the court's mandate render the theories presented in the SNPR unsupported as a basis for the SIP call action.

Some commenters alleged that the EPA is bound by its own prior representations before the Fifth Circuit, in which it asserted and defended its approval of the affirmative defense provision for malfunctions in the Texas SIP, under the doctrine of judicial estoppel.⁴⁶ Similarly, the commenters alleged that under the doctrine of issue preclusion, or collateral estoppel, the EPA is precluded from re-litigating the issues previously considered and determined by the Fifth Circuit, regardless of where any subsequent challenge to this final action is brought.

Some commenters also cited to other circuit court decisions that have upheld the EPA's approvals of affirmative

defense provisions for malfunctions.⁴⁷ The commenters alleged that other than calling the *NRDC v. EPA* decision a newer decision, the EPA did not explain its justification for relying on the *NRDC v. EPA* opinion instead of following the three circuit court decisions that are directly on point.

Response: The EPA disagrees with the commenters' arguments concerning the application of the court's decision in *Luminant Generation v. EPA* to this SIP call action. As explained in the SNPR, the EPA acknowledges that it has previously approved affirmative defenses in SIP provisions or, when appropriate, promulgated affirmative defenses in FIPs. The EPA also acknowledged that its approval of an affirmative defense provision applicable to "unplanned events" (*i.e.*, malfunctions) in a Texas SIP submission was upheld in 2012 by the U.S. Court of Appeals for the Fifth Circuit. In that litigation, the EPA argued that sections 113 and 304 do not preclude appropriately drawn affirmative defense provisions for malfunctions in SIPs. Importantly, in upholding the EPA's approval of the affirmative defense, the Fifth Circuit determined that *Chevron* step 1 was not applicable to this case and "turn[ed] to step two of *Chevron*"⁴⁸ in holding that the Agency's interpretation of the CAA at that time was a "permissible interpretation of section [113], warranting deference."⁴⁹ The Fifth Circuit did not determine that the EPA's interpretation at the time of the *Luminant Generation v. EPA* decision was the only or even the best permissible interpretation. It is clearly within the EPA's legal authority to now revise its interpretation to a different, but still permissible, interpretation of the statute.⁵⁰ The EPA has explained at length in the SNPR, and elsewhere in this final rulemaking, its reasons for changing its previous interpretation of

⁴⁷ See *Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174 (9th Cir. 2012); *Arizona Public Service Co. v. EPA*, 562 F.3d 1116 (10th Cir. 2009).

⁴⁸ 714 F.3d at 852.

⁴⁹ *Id.* at 853.

⁵⁰ See, e.g., *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005) and *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502 (2009). The Agency also notes that commenters' position, that the EPA cannot now change its interpretation of the CAA, is at odds with the SIP call provision established by Congress in section 110(k)(5). That provision provides the EPA with authority to issue a SIP call "whenever" it determines that an existing SIP is substantially inadequate to meet CAA requirements. In other words, section 110(k)(5) expressly envisions cases where the EPA has previously approved a SIP provision as meeting CAA requirements, and one that the EPA may have even defended in court, but later determines that the provision no longer meets CAA requirements, and section 110(k)(5) gives the EPA authority to issue a SIP call in these situations.

⁴⁴ 714 F.3d 841 (5th Cir. 2013).

⁴⁵ *Id.* at 853. The EPA notes that the Fifth Circuit also upheld the Agency's disapproval of the affirmative defense provisions that the state sought to create for "planned" events.

⁴⁶ See, e.g., *New Hampshire v. Maine*, 532 U.S. 742, 749 (2001).

the CAA to permit narrowly drawn affirmative defenses applicable only to penalties and has explained why it now believes that the reasoning of the court in the *NRDC v. EPA* decision is the better reading of the CAA.

Some commenters allege that the Fifth Circuit considered and rejected the legal arguments articulated by the EPA in the SNPR to support the Agency's new interpretation that affirmative defenses in SIP provisions are inconsistent with the Act. The EPA disagrees with commenters' assertions. As explained above, in the *Luminant Generation v. EPA* decision the Fifth Circuit analyzed the EPA's former interpretation of the CAA under step 2 of *Chevron* and found that the Agency's position was reasonable. The Fifth Circuit held that the CAA did not dictate the outcome put forth by environmental petitioners in the *Luminant Generation v. EPA* case; the court did not hold that the Agency could not reasonably interpret the CAA provisions at issue to come to the new position articulated in the SNPR and other sections of this document. In fact, the Fifth Circuit upheld the EPA's reading of the statute to preclude affirmative defense provisions for planned events in the same decision as a reasonable interpretation of the CAA.

In the SNPR, the EPA also addressed the discussion in the *NRDC v. EPA* decision that referred to the earlier *Luminant Generation v. EPA* decision and explained its view that the court in *NRDC v. EPA* did not suggest that its interpretation of the CAA would not apply more broadly to SIP provisions. Rather, the court simply declined to address that issue. As to commenters' allegation that the EPA should follow the *Luminant* court's reasoning because that court addressed the specific issue of affirmative defenses in SIP provisions, the EPA has explained in detail in the SNPR and section IV.D.1 of this document why it now believes that the *NRDC* court's reasoning is applicable here and why it believes this is the better interpretation of sections 113 and 304.

The EPA acknowledges that other circuit courts have also upheld affirmative defense provisions promulgated by the Agency in FIPs.⁵¹ Those decisions were also based upon an interpretation of the CAA that the Agency no longer holds. The EPA further notes that the affirmative defense provisions at issue in the other court decisions cited by the commenters are not at issue in this action. However,

the EPA may elect to address these provisions in a separate rulemaking.

The EPA also disagrees with commenters' allegations that this final SIP call action violates the mandate rule. The mandate rule generally governs how a lower court handles a higher court's decision on remand. The Agency believes that the mandate rule is inapplicable here. Similarly, the Agency believes that the principles of *res judicata*, judicial estoppel and collateral estoppel (issue preclusion) raised by commenters are all inapplicable in this situation. For reasons the EPA has fully explained in this rulemaking, the Agency is adopting a revised interpretation of the CAA. This necessarily changes the issues or claims that may be raised in any future litigation concerning the Agency's action here or subsequent Agency actions taken pursuant to this changed interpretation. As noted previously, the Agency's ability to change its interpretation of the statute is well established, even if courts have previously upheld the Agency's former interpretation as reasonable under step 2 of the *Chevron* analysis.

8. Comments that affirmative defense provisions are needed or appropriate because sources cannot control malfunctions or the excess emissions that occur during them.

Comment: Several commenters claimed that by requiring states to remove affirmative defense provisions, the EPA will create a situation where sources have no potential relief from liability for exceedances resulting from excess emissions during malfunctions. The commenters argued that this will effectively expose sources to penalties for emissions that are not within the sources' control. The commenters alleged that the EPA's proposal is unreasonable because it fails to consider the infeasibility of controlling emissions during malfunction periods. The commenters believe that because malfunction events are uncontrollable by definition, removing affirmative defense provisions applicable to malfunctions will not reduce emissions but instead will only expose facilities to potential enforcement for uncontrollable exceedances.

Response: The EPA disagrees that without affirmative defense provisions, sources will have no "relief" from liability for violations during actual malfunctions. To the extent that sources have an actual malfunction, sources retain the ability to raise this fact in the event of an enforcement action related to the malfunction. Congress has already provided courts with explicit jurisdiction and authority to determine

liability and to impose appropriate remedies, based on the facts and circumstances surrounding the violation. To the extent that there are extenuating circumstances that justify not holding a source responsible for a violation or not imposing particular remedies as a result of a violation, sources retain the ability to raise these facts to the court. In addition, the absence of an affirmative defense provision in the SIP does not impede a violating source from taking appropriate actions to minimize emissions during a malfunction, so as to mitigate the potential remedies that a court may impose as a result of the violation.

Furthermore, the EPA disagrees with the commenters' premise that states have authority to create affirmative defense provisions in SIPs because some sources may otherwise be subject to enforcement actions for emissions during malfunctions. As explained in the SNPR in detail, the EPA has concluded that there is no legal basis for affirmative defenses in SIP provisions, including affirmative defenses applicable to malfunction events. Because such affirmative defense provisions purport to alter or eliminate the statutory jurisdiction of courts to determine liability and to assess appropriate remedies for violations of SIP requirements, these provisions are not permissible.

9. Comments that there will not be any reduction in overall emissions from the EPA's SIP call action because states will need to revise emission limitations to allow more emissions if affirmative defense provisions are removed from the SIPs.

Comment: Commenters on the SNPR questioned whether the elimination of affirmative defenses in SIP provisions would result in any reductions of emissions from sources. Several commenters asserted that affirmative defense provisions allow states to lower emission limitations overall. Thus, the commenters claimed that elimination of the affirmative defense provisions would obligate states to raise affected emission limitations so that sources could comply with them continuously. Another commenter criticized the EPA's approach as requiring each state to reframe the existing episodic emissions provisions of its SIP as alternative emission limitations rather than as more limited and conditional affirmative defenses. This commenter asserted that structuring the provisions as an affirmative defense allows a state to impose more stringent numerical limitations without penalizing sources for unavoidable emissions when those

⁵¹ See *Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174 (9th Cir. 2012); *Arizona Public Service Co. v. EPA*, 562 F.3d 1116 (10th Cir. 2009).

emissions do not compromise the underlying air quality objectives.

Several commenters also disagreed with the EPA's belief that removal of affirmative defense provisions would reduce emissions. One commenter noted that some affirmative defense provisions require a source to evaluate impacts on NAAQS compliance as part of asserting the affirmative defense; the commenter contended that forgoing these provisions would thus reduce the incentive for owners and operators to minimize emissions during malfunctions so that they could qualify for the affirmative defense. Several commenters noted that many sources immediately investigate excess emissions events and implement measures intended to prevent recurrence. Nevertheless, those commenters asserted that because malfunction events are uncontrollable by definition, removing an affirmative defense applicable to malfunctions will not reduce emissions. Commenters also argued that an assumption that elimination of the affirmative defense provisions will reduce emissions is flawed because, given the stringent applicability criteria for a "narrowly drawn" affirmative defense, a facility has no assurance that an affirmative defense will apply to any particular malfunction event and that even if the affirmative defense was available, it would not shield the facility from compliance orders or other injunctive relief (or from criminal prosecution).

Response: The commenters' arguments concerning whether elimination of affirmative defense provisions will or will not reduce emissions during SSM events and will or will not reduce incentives for sources to minimize emissions during SSM events do not address the legal basis for any such affirmative defense provisions. As the commenters correctly observed, the EPA's 1999 SSM Guidance reflected the Agency's prior interpretation of the CAA to permit such affirmative defense provisions, so long as they were sufficiently narrowly drawn, applied only to monetary penalties and required the source to prove that it met the applicable criteria to the trier of fact in an enforcement proceeding. The EPA's arguments for why appropriate affirmative defense provisions could be consistent with CAA requirements included that they could provide an incentive for sources to be properly designed, maintained and operated to minimize emissions at all times.

As explained in the SNPR, however, the EPA has determined that affirmative defenses are impermissible in SIP provisions because they operate to alter

or eliminate the statutory jurisdiction of the courts. The EPA has reached this conclusion in light of the court's decision in *NRDC v. EPA*. Because affirmative defense provisions are inconsistent with the enforcement structure of the CAA, the EPA is making the finding that such provisions are substantially inadequate to meet legal requirements of the CAA. In order to make the finding that these provisions fail to meet legal requirements of the CAA, the EPA is not required to determine or estimate emission reductions that will or will not result from the removal of such provisions from the affected SIPs. The EPA believes this action is necessary to provide environmental protection. However, the EPA's obligation as a legal matter would not change even if commenters were correct in their view that emissions reductions will not result from the removal of the impermissible affirmative defense provisions. The EPA's interpretation of its authority under section 110(k)(5) is discussed in detail in section VIII.A of this document.

The EPA agrees that in response to this SIP call directing the removal of affirmative defense provisions, the affected states may elect to revise affected SIP emission limitation. In so doing, the states may determine that it is appropriate to revise the emission limitations in other respects, so long as they do so consistent with CAA requirements. For example, affected states may elect to create alternative emission limitations that apply to sources during startup and shutdown. The EPA's guidance for this approach is discussed in detail in VII.B.2 of this document. Alternatively, states may elect to overhaul an affected SIP emission limitation entirely to account for the removal of the affirmative defense in some other way. However, states will need to comply with the applicable substantive requirements for the type of SIP provision at issue and the EPA will review those SIP revisions in accordance with the requirements of the CAA, including sections 110(k)(3), 110(l) and 193.

10. Comments that the elimination of affirmative defense provisions will result in sources' facing inconsistent treatment by courts or states when excess emissions are emitted during malfunction events.

Comment: Commenters claimed that the concept and framework for affirmative defense provisions are consistent from state to state and that by removing these provisions, sources will be subject to inconsistent treatment of excess emissions during SSM in

different states. The commenters noted that the EPA recognized in the February 2013 proposal and SNPR that states may elect to revise their deficient SIP provisions differently in response to the SIP call and thus the commenters expressed concern that the potential difference in treatment among states will lead to "inconsistent regulation of air pollution across the country."

Commenters further argued that without the consistent regulatory framework provided by an affirmative defense provision, each court is likely to evaluate SSM events differently in the context of enforcement actions. The commenters suggested that allowing each court to consider the facts and circumstances of the emission event in its penalty evaluation without a governing framework could lead to inconsistent enforcement throughout the country.

Response: The EPA disagrees that it is inappropriate to allow states to determine how best to revise their SIPs in response to this SIP call, consistent with CAA requirements. As discussed in this document, and as many commenters have also noted, the structure of the CAA is based upon cooperative federalism. Under this structure, Congress gave states broad discretion to develop SIP provisions as necessary to attain and maintain the NAAQS and meet other CAA objectives, so long as the SIPs also meet statutory requirements. The very nature of the SIP program is that similar sources can be treated differently in different states, because the states have discretion with respect to developing their SIP provisions consistent with CAA requirements. Thus, whether the affirmative defense provisions at issue in this action added some level of "consistent" treatment of sources across the nation (a statement with which the EPA does not agree) is not relevant for purposes of this SIP call.⁵² Rather, for the reasons explained in the SNPR and in this document, the EPA has determined that affirmative defense provisions are inconsistent with the fundamental legal requirements of the CAA. For that reason, the EPA is requiring the affected states to revise their SIPs to remove the affirmative defense provisions identified in this action. States have discretion in how

⁵² The EPA notes that the actual affirmative defense provisions at issue in this action are very dissimilar; some are based on the EPA's interpretation of the CAA in the 1999 SSM Guidance, but the majority of the provisions are relatively unique from state to state. Accordingly, the EPA disagrees with the commenters' basic premise that the affirmative defense provisions are consistent from state to state.

they revise their SIPs in this context as in all other contexts.

As to the concern that different courts might evaluate liability for violations during SSM events differently in the absence of affirmative defense provisions, the EPA notes that this is not the relevant question. The potential for inconsistent treatment by the courts is not a basis for allowing states to retain SIP provisions that are inconsistent with the legal requirements of the CAA. In any event, the EPA disagrees that elimination of affirmative defenses in SIP provisions make it more likely that there would be “inconsistent enforcement” because of a lack of a “regulatory framework.” The enforcement structure of the CAA embodied in section 113 and section 304 already provides a structure for enforcement of CAA requirements in federal courts. For example, the CAA already provides uniform criteria for courts to apply, based upon the facts and circumstances of individual enforcement actions. Similar to an affirmative defense provision, section 113(e) already enumerates the factors that courts are required to consider in determining appropriate penalties for violations and thus there is a consistent statutory framework. In essence the commenters object to the fact that in any judicial enforcement case, the court will determine liability and remedies based on the facts and circumstances of the case. However, this is an inherent feature of the enforcement structure of the CAA, regardless of whether there is an affirmative defense provision at issue.

11. Comments that the EPA should have acted in a single, comprehensive rulemaking rather than issuing the supplemental notice of proposed rulemaking.

Comment: Commenters asserted that the EPA’s issuance of two separate proposals instead of one proposal has prevented states and industry from knowing the entire proposed regulatory action. The commenters claimed that if the EPA is going to issue a SIP call to states concerning the treatment of emissions during SSM events, then it should do so in a single comprehensive rulemaking. The commenters argued this is necessary because states consider different options when revising SIP provisions and that thereafter states will have to work with affected sources to revise permits.

Response: The EPA disagrees with the argument that states, industry, individuals and other interested parties have not had an opportunity to know and comment upon the Agency’s entire action. The EPA’s February 2013

proposal was intended to cover a broad range of issues related to the correct treatment of emissions during SSM events in SIP provisions comprehensively. Because of an intervening court decision that affected the substance of the EPA’s initial proposed action, it was necessary to issue a supplemental proposal. The EPA disagrees that the issuance of the SNPR adversely affected the ability of interested parties to understand the Agency’s proposed action, because the SNPR only affected one aspect of the original proposed action. As the EPA explained in the SNPR: “In this SNPR, we are supplementing and revising what we earlier proposed as a response to the Petitioner’s requests but only to the extent the requests narrowly concern affirmative defense provisions in the SIPs. We are not revising or seeking further comment on any other aspects of the February 2013 proposed action.”⁵³

As to the commenters’ concern that the EPA should take action in a single comprehensive rulemaking, the Agency is doing so. This SIP call action addresses all aspects of the Petition and it is based upon both the February 2013 proposal and the SNPR. As advocated by the commenters, the EPA’s objective in this SIP call action is to provide states with comprehensive and up-to-date guidance concerning the correct treatment of emissions during SSM events in SIP provisions, consistent with CAA requirements as interpreted by recent court decisions. The EPA agrees with the commenters that providing states comprehensive guidance in this rulemaking is important to assist states in revising their SIP provisions consistent with CAA requirements. Any necessary changes to permits to reflect the removal of affirmative defense provisions from the underlying SIP will occur later, after the SIP provisions have been revised.

12. Comments that the EPA has not proven that the existence of affirmative defense provisions in SIPs is resulting in specific environmental impacts or interference with attainment and maintenance of the NAAQS.

Comment: Several commenters argued that the EPA has failed to demonstrate that the affirmative defense provisions at issue in this action have contributed to a specific NAAQS violation or otherwise caused harm to public health or the environment. The commenters contend that, because of the narrow scope of affirmative defense provisions, it is unlikely that their existence would cause or contribute to any violations of the NAAQS. Some commenters further

noted that some states have experienced improved ambient air quality conditions, despite having SIPs in place with affirmative defense provisions at issue in this action.

The commenters alleged that without providing specific record-based evidence of the impacts caused by affirmative defense provisions, it is unreasonable for the EPA to determine that existing provisions are substantially inadequate or otherwise not in compliance with the CAA. Some commenters further alleged that the EPA has no authority to issue a SIP call without “find[ing] that the applicable implementation plan . . . is substantially inadequate to attain or maintain the relevant [NAAQS].”

Response: As explained in the February 2013 proposal, the SNPR and this document, the EPA does not interpret its authority under section 110(k)(5) to require proof that a deficient SIP provision caused a specific violation of the NAAQS at a particular monitor on a particular date, or that a deficient SIP provision undermined a specific enforcement action. Section 110(k)(5) explicitly authorizes the EPA to make a finding that a SIP provision is substantially inadequate to “comply with any requirement of” the CAA, in addition to the authority to do so where a SIP is inadequate to attain and maintain the NAAQS or to address interstate transport. In light of the court’s decision in *NRDC v. EPA*, the EPA has reexamined the question of whether affirmative defenses are consistent with CAA requirements for SIP provisions. As explained in this action, the EPA has concluded that such provisions are inconsistent with the requirements of section 113 and section 304. Accordingly, the EPA has the authority to issue SIP calls to states, requiring that they revise their SIPs to eliminate the specific affirmative defense provisions identified in this action. Issues related to the EPA’s authority under section 110(k)(5) are discussed in more detail in section VIII.A of this document.

13. Comments that the EPA is violating the principles of cooperative federalism through this action.

Comment: Several commenters stated that the EPA’s action with respect to affirmative defenses in SIP provisions is inconsistent with the system of cooperative federalism contemplated by the CAA. The commenters alleged that this action is at odds with established CAA and judicial precedents indicating that states have broad discretion in developing SIP provisions, with the EPA’s role being limited. Some commenters further alleged that the

⁵³ 79 FR 55919 at 55923.

EPA's action has the effect of unlawfully directing states to impose a particular control measure. The commenters argued that the EPA must defer to a state's choices on how to meet the relevant NAAQS, through whatever SIP provisions the state elects to develop. One commenter argued that states have independent authority to include affirmative defense policies in their SIPs, even if the DC Circuit has held that the EPA may not include affirmative defense provisions in federal regulations.

Response: The EPA agrees that the CAA is based upon the principle of cooperative federalism but disagrees with the commenters' characterization of the respective authorities and responsibilities of states and the Agency. As explained in the February 2013 proposal, and in section V.D.2 of this document, the EPA has the authority and the obligation to ensure that SIP provisions meet fundamental CAA requirements, when initially submitted and later. In the case of affirmative defenses in SIP provisions, the EPA has determined that such provisions do not comply with CAA requirements because they operate to alter or eliminate the statutory jurisdiction of the courts, contrary to section 113 and section 304. The states have broad discretion in how to create SIP provisions but must do so consistent with CAA requirements. By issuing this SIP call, the EPA is not in any way compelling states to impose any specific SIP control measure on any specific source but merely requiring states to revise their SIP provisions to make them consistent with CAA requirements.

14. Comments that the EPA failed to account adequately for the amount of time and resources that will be required to revise state SIPs.

Comment: Many commenters asserted that the SNPR did not recognize that removal of affirmative defense provisions from SIPs will impose enormous burdens on states because they will need to revise SIPs to create alternative emission limitations in lieu of the affirmative defenses. Commenters contended that removal of the affirmative defense provisions will necessarily require state air agencies to make extensive revisions to SIPs and that in many states, such changes will have to be reviewed by the state legislature. Commenters explained that such an effort could not reasonably be completed in many states within the 18 months the EPA proposed to provide for SIP revisions in response to the final SIP call. Commenters also stated that the SSM provisions that the EPA proposed to require states to remove from their

SIPs have been incorporated into thousands of title V operating permits and that those title V permits would, in turn, need to be modified if the affirmative defense provisions are removed from the approved SIPs. Commenters indicated that states might also need to amend an even larger number of minor source permits.

Commenters also indicated that in conjunction with removal of affirmative defenses, states will also have to reevaluate the emission limitations currently contained in their SIPs to determine if those limitations are still are consistent with federal and state law (e.g., represent reasonably available control technology). Some commenters expressed the view that the EPA must indicate that states will not be required to remove the identified affirmative defense provisions from their SIPs until the state has had time to consider whether emission limitations in state regulations and in construction and operating permits need to be modified and to obtain any necessary EPA approval for the modified requirements. Commenters also argued that the EPA's suggestion that states subject to a SIP call could simply remove an existing affirmative defense provision and rely on enforcement discretion to address "unavoidable" exceedances is wrong and that states adopt emission limitations under state administrative rules that require the agency to provide a record to support the level of the emission limitation.

Response: The EPA has acknowledged that correction of the deficient SIP provisions at issue in this action will take time and resources. For this reason, the EPA is providing states with the maximum time (18 months) permitted by section 110(k)(5) to respond to this SIP call. In addition, the EPA is endeavoring to provide states with clear and comprehensive guidance concerning the proper treatment of excess emissions during SSM events in SIP provisions in order to make this process more efficient.

The EPA acknowledges that some states, in conjunction with removal of affirmative defense provisions, may elect to undertake a more comprehensive revision of affected SIP emission limitations. In so doing, the states may need to undertake a more resource intensive approach than those states that merely elect to eliminate the affirmative defense provisions. In addition, the EPA also recognizes that states may eventually need to revise permits to reflect the elimination of affirmative defense provisions from underlying SIP provisions that may have been reflected in permits. The EPA

discussed these issues in the both the February 2013 proposal and in the SNPR. A summary of comments concerning revisions to operating permits to reflect the revised SIP provisions appears, with the EPA's response to comments, in section VIII.D.28 of this document.

Despite the potential burden on states, as the EPA explained in the February 2013 proposal and the SNPR, the Agency believes that it is obligated and authorized to issue this SIP call action to affected states to require the removal of affirmative defense provisions. The EPA is not in this action evaluating or determining whether SIP emission limitations should or should not be revised in light of the removal of affirmative defenses and is not required to do so. The states have discretion to determine how best to revise the deficient SIP provisions identified in this action, so long as they do so consistent with the CAA requirements.

Further, the EPA does not agree that enforcement discretion cannot substitute for an affirmative defense for malfunctions. For example, the EPA has taken the position that the CAA does not require malfunction emissions to be factored into development of section 112 or section 111 standards and that case-by-case enforcement discretion provides sufficient flexibility.⁵⁴ Moreover, the EPA believes that Congress has already provided for such flexibility in section 113, by providing the courts with jurisdiction to determine liability and to impose remedies. For example, in section 113(e), Congress provided specific criteria for courts to consider in imposing monetary penalties, including consideration of such factors as justice may require.

With respect to the potential need to amend permits, as explained in the February 2013 proposal, "the EPA does not intend its action on the Petition to affect existing permit terms or conditions regarding excess emissions during SSM events that reflect previously approved SIP provisions.

. . . [A]ny needed revisions to existing permits will be accomplished in the ordinary course as the state issues new permits or reviews and revises existing permits. The EPA does not intend the issuance of a SIP call to have automatic impacts on the terms of any existing permit."⁵⁵ Thus, these permit revisions that commenters expressed concern about need not occur during the 18-

⁵⁴ See, e.g., "Oil and Natural Gas Sector: Reconsideration of Additional Provisions of New Source Performance Standards; Proposed rule," 79 FR 41752 at 41762-63 (July 17, 2014).

⁵⁵ See February 2013 proposal, 78 FR 12459 at 12482 (February 22, 2013).

month SIP development timeframe but may proceed thereafter according to normal permit revision requirements.

Finally, the EPA notes, the burdens associated with SIP revisions and permit revisions are burdens imposed by the CAA. The states have both the authority and the responsibility under the CAA to have SIPs and permit programs that meet CAA requirements. It is inherent in the structure of the CAA that states thus have the burden to revise their SIPs and permits when that is necessary, whether because of changes in the CAA, changes in judicial interpretations of the CAA, changes in the NAAQS, or a host of other potential events that necessitate such revisions. Among those is the obligation to respond to a SIP call that identifies legal deficiencies in specific provisions in a state's SIP.

15. Comments that the EPA is being inconsistent because rules promulgated by the EPA provide affirmative defense provisions for malfunction events.

Comment: A number of commenters claimed that the EPA cannot interpret the CAA to prohibit affirmative defenses in SIP provisions because the Agency itself has issued regulations that include affirmative defenses for excess emissions during malfunction events. The commenters claim that the EPA is being inconsistent on this point and thus cannot require states to remove affirmative defenses from SIPs.

Other commenters alleged that the EPA is being inconsistent because it has not adequately explained the reversal of its "decades-old" policy interpreting the CAA to allow affirmative defenses in SIP provision. The commenters cited to SIP provisions that the EPA previously approved in eight states between 2001 and 2010 that they believed would be affected by this SIP call. The commenters claimed that these prior actions were consistent with the EPA's SSM policy memoranda. Additionally, the commenters cited to federal regulations that the EPA has previously promulgated that include affirmative defense provisions. The commenters claimed that these prior actions are "inconsistent with EPA's proposed disallowance of affirmative defenses."

Response: The EPA has acknowledged that it has previously approved some SIP provisions with affirmative defenses that were consistent with its interpretation of the CAA in the 1999 SSM Guidance at the time it acted on those SIP submissions. However, since that time, two decisions from the D.C. Circuit have addressed fundamental interpretations of the CAA related to the legally permissible approaches for addressing excess emissions during

SSM events.⁵⁶ In light of those decisions, as explained in detail in the February 2013 proposal, the SNPR and this document, the EPA has concluded that certain aspects of its prior interpretation of the CAA, as set forth in the SSM Policy, were not the best interpretation of the CAA. As a result, certain SIP provisions that the EPA previously approved are also not consistent with the requirements of the CAA. In particular, this includes the EPA's prior interpretation of the CAA to allow affirmative defense provisions in SIPs in the 1999 SSM Guidance.

The EPA has also acknowledged that it has in the past taken a similar approach regarding affirmative defense provisions in federal regulations addressing hazardous air pollution and in new source performance standards. Indeed, the EPA's inclusion of an affirmative defense provision in a federal regulation resulted in the court decision in *NRDC v. EPA*, in which the court rejected the Agency's interpretation of the CAA to allow affirmative defenses that limit or eliminate the jurisdiction of the courts. Just as the EPA is calling on states to revise their SIPs to remove affirmative defense provisions, the Agency is also taking action to correct such provisions in federal regulations.⁵⁷ The continued existence of such provisions in the EPA regulations that have not yet been corrected does not mean that such provisions are authorized either in state or federal regulations.

As to the claim that the EPA has not adequately explained the basis for changing its interpretation of the CAA regarding affirmative defenses in SIP provisions, the Agency disagrees. The SNPR set forth in detail the basis for the EPA's revised interpretation of the CAA, in light of the court's decision in *NRDC v. EPA*.⁵⁸ The commenters failed to specify why this explanation was "inadequate."

16. Comments that existing affirmative defense provisions do not preclude parties from filing enforcement actions or hinder parties from seeking injunctive relief for violations of SIP requirements.

Comment: One state commenter asserted that the existing affirmative defense provisions in the state's SIP do not prevent the state or the EPA from pursuing injunctive relief or mitigation

of environmental impacts in the event of violations. Thus, the commenter supported the EPA's prior interpretation of the CAA to allow affirmative defense provisions, so long as courts can still award injunctive relief for violations. The commenter did not articulate how this prior statutory interpretation is consistent with the reasoning of the court in *NRDC v. EPA* concerning the same statutory provisions.

By contrast, an environmental group commenter cited a citizen suit enforcement case in Texas in which the commenter claimed that the affirmative defense provision in that state's SIP operated as a *de facto* shield against any enforcement. The commenter stated that the EPA's approval of the affirmative defense was premised upon its only applying to civil penalties and not to injunctive relief and that the Agency's approval of the SIP provision was explicitly upheld on this basis by the Fifth Circuit. Nevertheless, the commenter asserted, the state agency has implemented this provision such that if the affirmative defense criteria are met, there is "no violation" and thus no potential for injunctive relief.

Response: The EPA agrees that some of the affirmative defense provisions at issue in this action are expressly limited to monetary penalties and not to injunctive relief. This approach was consistent with the EPA's prior interpretation of the CAA concerning affirmative defense provisions in SIPs but also consistent with the arguments that the D.C. Circuit rejected in the *NRDC v. EPA* decision. Thus, the fact that some of the affirmative defense provisions addressed in this action preserve the possibility for injunctive relief, even if the court could award no monetary penalties, is no longer a deciding factor.

The EPA also agrees that some agencies or courts may not apply the affirmative defense provisions in the manner intended at the time the EPA approved them into the SIP. Incorrect application of SIP affirmative defense provisions by sources, regulators or courts is a matter of concern. However, even perfect implementation of a SIP affirmative defense provision does not cure the underlying and now evident absence of a legal basis for such provisions. Again, the fact that a given affirmative defense provision is being implemented correctly or incorrectly is no longer a deciding factor for purposes of this SIP call action.

These issues are not pertinent to the EPA's decision in this action to require states to remove the affirmative defense provisions from the previously approved SIPs. Rather, as explained in

⁵⁶ See *Sierra Club v. Johnson*, 551 F.3d 1019 (D.C. Cir. 2008), in the rulemaking docket at EPA-HQ-OAR-2012-0322-0048; see also *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014), in the rulemaking docket at EPA-HQ-OAR-2012-0322-0885.

⁵⁷ See, e.g., 79 FR 60897 (October 8, 2014); 79 FR 72914 (December 8, 2014).

⁵⁸ 79 FR 55919 at 55929-30.

detail in the SNPR and this final action, the EPA is requiring the affected states to remove these SIP provisions because they are inconsistent with CAA requirements. As explained in the SNPR, the EPA has concluded that such affirmative defenses in SIP provisions are inconsistent with section 113 and section 304, in light of the reasoning of the court in *NRDC v. EPA*.

17. Comments that the EPA is changing its policy on affirmative defenses, and this change is arbitrary and capricious and thus an impermissible basis for a SIP call.

Comment: Several commenters stated that the EPA's action with respect to affirmative defense provisions marks a change in the EPA's approach to these provisions. The commenters alleged that this SIP call action is not mandated by judicial precedent, and therefore the SNPR simply reflected a "policy change" by the EPA. The commenters argued that, while the EPA is permitted to change its policy or interpretation of the law, this specific change is arbitrary and capricious and forces unreasonably difficult and burdensome requirements on states and sources. The commenters asserted that the EPA failed to explain adequately this change in policy or to document reasons for the change in the administrative record. Some commenters further alleged that the EPA does not have authority to impose its policy preferences on states.

Response: The EPA disagrees that the basis for this SIP call action is a change of "policy" as alleged by the commenters. The EPA's guidance to states concerning the proper treatment of excess emissions during SSM events in SIP provisions is provided in the SSM Policy, but this guidance reflects the Agency's interpretation of statutory requirements. As explained in detail in the SNPR and in this document, the EPA is changing its interpretation of the CAA with respect to affirmative defenses in SIP provisions based on the logic of the court in *NRDC v. EPA*. Further, as acknowledged by commenters, the EPA is permitted to change its interpretation of the statute provided that it clearly explains the basis for the change. The EPA clearly explained the basis for the changed interpretation in the SNPR based on its analysis of the legal rationale respecting sections 113 and 304 in the *NRDC v. EPA* decision.

18. Comments that emissions during malfunction periods are not "excess" or "violations" but rather are part of the established SIP emission limitations.

Comment: Commenters cited the EPA's brief filed in the Fifth Circuit *Luminant Generation v. EPA* case in

support of an argument that states are not required to attach a penalty or any certain amount of penalty to a violation of a SIP emission limitation. The commenters noted that in the brief, the EPA stated that under section 110 of the CAA, states are authorized "to determine what constitutes a violation, and to distinguish both quantitatively and qualitatively between different types of violations." Further, the commenter noted, the EPA argued in the brief that because the violation is defined by the state, an affirmative defense does not impinge on the court's jurisdiction. The commenters contended that nothing has changed since the brief was filed to justify a change in interpretation of the CAA and that the EPA failed to explain why its prior interpretation is no longer correct.

Other commenters claimed that the EPA takes the position that affirmative defenses in SIP provisions conflict with the court's jurisdiction over enforcement actions and stated that this position is flawed because enforcement is limited to violations as defined in the context of the SIP. The commenters asserted that section 304 does not apply when there is no SIP requirement being violated and that the state has the authority to define what constitutes such a violation. Similarly, commenters argued that an affirmative defense provision may provide that emissions will not be "violations" if criteria are met and that it therefore does not interfere with a court's ability to determine appropriate penalty amounts under section 113. The commenters contended that, because the state has the authority to define what constitutes a violation, SIP provisions that include an affirmative defense do not infringe on a court's authority to penalize a source because the CAA does not provide a court with jurisdiction to impose remedies in the absence of liability.

Response: The EPA explained in detail the rationale for its change in interpretation of the CAA regarding affirmative defenses in the SNPR. The EPA acknowledges that in the *Luminant Generation v. EPA* case, the Agency argued that states are authorized to determine what constitutes a violation and to distinguish between different types of violations. As the EPA explained in the SNPR, the court in *Luminant Generation v. EPA* held that the Agency's interpretation of the CAA to permit affirmative defenses applicable to malfunctions at that time was a "permissible interpretation of section [113], warranting deference." The same court also upheld the EPA's interpretation of the CAA to preclude

affirmative defenses for planned events on the same basis that it was a reasonable interpretation of the CAA. However, the EPA has reevaluated this interpretation of the CAA requirements in light of the more recent *NRDC v. EPA* decision, and the Agency now believes that its prior interpretation of the CAA with respect to the approvability of affirmative defense provisions in SIPs is no longer the best reading of the statute. Thus, the Agency's view now is that a "violation" cannot be defined in a manner that interferes with the court's role in assessing remedies. It is irrelevant that the EPA had argued for a different interpretation in the past as the Agency now believes that the court's analysis in *NRDC v. EPA* is the better reading of the provisions of the statute concerning affirmative defenses. The EPA has authority to revise its prior interpretation of the CAA when further consideration indicates to the Agency that its prior interpretation of the statute is incorrect. The EPA fully explained the basis for this change in its interpretation of the CAA in the SNPR.

The EPA agrees that in some cases, affirmative defense provisions at issue in this SIP call action are structured as a complete defense to any liability, not merely a defense to monetary penalties. The EPA has also determined that affirmative defense provisions of this type are substantially inadequate to meet CAA requirements. Although such affirmative defenses may not present the same concerns as affirmative defenses applicable only to penalties, such affirmative defenses may create a different concern because they in effect provide a conditional exemption from otherwise applicable emission limitations. If there is no "violation" when the criteria of such an "affirmative defense" are met and no legitimate alternative emission limitation applies during that event, then such an affirmative defense in effect operates to create a conditional exemption from applicable emission limitations. This form of "affirmative defense" provision therefore runs afoul of different CAA requirements for SIP provisions. Under section 302(k) of the CAA, emissions standards or limitations must be continuous and cannot include SSM exemptions, automatic or otherwise. Regardless of whether the commenters believe that this form of "affirmative defense" should be allowed, the EPA believes that provisions of this form are inconsistent with the decision of the court in *Sierra Club v. Johnson*.⁵⁹ In that case, the court held that emission limitations under the CAA must impose

⁵⁹ 551 F.3d 1019 (D.C. Cir. 2008).

continuous controls and cannot include exemptions for emissions during SSM events. The EPA concludes that making the exemptions from emission limitations conditional does not alter the fact that once exercised they are illegal exemptions.

19. Comments that the definition of "emission limitation" in CAA section 302(k) does not support this SIP call action.

Comment: Several commenters noted that while the EPA depends on the definition of "emission limitation" in the CAA section 302(k) for this action, that CAA provision does not support this SIP call action, including that the CAA does not require that SIPs contain continuous emissions standards in the form asserted by the EPA. The commenters alleged that the definition in the CAA and supporting materials interpreting that definition do not support the EPA's requiring one emission limitation to apply in all circumstances at all times. Some commenters further alleged that states subject to the EPA's SIP call action have implementation plans that provide emission limitations that apply continuously through a combination of numerical emission limitations, the general duty to minimize emissions and the affirmative defense criteria for excess emissions during malfunctions.

Several commenters questioned why, even if the challenged affirmative defense provisions do not qualify as "emission limitations" or "emissions standards" under the first part of the definition, they are not approvable as "design, equipment, work practice or operational standards" promulgated under the second part of the definition. Some commenters argued that, to the extent that affirmative defense provisions in SIPs do not satisfy the definition of "emission limitation," they would still be approvable elements of a SIP as "other control measures, means, or techniques" allowed under CAA section 110(a)(2). Further, some commenters believe that the legislative history cited in the SNPR does not support the EPA's position but rather is only intended to preclude the use of dispersion techniques, such as intermittent controls.

One commenter stated that the Portland Cement NESHAP, at issue in the *NRDC v. EPA* decision, was classified by statute as an "emissions standard," a term defined by the CAA and defined as applying "on a continuous basis." The commenter stated that SIP provisions involve more than "emissions standards" and need

not be "emissions standards."⁶⁰ Thus, according to the commenter, the *NRDC v. EPA* decision does not apply to SIP rules.

Response: The commenters alleged that the EPA's interpretation of the CAA section 302(k) definition of "emission limitation" in this action was inappropriate and that section 302(k) does not support this SIP call action. The EPA notes that it is not the Agency's position that all emission limitations in SIP provisions must be set at the same numerical level for all modes of source operation or even that they must be expressed numerically at all. To the contrary, the EPA intended in the February 2013 proposal and the SNPR to indicate that states may elect to create emission limitations that include alternative emission limitations, including specific technological controls or work practices, that apply during certain modes of source operation such as startup and shutdown. However, this comment is not relevant to the issue of affirmative defense provisions in SIPs. It is not for the reason that affirmative defense provisions do not meet the definition of an "emission limitation" in section 302(k) that the EPA is promulgating this SIP call action for affirmative defense provisions. The EPA has concluded that affirmative defense provisions are substantially inadequate to meet CAA requirements concerning enforcement, in particular the requirements of section 113 and section 304.

As to commenters' argument that affirmative defense provisions can be appropriately considered to be "design, equipment, work practice or operational standards" under CAA section 302(k), the critical aspect of an emission limitation in general is that it be a "requirement . . . which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis . . ." These provisions operate to *excuse* sources from liability for emissions under certain conditions, not to *limit* the emissions in question. The affirmative defense provisions at issue in this final action do not themselves, or in combination with other components of the emission limitation, limit the quantity, rate or concentration of air pollutants on a continuous basis. These affirmative defense provisions, therefore, do not themselves meet the statutory definition of an emission limitation under section 302(k).

The EPA notes that the definition of "emission limitation" in section 302(k) is relevant, however, with respect to

those affirmative defense provisions that commenters claim are merely a means to define what constitutes a "violation" of an applicable SIP emission limitation. As previously explained, the EPA believes that an "affirmative defense" structured in such a fashion is deficient because it in effect creates a conditional exemption from the SIP emission limitations. By creating such exemptions, conditional or otherwise, an affirmative defense of this type would render the emission limitations less than continuous.

The EPA disagrees with commenters' remaining points because the EPA's position on what appropriately qualifies as an emission limitation is consistent with the CAA, relevant legislative history and case law. These issues are addressed in more detail in sections VII.A.3.i through 3.j of this document.

20. Comments that the EPA has failed to show that state SIPs are substantially inadequate, as is required to promulgate a SIP call.

Comment: Several commenters noted that before the EPA can issue a SIP call under section 110(k)(5) with respect to affirmative defense provisions, the EPA must determine that a SIP provision is "substantially inadequate to attain or maintain the relevant [NAAQS], to mitigate adequately the interstate pollutant transport described in section 7506a of this title or section 7511c of this title, or to otherwise comply with any requirement of this chapter." The commenters further stated that Congress employed a high bar in the language of CAA section 110(k)(5) in requiring the EPA to find "substantial" inadequacies, as opposed to other CAA provisions that permit the Agency to act based on "discretion" or when it "may be appropriate." The commenters alleged that the EPA has not demonstrated a "substantial inadequacy" with respect to the affirmative defense provisions at issue in the SNPR, as required to issue a SIP call.

Some commenters also argued that the EPA has failed in its SNPR to define or interpret "substantially inadequate" or provide any standards for assessing the adequacy of a SIP with respect to affirmative defense provisions. The commenters also alleged that, if the EPA is required to rely on data and evidence in evaluating SIP revisions, it follows that the EPA should produce at least the same level of data and evidence, if not more, to support a SIP call that is based on the more stringent substantial inadequacy standard of section 110(k)(5).

Response: The EPA disagrees with the commenters' arguments that the Agency has failed to establish that the

⁶⁰ See CAA section 110(a)(2)(A).

affirmative defense provisions identified in the SNPR are “substantially inadequate” as required by section 110(k)(5). As explained in the SNPR and this action, the EPA has determined that affirmative defense provisions at issue in this action are substantially inadequate because they are inconsistent with applicable legal requirements of the CAA. The commenters raised similar arguments with respect to the EPA’s authority to issue a SIP call to address other forms of deficient SIP provisions, such as automatic or discretionary exemptions from emission limitations. The EPA responds to these broader arguments in sections VIII.D.46 through D.48 of this document.

21. Comments that this action is not national in scope, and therefore the D.C. Circuit is not the sole venue for review of this action.

Comment: Several commenters claimed that the EPA is incorrect in stating that this SIP call action is a single nationally applicable action and of nationwide scope or effect. The commenters alleged that review of all affected SIP provisions in a single action in the D.C. Circuit would inappropriately limit the scope of review by obscuring distinctions between the various states’ regulatory programs and practical concerns. The commenters asserted that none of the various state SIP provisions addressed in the SNPR were the same, and the EPA analyzed each separately and provided case-by-case justification for its proposed action as to each. Further, the commenters argued that although the EPA has packaged the SIP calls in one **Federal Register** document, any final action that the EPA takes with respect to a single state’s affirmative defense provision is only locally applicable and therefore should be reviewed in the individual circuits with jurisdiction over the affected state. One commenter further contended that, while the EPA’s revised SSM Policy may be of interest to states to which the SIP call does not directly apply, that does not make the action “nationally applicable.”

The commenters acknowledged that the EPA cited *Texas v. EPA* in support of its assertion, but the commenters allege that the Fifth Circuit in that case never reached the issue of nationwide scope and effect.⁶¹ The commenters claimed that this SIP call action is distinct from the rule at issue in *Texas v. EPA* because this final action turns on the particulars of the SIP call action’s

impact on each individual state’s SIP. One commenter also claimed that the EPA has failed to provide authority or a legal basis to support its determination that this rulemaking is of “nationwide scope or effect.” Such failure, according to the commenter, violated the requirements of section 307(d)(3) and did not allow for full and meaningful comment on this issue.

One commenter alleged that the EPA has waived its challenge to venue for those circuits that have already weighed in regarding individual state SIP provisions at issue in this action, including Texas’s affirmative defense provisions. Another commenter claimed that the discussion over appropriate venue in the February 2013 proposal and SNPR presupposes that the EPA’s issuance of a revised SSM Policy is a “final agency action” subject to judicial review under section 307(b)(1) but argued that the EPA has failed to determine that its issuance of the SSM Policy, in and of itself, constitutes “final agency action.”

Response: The EPA disagrees with the commenters’ theories concerning the scope of the Agency’s action. These comments on the SNPR questioning the EPA’s determination of “nationwide scope and effect” for this action largely repeat similar comments on the February 2013 proposal. As with those prior comments, commenters on the SNPR made the basic argument that this action is not of nationwide scope and effect because the EPA is reviewing individual SIP provisions and directing states to correct their respective deficient SIP provisions. The EPA disagrees with commenters because, as explained in more detail in its response in section V.D.6 of this document, this rulemaking action applies the same “process and standard” to numerous areas across the country. While it is correct that the SIP submissions that states make in response to this SIP call will be reviewed separately by the EPA and subsequently subject to potential judicial review in various circuits, the EPA’s legal interpretation of the CAA concerning permissible SIP provisions to address emissions during SSM events in this action is nationally applicable to all states subject to the SIP call. The EPA provided a full explanation of its basis for this determination of nationwide scope and effect in the February 2013 proposal and the SNPR.

The EPA also disagrees with the argument that the Agency has waived venue regarding challenges to this SIP call action concerning the affirmative defense provisions in the Texas SIP. Evidently, the commenter believes that because a prior challenge to another

EPA rulemaking concerning the affirmative defense provisions occurred in the Fifth Circuit, it necessarily follows that any other rulemaking related to such provisions can only occur in the Fifth Circuit. The EPA believes that this interpretation of its authority under section 307(b)(1) is simply incorrect. Under section 307(b)(1), the EPA is explicitly authorized to make a determination that a specific rulemaking action is of “nationwide scope and effect.” The statute does not specify the considerations that the EPA is to take into account when making such a determination, let alone provide that the Agency cannot invoke this because some aspect of the rulemaking at issue might previously have been addressed in one or more other circuit courts. To the contrary, the EPA believes that section 307(b)(1) explicitly provides authority for the Agency to determine that a given rulemaking should be reviewed in the D.C. Circuit in situations such as those presented in this action that affects important questions of statutory interpretation that affect states nationwide.

The EPA likewise disagrees with the argument that its action is not a final agency action. Within this action, the EPA is taking final agency action to respond to the Petition, updating its interpretations of the CAA in the SSM Policy and applying its interpretations of the CAA in the SSM Policy to specific SIP provisions in the SIPs of many states. The EPA is conducting this action through notice-and-comment rulemaking to assure full consideration of the issues. As stated elsewhere in this document, the revised SSM Policy is a nonbinding policy statement that does not, in and of itself, constitute “final” action. However, the EPA is taking “final” action by responding to the Petition and issuing the resulting SIP call action. To the extent that interpretations expressed in the revised SSM Policy are also relied on to support this “final” action, then the EPA’s interpretations of the CAA requirements for SIP provisions applicable to emissions during SSM events are part of the final agency action and are subject to judicial review. To the extent the commenters are otherwise arguing that the issuance of the updated SSM Policy in and of itself is not final agency action subject to judicial review under the CAA, the EPA agrees with this assertion. The EPA notes that the commenters are at liberty to adopt this position and waive their opportunity to challenge the SSM Policy because they do not consider it final agency action.

⁶¹ See No. 10–60961, 2011 WL 710598 (5th Cir. Feb. 24, 2011).

22. Comments that the EPA should clarify that SIPs can include work practice standards or general-duty clauses to apply during malfunction periods in place of affirmative defense provisions.

Comment: Several commenters stated that the EPA should announce in this final action that in lieu of affirmative defenses, states may elect to revise their SIP provisions to include work practice standards or general-duty clauses that are modeled on existing affirmative defense provisions and that would apply during malfunctions. Most of these commenters advocated that the EPA's previously recommended criteria for an "affirmative defense" for malfunctions should simply be changed into criteria for a "work practice" provision instead. One commenter made the same suggestion but also advocated that the EPA eliminate six of the nine criteria and rephrase the remaining criteria, in order to "improve the standards, reduce uncertainty, and reduce wasteful litigation." This commenter advocated that the EPA also redefine the term "malfunction" to much more broadly mean any "sudden and unavoidable breakdown of process or control equipment." Specifically, the commenter advocated, the EPA should no longer recommend that a malfunction be defined as an event that: (i) Was caused by a sudden, infrequent and unavoidable failure of air pollution control equipment, process equipment or a process to operate in a normal or usual manner; (ii) could not have been prevented through careful planning, proper design or better operation and maintenance practices; (iii) did not stem from any activity or event that could have been foreseen and avoided or planned for; and (iv) was not part of a recurring pattern indicative of inadequate design, operation or maintenance. By changing the "affirmative defense" provisions for malfunctions into "work practice" or "general duty" provisions for malfunctions, the commenters argued, the revised provisions would be consistent with CAA requirements. Under this approach, the commenters asserted that compliance with these new requirements would mean that any emissions during a malfunction event could not be considered "excess" or result in any violation if the source had complied with the "work practice" criteria.

Response: As an initial matter, the EPA has not established a regulatory definition of "malfunction" that is binding on states when developing SIPs. States have the flexibility in their SIPs to define that term. Thus, the EPA is not

addressing here the comments requesting that EPA "redefine" the definition of malfunction.

Regarding the more general concern of the commenters, that states be allowed to establish an alternative emission limitation in the form of a work practice standard that applies during malfunctions, the EPA notes two points. First, the CAA does not preclude that emissions during malfunctions could be addressed by an alternative emission limitation. The EPA's general position in the context of standards under sections 111, 112 and 129 is that: (i) The applicable emission limitation applies at all times including during malfunctions; (ii) the CAA does not require the EPA to take into account emissions that occur during periods of malfunction when setting such standards; and (iii) accounting for malfunctions would be difficult, if not impossible, given the myriad types of malfunctions that can occur across all sources in a source category and given the difficulties associated with predicting or accounting for the frequency, degree and duration of various malfunctions that might occur. Although the EPA has not, to date, found it practicable to develop emission standards that apply during periods of malfunction in place of an otherwise applicable emission limitation, this does not preclude the possibility that a state may determine that it can do so for all or some set of malfunctions. Second, states are not bound to establish any specific definition of "malfunction" in their SIPs. Thus, it is difficult to judge at this time whether any particular alternative emission limitation in a SIP for malfunctions, including any specific work practice requirements in place of an otherwise applicable emission limitation, would be approvable.

With regard to the specific comment that the affirmative defense criteria could be converted into a work practice requirement to apply during malfunctions in place of an otherwise applicable emission limitation, the EPA is unsure at this time whether the criteria previously recommended for an affirmative defense provision would serve to meet the obligation to develop an appropriate alternative emission limitation. Existing affirmative defense criteria (which include, among other things, making repairs expeditiously, taking all possible steps to minimize emissions and operating in a manner consistent with good practices for minimizing emissions) were developed in the context of helping to determine whether a source should be excused from monetary penalties for violations of CAA requirements and were not

developed in the context of establishing an enforceable alternative emission limitation under the Act. The EPA would need to consider this approach in the context of a specific SIP regulation for a specific type of source and emission control system.

Finally, the EPA notes that any emission limitation, including an alternative emission limitation, that applies during a malfunction must meet the applicable stringency requirements for that type of SIP provision (e.g., would need to meet RACT for sources subject to the RACT requirement) and must be legally and practically enforceable. Thus, the SIP provision would need to: (i) Clearly define when the alternative emission limitation applied and the otherwise applicable emission limitation did not; (ii) clearly spell out the requirements of that standard; and (iii) include adequate monitoring, recordkeeping and reporting requirements in order to make it enforceable. In addition, the state would need to account for emissions attributable to these foreseen events in emissions inventories, modeling demonstrations and other regulatory contexts as appropriate.

23. Comments that the EPA has failed to account adequately for the cost of this SIP call action and is therefore in violation of the Regulatory Flexibility Act, the Unfunded Mandates Reform Act and Administration policy.

Comment: Two commenters argued that the SNPR lacks sufficient analysis of what this action will cost states, stationary sources and the public. The commenters allege that this absence of economic impact analysis is contrary to the Regulatory Flexibility Act, the Unfunded Mandates Reform Act and Administration policy. One of the commenters also noted that imposing substantial "unfunded mandates" on state regulatory agencies and forcing stationary sources to absorb additional costs should be evaluated carefully.

Response: The EPA disagrees with the commenters' allegation that the EPA has failed to comply with relevant statutes and Administration policy in accounting for the cost of the actions proposed in the SNPR. The EPA did in fact properly consider the costs imposed by this action. These issues are addressed in more detail in section V.D.7 of this document.

24. Comments that states should not be required to eliminate affirmative defense provisions but rather should be allowed to revise them to be appropriate under CAA requirements.

Comment: One state commenter claimed that it should be allowed to revise its existing affirmative defense

provisions rather than remove them. The commenter asserted that the state should be allowed to revise the provision to make clear that it does not apply to private enforcement actions under CAA section 304(a), which was the only issue specifically before the court in *NRDC v. EPA*. Relying on the court's decision, the commenter claimed that the state should be allowed to revise the affirmative defense provisions to apply only in administrative enforcement proceedings. The commenter also argued that there may be other options for appropriately tailoring the state's existing affirmative defense provisions rather than removing them from the SIP.

Response: The EPA agrees that the court in *NRDC v. EPA* did not directly address whether states have authority to create affirmative defense provisions that apply exclusively to state personnel in the context of state administrative enforcement actions. Statements by the court concerning the EPA's own authority in the context of administrative enforcement, however, indicate that the court did not intend to foreclose the Agency from exercising its own enforcement discretion with respect to remedies in federal administrative enforcement actions. However, the EPA has reevaluated its interpretation of CAA requirements in light of the court's decision in *NRDC v. EPA* and the EPA now interprets the CAA to preclude state SIP provisions creating affirmative defenses that sources could assert in the context of judicial enforcement in federal court, whether initiated by states, the EPA, or other parties pursuant to section 304.

The EPA agrees that states may elect to revise their existing deficient affirmative defense provisions to make them "enforcement discretion"-type provisions that apply only in the context of administrative enforcement by the state. Such revised provisions would need to be unequivocally clear that they do not provide an affirmative defense that sources can raise in a judicial enforcement context or against any party other than the state. Moreover, such provisions would have to make clear that the assertion of an affirmative defense by the source in a state administrative enforcement context has no bearing on the additional remedies that the EPA or other parties may seek for the same violation in federal administrative enforcement proceedings or judicial proceedings.

In this action, the EPA is not determining whether any such revisions would meet applicable CAA requirements. The EPA would need to consider the precise wording of any

such revised provisions in evaluating whether the state has adequate enforcement authority to meet the requirements of section 110(a)(2)(C) and also whether application of such a provision in a state administrative proceeding could interfere with the ability of a citizen or the EPA to bring a federal enforcement action.

25. Comments that states' ability to use enforcement discretion is not an adequate replacement for affirmative defense provisions.

Comment: Several commenters argued that exercise of enforcement discretion is not an adequate substitute for an affirmative defense, particularly where the emissions at issue resulted from an inevitable and unavoidable malfunction. In any individual case, the commenters were concerned that even if a state elects not to enforce against a violation, the EPA or others might elect to bring an enforcement action. One commenter contended that it is inappropriate for the EPA to encourage states to use enforcement discretion instead of encouraging them to create alternative emission limitations to replace affirmative defenses in SIP provisions. The commenters also alleged that reliance on judicial discretion to determine the appropriateness of penalties is similarly inadequate.

The commenters contended that, although it is reasonable for a state to exercise enforcement discretion under circumstances when an emission limitation cannot be met, it is not reasonable to adopt SIP provisions with emission limitations that put some sources in the position of "repeated noncompliance."

Response: These comments addressing whether an enforcement discretion approach is sufficient are similar to comments received on the February 2013 proposal to which the EPA responds in section VII.A.3.p of this document. Through this SIP call, the EPA is not requiring states to rely on enforcement discretion in place of achievable SIP emission limitations. Rather, the EPA is requiring states to ensure that emission limitations are consistent with the definition of that term in section 302(k), and specifically that emission standards provide for continuous compliance. If emission limitations that apply during routine operations cannot be met by a source during periods of startup or shutdown, states have authority to establish alternative emission standards. The EPA disagrees that an affirmative defense for penalties for excess emissions for periods of malfunctions is an adequate substitute for an enforceable continuous emission limitation and concludes that

such an approach is inconsistent with the CAA as interpreted by the court in *NRDC*, as explained in the SNPR.

The EPA also disagrees that affirmative defense provisions would have been appropriate to address the "repeated noncompliance" concerns of the commenters. The EPA's prior interpretation of the CAA was that states could create narrowly tailored affirmative defense provisions applicable to malfunctions. However, to the extent that there are malfunctions that put a source in the position of "repeated noncompliance," the form of affirmative defense that the EPA previously believed was consistent with the CAA would not have provided relief because several of the criteria could not be met. Specifically, the EPA believes repeated noncompliance is typically a result of inadequate design, is part of a "recurring pattern," and thus likely could have been "foreseen and avoided." In short, an affirmative defense would not have been appropriate for such a source.

26. Comments that the EPA should establish specific rules to govern how states set alternative limitations that apply in lieu of affirmative defense provisions.

Comment: Commenters urged the EPA to clarify in this final action that states may establish alternative emission limitations applicable to startup and shutdown only if the source meets all applicable CAA requirements, including but not limited to BACT/LAER, and the state also demonstrates through modeling that potential worst-case emissions from startup and shutdown would not interfere with attainment and reasonable further progress. Other commenters stated that any changes to SIP emission limitations must be made as part of a SIP revision process, which would include a demonstration that higher levels of emissions during startup and/or shutdown would not lead to violations of the NAAQS or PSD increments.

Commenters also argued that any such alternative emission limitation should "sunset" each time the EPA promulgates a new NAAQS and that the Agency should require the state to demonstrate again that an alternative emission limitation applicable during startup and/or shutdown does not interfere with attainment or other applicable requirements of the CAA for the revised NAAQS. In support of their arguments that the EPA should impose specific requirements of this type, the commenters indicated that a state has issued permits for sources that establish particulate matter (PM) emission limitations less stringent than existing

permit terms and without requiring a BACT/LAER/ambient impacts analysis and has done so without public notice and comment. Commenters urged the EPA to require states to follow public notice-and-comment processes before issuing any permits for sources with alternative limitations less stringent than those imposed by the SIP and claimed such process is required under the CAA.

In addition, some commenters stated that if the EPA allows states to set “new, higher, or alternate limits” applicable during startup and shutdown, the EPA should set clear parameters. According to commenters, the EPA at a minimum should require, for emissions that have not previously been authorized or considered part of a source’s potential to emit, that: (i) Limitations must meet BACT/LAER; (ii) there should be clear, enforceable rules for when alternate limitations apply; (iii) there should be a demonstration that worst-case emissions will not cause or contribute to a violation of the NAAQS or PSD increments; and (iv) proposed limitations should be subject to public notice and comment and judicial review. The commenter pointed to a letter from the EPA to Texas in which, the commenter claims, the Agency indicated that these parameters must be met.

A commenter stated that the EPA should unequivocally state in this final action that: (i) All potential to emit emissions, including quantifiable emissions associated with startup and shutdown, must be included in federal applicability determinations and air quality permit reviews; (ii) authorization of these emissions must include technology reviews and impacts analyses; and (iii) the above requirements must be included in the permit that authorizes routine emissions from the applicable units and must be subject to public notice, comment and judicial review.

A commenter recognized that there may be a variety of ways in which states can authorize different limits to apply during startup and shutdown but argued that, no matter the method chosen, the emissions need to be fully accounted for by the state in the relevant SIP, including a demonstration that the additional emissions authorized during startup and shutdown will not violate any NAAQS.

Response: The EPA understands the concerns raised by the commenters but does not agree that further regulatory action such as issuance of regulatory text is necessary at this time. Through this action, the EPA is providing comprehensive guidance to states

concerning issues related to the proper treatment of emissions during SSM events in SIP provisions. For example, the EPA is addressing the concern raised by commenters that states will need to ensure that any SIP revisions in response to this SIP call will meet applicable CAA requirements. Under section 110(k)(3), the EPA has authority to approve SIP revisions only if they comply with CAA requirements. Moreover, under section 110(l), the EPA cannot approve SIP revisions if they would “interfere with any applicable requirement concerning attainment and reasonable further progress . . . or any other applicable requirement” of the CAA. The EPA believes that both states and the Agency can address these issues in SIP rulemakings without the need for any additional federal regulations as suggested by the commenters.

The EPA agrees with the concerns raised by the commenters regarding instances where a state has issued source permits that impose less stringent emission limitations than otherwise established in the SIP. Using a permitting process to create exemptions from emission limitations in SIP emission limitations applicable to the source is tantamount to revising the SIP without meeting the procedural and substantive requirements for a SIP revision. The Agency’s views on this issue are described in more detail in section VII.C.3.e of this document.

The EPA does not agree with the comment that suggests “worst-case modeling” would always be needed to show that a SIP revision establishing alternative emission limitations for startup and shutdown would not interfere with attainment or reasonable further progress. The nature of the technical demonstration needed under section 110(l) to support approval of a SIP revision depends on the facts and circumstances of the SIP revision at issue. The EPA will evaluate SIP submissions that create alternative emission limitations applicable to certain modes of operation such as startup and shutdown carefully and will work with the states to assure that any such limitations are consistent with applicable CAA requirements. Under certain circumstances, there may be alternative emission limitations that necessitate a modeling of worst-case scenarios, but those will be determined on a case-by-case basis.

The EPA also does not agree that existing SIP provisions with alternative emission limitations should automatically “sunset” upon promulgation of a new or revised NAAQS. Such a process could result in gaps in the state’s regulatory structure

that could lead to backsliding. When the EPA promulgates new or revised NAAQS, it has historically issued rules or guidance to states concerning how to address the transition to the new NAAQS. In this process, the EPA typically addresses how states should reexamine existing SIP emission limitations to determine whether they should be revised. With respect to technology-based rules, the EPA has typically taken the position that states need not adopt new SIP emission limitations for sources where the state can demonstrate that existing SIP provisions still meet the relevant statutory obligations. For example, the EPA believes that states can establish that existing SIP provisions still represent RACT for a specific source or source category for a revised NAAQS. In making this determination, states would need to review the entire emission limitation, including any alternative numerical limitations, control technologies or work practices that apply during modes of operation such as startup and shutdown, and ensure that all components of the SIP emission limitation meet all applicable CAA requirements.

27. Comments that the EPA should closely monitor states’ SIP revisions in response to this SIP call.

Comment: Commenters urged the EPA to monitor states’ efforts to revise SIPs in response to the SIP call closely in order to assure that the revisions meet all applicable requirements. The commenters indicated concern that states and industry may weaken emission limitations through this process. The commenter alleged that one state has issued permits for sources with emission limitations applicable during SSM events that are less stringent than the emission limitations approved in the SIP. Furthermore, the commenter alleged, the state issued these permits without public notice and comment. As support for this contention, the commenter detailed the differences between the requirements of a permit issued for a source and the requirements in the SIP. The commenter also claimed that the state has issued permits for other facilities similar to the one it described in detail in the comments.

Response: The EPA understands the concerns expressed by the commenter that SIP revisions made in response to this SIP call need to be consistent with CAA requirements. As explained in this document, the states and the EPA will work to assure that the SIP revisions will meet applicable legal requirements. The EPA will evaluate these SIP submissions consistent with its

obligations under sections 110(k)(3), 110(l) and 193 and under any other substantive provisions of the CAA applicable to specific SIP submissions.

To the extent that the commenters are concerned about whether the SIP revisions meet applicable requirements, they will have the opportunity to participate in the development of those revisions. States must submit SIP revisions following an opportunity for comment at the state level.

Additionally, the EPA acts on SIP submissions through its own notice-and-comment process. As part of these administrative processes, both the state and the EPA will need to evaluate whether the proposed revision to the SIP meets applicable CAA requirements. In the context of those future rulemaking actions, the public will have a chance to review the substance of the specific SIP revisions in response to this SIP call, as well as the state's and the EPA's analysis of the SIP submissions for compliance with the CAA.

28. Comments that the EPA does not have authority to take this action without Congressional authorization.

Comment: A commenter contended that the EPA does not have the authority to write law and that the EPA should be required to seek changes to the applicable law through Congress, before eliminating affirmative defense and due process provisions from SIPs.

Response: Through this action the EPA is not attempting to rewrite the CAA. Rather, the EPA is requiring states to revise specific SIP provisions to comply with the existing requirements of the CAA, as interpreted by the courts. As explained in detail in the SNPR and this document, the EPA has determined that affirmative defense provisions at issue in this action are inconsistent with the existing requirements of the CAA.

29. Comments that affirmative defense provisions are needed to ensure sources' Constitutional right to due process in the event of violations.

Comment: A number of commenters argued that by requiring the removal of affirmative defense provisions from SIPs, the EPA is impinging on the Constitutional rights of sources that may have wanted to assert such affirmative defenses in an enforcement action. A commenter claimed that affirmative defense provisions are not "loop holes," as alleged by the EPA, but instead are fundamental due process provisions which should be retained at all levels for the protection of the public. Another commenter cited *State Farm Mut. Auto Ins. Co. v. Campbell*, for the proposition that a monetary penalty that is "grossly excessive . . . constitutes an arbitrary

deprivation of property."⁶² Other commenters claimed that excessive penalties constitute an arbitrary deprivation of property. The commenters asserted that a penalty is excessive where it applies severe punishment to an act that is unavoidable.

Response: The commenters' due process concerns suggest that without an affirmative defense provision, any penalty assessed for violation of a SIP would be *per se* "excessive" or "arbitrary." Though not expressly stated, some of these comments appear to suggest that the existing CAA enforcement provisions are facially unconstitutional. The EPA disagrees. The CAA does not mandate that any penalty is automatically assessed for a violation. Rather the CAA establishes a maximum civil penalty in section 113(b) but then expressly provides in section 113(e) the criteria that the EPA or the courts (as appropriate in administrative or judicial enforcement) "shall take into consideration (in addition to other factors as justice may require)." These criteria explicitly include consideration of "good faith efforts to comply." Thus, the CAA on its face does not mandate the imposition of any penalty automatically, much less one that is *per se* excessive. Notably, the commenters do not elaborate on how or why they believe the statutory penalty provisions of the CAA are facially unconstitutional, instead making generalized claims.

To the extent that the commenters are raising an "as applied" claim of unconstitutionality, any such claim can be raised in the future in the context of a specific application of the statute in an enforcement action. Such was the case in the *State Farm* case cited by the commenters. In that case, a court had awarded punitive damages of \$145 million in addition to \$1 million compensatory damages in an automobile liability case. A statutory penalty provision was not at issue in that case and thus there were no statutory criteria for the lower court to consider in determining the appropriate penalty amount. Rather, in its review of whether the punitive damage award was excessive, and thus violated due process, the Court looked at three factors it has instructed lower courts to consider in assessing punitive damages. Such would be the case with any claim that a CAA penalty violated due process, where a reviewing court would consider whether the court appropriately considered the relevant penalty factors in assessing a penalty

claimed as unconstitutional "as applied."

30. Comments that the EPA's action eliminating affirmative defense provisions from SIPs violates the Eighth Amendment of the Constitution.

Comment: Several commenters asserted that relying on judicial discretion to determine the appropriateness of penalties is arguably unconstitutional under the Eighth Amendment's prohibition on excessive fines and punishments by allowing potentially significant penalties that are disproportionate to the offense. The commenter stated that an affirmative defense provision "helps guard against infringement of the Eighth Amendment's protections." Other commenters argued that the U.S. Supreme Court has held that Eighth Amendment protections apply to government action in a civil context as well as in a criminal context. The commenters claimed that significant penalties are not proportional to an offense caused by unavoidable events, such as excess emissions during malfunction events. The commenters concluded that unless the EPA allows states to accommodate unavoidable emissions through changes to applicable emission limitations before affirmative defenses are removed, the EPA's proposal would "run afoul of Constitutional limitations."

One commenter stated that an affirmative defense is the "minimum protection EPA or the state must provide to avoid infringing constitutional rights." The commenter also argued that the EPA itself has relied on the existence of an affirmative defense to defend against a challenge to the achievability of an emission limitation in a FIP. To support this argument, the commenter quoted from the court's opinion in *Montana Sulphur*.⁶³

Response: For the reasons provided above regarding commenters' due process claims, the EPA also disagrees with their claims that eliminating affirmative defense provisions in SIPs would result in the penalty provisions of the CAA being facially in violation of the Eighth Amendment. Similarly, if a party believes that the penalties assessed in any civil enforcement action do violate the Eighth Amendment, they can raise a challenge that the specific SIP provision at issue "as applied" in that instance violates the U.S. Constitution. As with the commenters'

⁶³ See 666 F.3d at 1192–93 ("EPA acknowledges that violations are likely inevitable, but relies on the provision of an affirmative defense to compensate for infeasibility problems.").

⁶² See 538 U.S. 408, 417 (2003).

due process arguments, the EPA believes that Congress has already adequately addressed their concerns about potential unfair punishment for violations by authorizing courts to consider a range of factors in determining what remedies to impose for a particular violation, including the explicit factors for consideration in imposition of civil penalties as well as other factors as justice may require.

The EPA acknowledges that it has previously relied on affirmative defense provisions as a mechanism to mitigate penalties where a violation was beyond the control of the owner or operator. These actions, however, predated the court's decision in *NRDC v. EPA* and the EPA has since revised its approach to affirmative defense provisions in its own rulemaking actions. In addition, the EPA believes that the penalty criteria in section 113(e) provide a similar function and the commenters do not explain why they believe these explicit statutory factors do not provide sufficient relief from the imposition of an allegedly unconstitutionally excessive penalty.

31. Comments that the EPA should impose a deadline of 12 months for states to respond to this SIP call with respect to affirmative defense provisions.

Comment: An environmental organization commented that the EPA should require affected states to make the required SIP revisions within 12 months, rather than the 18 months proposed in the February 2013 proposal and the SNPR. The commenter claimed that communities near large sources have been suffering for decades and individuals are suffering adverse health effects because of the emissions from sources that are currently allowed by deficient SIP provisions. The commenter also stated that the EPA has recognized that excess emissions allowed by the SIP provisions subject to the SIP call are continuing to interfere with attainment and maintenance of the NAAQS and that this justifies imposing a shorter schedule for states to respond to the SIP call.

Response: The EPA acknowledges the concerns expressed by the commenters and the importance of providing environmental protection. However, as explained in the February 2013 proposal and in section IV.D.14 of this document, the EPA believes that providing states with the full 18 months authorized by section 110(k)(5) is appropriate in this action. The EPA is taking into consideration that state rule development and the associated administrative processes can be complex and time-consuming. This is

particularly true where states might elect to consider more substantial revision of a SIP emission limitation, rather than merely removal of the impermissible automatic or discretionary exemption or the impermissible affirmative defense provision. In addition, the EPA believes that providing states with the full 18 months will be more likely to result in timely SIP submissions that will meet CAA requirements and provide the ultimate outcome that the commenters seek. Some states subject to the SIP call may be able to revise their deficient SIP provisions more quickly, and the EPA is committed to working with states to revise these provisions consistent with CAA requirements in a timely fashion. For these reasons, the EPA does not agree that it would be reasonable to provide less than the 18-month maximum period allowed under the CAA for states to submit SIP revisions in response to the SIP call.

32. Comments that the EPA should encourage states to add reporting and notification provisions into their SIPs.

Comment: A commenter urged the EPA to encourage states to make information about excess emissions events easily and quickly accessible to the public. The commenter claimed that it is unacceptable to make it difficult for members of the public to obtain information about potential harmful exposure to pollutants and that state "open-record" request laws are inadequate, particularly when the public is not informed that an event occurred. The commenter also asserted that reporting provisions enhance compliance and cited to the Toxic Release Inventory program's success in driving pollution reduction. The commenter argued that contemporaneous reporting of the conditions surrounding a violation, the cause and the measures taken to limit or prevent emissions ensure that stakeholders can respond in real time and also target enforcement efforts to violations where further action is warranted. As support for this approach, the commenter pointed to Jefferson County, Kentucky, as a local air quality control area that has already corrected problematic regulations in advance of this SIP call and also noted that the County included notification and reporting requirements, recognizing that they would reduce the burden on the government in trying to calculate the level of excess emissions and also help in responding to citizen inquiries about such events.

Response: The EPA agrees with the commenter that reporting and notification provisions can ease the

burden on government agencies by placing the burden on the entity that is in the best position to calculate the level of excess emissions and also provide other relevant information regarding such events. In addition, to make this information available to the public quickly allows for a timely response if there is any health concern. An increased level of communication between industry and residents also serves to build a better community relationship and partnership. The EPA also supports such requirements as components of SIP emission limitations because they facilitate effective compliance assurance. However, the EPA does not believe that the Agency should create a separate federal requirement addressing this issue beyond general CAA requirements at this time.

33. Comments that this SIP call action concerning affirmative defense provisions is being taken pursuant to sue-and-settle tactics.

Comment: One commenter alleged that the action proposed in the EPA's SNPR has an "impermissible sue-and-settle genesis" and that the EPA is attempting to grant as much of Sierra Club's petition as it can "regardless of the wisdom or permissibility of doing so."

Response: The EPA disagrees with the commenter's allegation that the EPA's proposed action in the SNPR is inappropriate because it is the result of "sue-and-settle" actions. This is a rulemaking in which the EPA is taking action to respond to a petition for rulemaking, and it has undergone a full notice-and-comment rulemaking process as provided for in the CAA. This issue is addressed in more detail in section V.D.1 of this document.

34. Comments that affirmative defense provisions do not alter or eliminate federal court jurisdiction and therefore do not violate CAA sections 113 or 304.

Comment: Two commenters argued that SIP affirmative defense provisions do not in fact interfere with the rights of litigants to pursue enforcement consistent with their rights under the citizen suit provision of CAA section 304, because plaintiffs have the right to bring a citizen suit despite the existence of affirmative defense provisions. One commenter cited at least four instances in the last few years in which environmental groups filed enforcement actions against sources in federal district court based on alleged emissions events for which the companies asserted affirmative defenses. The commenters stated that courts applied the affirmative defense provision criteria and the criteria of section 113(e) to determine

whether penalties were appropriate for alleged violations and did not dismiss plaintiffs' claims for lack of jurisdiction. According to the commenters, affirmative defense provisions place additional burden on the sources, not plaintiffs, to demonstrate that the criteria of an affirmative defense are met.

Response: The commenters argued that affirmative defense provisions are not inconsistent with the statutory requirements of section 304, because citizen groups still bring enforcement actions for events where companies may raise an affirmative defense. Even if this were so, the EPA disagrees with the commenters that this establishes that affirmative defense provisions are consistent with CAA requirements. The mere existence of enforcement actions does not negate the fact that affirmative defense provisions interfere with effective enforcement of SIP emission limitations according to CAA section 304. More to the point, affirmative defense provisions purport to alter or eliminate the statutory jurisdiction of courts to determine liability or to impose remedies for violations, which makes the provisions inconsistent with the grant of authority in sections 113 and 304. The court's decision in *NRDC v. EPA* was not based on the question of whether plaintiffs could still try to bring an enforcement case for violations of the EPA regulation at issue; the case was decided on the grounds that the EPA when creating regulations has no authority to limit or eliminate the jurisdiction of the courts. As explained in the SNPR and this document, the EPA believes that the same principle applies to states when creating SIP provisions.

35. Comments that this action may increase the chance of catastrophic failure at facilities.

Comment: One commenter expressed a concern that eliminating affirmative defense provisions applicable to emissions during SSM events could increase the potential for environmental harm caused by catastrophic failure by outlawing and penalizing the emissions during SSM events that have previously been allowed or shielded from liability through affirmative defense provisions. As an example, the commenter argued that refineries and gas plants must be allowed to vent VOCs to the atmosphere on the rare occasion that there is an equipment malfunction that could otherwise cause an explosion that might destroy the plant and surrounding neighborhood. The commenter speculated that the threat of costly new fines inherent with the removal of affirmative defense provisions could

cloud plant operators' thinking when they make safety decisions. The commenter contended that allowing rare, safely controlled releases of emissions would invariably be better for both the natural and human environment than the damage from a catastrophic explosion.

Response: Although the comment refers to SSM events generally, the only specific concern raised by the commenter concerning affirmative defense provisions is that if they are not allowed in SIPs, this may lead to an increase in malfunction-related catastrophic events. The EPA does not agree with the commenter's view that removal of affirmative defense provisions may increase environmental harm related to catastrophic events. The EPA believes that it is unlikely the availability or unavailability of an affirmative defense will affect a responsible and competent source operator's response to a risk of explosion. First, an explosion presents much more serious and more certain adverse economic consequences for the source than does the specter of a potential enforcement action for a CAA violation, especially because enforcement agencies and courts are likely to exercise leniency if the violation was the result of an unpreventable malfunction. Second, even if an affirmative defense were available, it is only used after initiation of an enforcement proceeding, and successful assertion of such a defense in an enforcement proceeding depends on meeting all affirmative defense criteria and is not guaranteed. The EPA does not believe that a responsible and competent source operator's actions in an emergency situation would be influenced by speculation that if the source is subject to an enforcement action in the future, there may be a defense to penalties available.

Moreover, as explained in detail in the SNPR and this document, the court's decision in *NRDC v. EPA* held that section 113 and section 304 preclude EPA authority to create affirmative defense provisions in the Agency's own regulations imposing emission limitations on sources, because such provisions purport to alter the jurisdiction of federal courts to assess liability and impose penalties for violations of those limits in private civil enforcement cases. The EPA believes that the reasoning of the court in that decision indicates that the states, like the EPA, have no authority in SIP provisions to alter the jurisdiction of federal courts to assess penalties for violations of CAA requirements through affirmative defense provisions. If states

lack authority under the CAA to alter the jurisdiction of the federal courts through affirmative defense provisions in SIPs, then the EPA lacks authority to approve any such provision in a SIP. The EPA notes that the court in *NRDC v. EPA* did not indicate that the statutory provisions should be interpreted differently based on speculation that a given source operator might allow a catastrophic explosion because of the absence of an affirmative defense.

36. Comments that the SNPR did not meet the procedural requirements of section 307(d) because the EPA failed to provide its legal interpretations or explain the data relied upon in this rulemaking.

Comment: Commenters claimed that the EPA violated the procedural requirements of the CAA in the SNPR. The commenters asserted that the EPA designated this rulemaking a section 307(d) action, and the commenters claimed that the EPA did not follow the procedures required in section 307(d). The commenters claimed that the EPA failed to provide a statement of basis and purpose that includes "the major legal interpretations and policy consideration underlying the proposed rule."

In particular, the commenters argued that the EPA did not provide required information with regard to its proposed SIP call concerning the affirmative defense provisions in the Texas SIP. Commenters claimed that the SNPR is deficient because it does not address: (i) Why the Fifth Circuit decision in *Luminant Generation v. EPA* does not control the present action; (ii) on what basis the EPA believes it may disregard the judgment in *Luminant Generation v. EPA*; (iii) why the DC Circuit decision, which does not address the Texas SIP, should take precedence over the *Luminant Generation v. EPA* decision; (iv) on what basis the EPA believes that the DC Circuit may reach a different result than the Fifth Circuit as to the affirmative defenses in the Texas SIP; and (v) the grounds for "acquiescing" to the DC Circuit decision in *NRDC v. EPA*, which specifically states that it does not apply to SIP revisions, and ignoring the relevant holding in the Fifth Circuit. Commenters cited several cases claiming that the DC Circuit has held that, unlike under the Administrative Procedure Act (APA), under CAA section 307(d) the EPA is required to give a detailed explanation of its reasoning and that commenters should not be required to "divine the agency's unspoken thoughts."

Response: The EPA disagrees with the commenters' premise. The EPA did

discuss the *Luminant Generation v. EPA* decision in the SNPR and also explained in detail why it believes that the logic of the DC Circuit's decision in *NRDC v. EPA* supports this SIP call action for affirmative defense provisions. Specifically, the EPA recognized that both the Fifth Circuit and the DC Circuit were evaluating the same fundamental question—whether section 113 and section 304 preclude the creation of affirmative defense provisions that alter or eliminate the jurisdiction of federal courts to determine liability and impose remedies for violations of CAA requirements in judicial enforcement actions. The EPA explained that, after reviewing the *NRDC v. EPA* decision and the *Luminant Generation v. EPA* decision, the Agency determined that its prior interpretation of the CAA, as advanced in both courts, is not the best reading of the statute. Indeed, it is significant that the *Luminant* court upheld the EPA's approval of affirmative defense provisions for unplanned events (*i.e.*, malfunctions) and the disapproval of affirmative defenses for planned events (*i.e.*, startup, shutdown and maintenance) specifically because the court deferred to the Agency's reasonable interpretation of ambiguous statutory provisions in the case at hand. In the SNPR, the EPA explained point by point why it now believes that the decision of the DC Circuit in *NRDC v. EPA* reflected the better reading of section 113 and section 304 and thus that the Agency no longer interprets the CAA to permit affirmative defenses in SIP provisions. Therefore, the EPA believes the Fifth Circuit could also take a different view of the reasonableness of the EPA's resolution of ambiguous provisions after reviewing the EPA's current interpretation of the statute.

37. Comments that the EPA has recently approved affirmative defense provisions through various SIP actions and, therefore, these provisions are proper under the EPA's interpretation of the CAA.

Comment: One commenter noted that the EPA has never taken issue with the affirmative defense provisions in states' SIPs across the many instances where the EPA has reviewed the states' later SIP submissions. The implication of the commenters' argument is that if the EPA has previously approved a SIP submission and directly or indirectly reapproved an affirmative defense provision in the past, this means that the affirmative defense provision still meets CAA requirements.

Response: The EPA disagrees with this comment. As explained in the EPA's response in section VIII.D.18 of

this document, when the EPA takes final action on a state's SIP submission, this does not necessarily entail reexamination and reapproval of every provision in the existing SIP. The EPA often only examines the specific SIP provision the state seeks to revise in the SIP submission, which may not include any affirmative defense provisions. To the extent the EPA did review and approve any affirmative defense provision consistent with its prior interpretation of the CAA that narrowly tailored affirmative defenses were appropriate, the EPA has fully explained why it is now revising that interpretation such that past action based on the earlier interpretation would no longer provide precedent for the EPA's actions. As part of this final action, applying its revised SSM Policy, the EPA is taking action to address affirmative defense provisions in SIPs. Since the issuance of the court's opinion in *NRDC v. EPA*, the EPA has similarly taken steps in its own ongoing NSPS and NESHAP rulemakings to ensure that any existing affirmative defense provisions are removed and that no affirmative defenses are proposed or finalized.⁶⁴

38. Comments that affirmative defense provisions function as structured state "enforcement discretion" and are an important tool for states to prioritize enforcement activities.

Comment: A state commenter characterized the affirmative defense contained in the state's SIP as an "enforcement discretion" tool that supports the state's regulation of excess emissions during malfunction events and promotes preventive measures, proper monitoring and reporting by sources. The state asserted that removal of the affirmative defense provision from the SIP would require the state to address and track violations that are not a high priority to the state agency. The state argued that the affirmative defense provision provides certainty to the

regulated community by providing structure to how the state will exercise its enforcement discretion. The state expressed concern that without the affirmative defense, there will be uncertainty for the regulated community and less incentive for sources to make repairs and submit excess emissions reports promptly. The commenter explained that state law requires reporting of emission events that exceed an established "reportable" quantity and that this prompt reporting allows the state agency to evaluate each event reported quickly. In investigating reports of emission events, the state claimed, it "exercises enforcement discretion only in cases in which it determines that each affirmative defense criteria is met," and the state claimed that elimination of the affirmative defense provision would result in an increase of unavoidable emissions being treated as violations. In general, the state objected to the elimination of the affirmative defense provision because it would strain the state agency's enforcement resources.

Response: These comments concerning the state's use of affirmative defense criteria in structuring the exercise of its enforcement discretion (*e.g.*, determining whether to bring an enforcement action or to further investigate an emissions event) appear to be based on a misunderstanding of the SNPR. This SIP call action directing states to remove affirmative defense provisions from SIPs would not prevent the state from applying such criteria in the exercise of its own enforcement discretion. For example, the state is free to consider factors such as a facility's efforts to comply and the facility's compliance history in determining whether to investigate an excess emissions event or whether to issue a notice of violation or otherwise pursue enforcement. Application of such criteria may well be useful and appropriate to the state in determining the best way to allocate its own enforcement resources. So long as a state does not use the criteria in such a way that the state fails to have a valid enforcement program as required by section 110(a)(2)(C), the state is free to use criteria like those of an affirmative defense as a way to "structure" its exercise of its own enforcement discretion.

However, as explained in the SNPR, the EPA's view is that SIPs cannot include affirmative defense provisions that alter the jurisdiction of the federal court to assess penalties in judicial enforcement proceeding for violation of CAA requirements. The EPA has determined that the specific affirmative

⁶⁴ See, *e.g.*, "National Emission Standards for Hazardous Air Pollutants Residual Risk and Technology Review for Flexible Polyurethane Foam Production; Final rule," 79 FR 48073 (August 15, 2014) (announcing decision not to finalize the proposed affirmative defense); "National Emission Standards for Hazardous Air Pollutants: Generic Maximum Achievable Control Technology Standards; and Manufacture of Amino/Phenolic Resins; Final rule," 79 FR 60897 (October 8, 2014) (announcing decision not to finalize the proposed affirmative defense); "Oil and Natural Gas Sector: Reconsideration of Additional Provisions of New Source Performance Standards; Final rule," 79 FR 79017 (December 31, 2014) (removing affirmative defense from regulations); and "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Proposed rule," 80 FR 3089 (January 21, 2015) (proposing to remove affirmative defense from regulations).

defense provisions at issue in the SIP of the state commenter are inconsistent with CAA requirements for SIP provisions. In addition, the EPA interprets the CAA to bar “enforcement discretion” provisions in SIPs that operate to impose the enforcement discretion decisions of the state upon the EPA or any other parties who may seek to enforce pursuant to section 304. Pursuant to the requirements of sections 110(k), 110(l) and 193, the EPA has both the authority and the responsibility to evaluate SIP submissions to assure that they meet the requirements of the CAA. Pursuant to section 110(k)(5), the EPA has authority and discretion to take action to require states to revise previously approved SIP provisions if they do not meet CAA requirements.

39. Comments that requiring states to adopt emissions standards that are not achievable at all times and then expecting courts to render those standards lawful by employing discretion in the assessment of penalties is contradictory to CAA section 307(b)(2), which mandates pre-enforcement review.

Comment: Commenters claimed that courts have consistently held that regulators cannot rely on enforcement discretion to establish the achievability of emission limitations. The commenters referred to a 1973 case addressing NSPS regulations in which they claimed the court remanded the standard to the EPA to support an “at all times” standard.

Commenters further asserted that reliance on the discretion of judges to decide whether and to what extent penalties are appropriate is also not lawful. The commenters claimed that if a state establishes an emission limitation on the basis that it is achievable, then the standard must be achievable under all circumstances to which it applies. The commenters argued that if a state adopts an emission limitation that is not achievable under all conditions, then the state must explain how the standard can be reasonably enforced. The commenters concluded that a numerical emission limitation that cannot be achieved by sources at all times is not enforceable because no amount of penalty can deter the violating conduct. The commenters recognized that it is reasonable for states to exercise enforcement discretion under circumstances when an emission limitation cannot be met but argued that it is not reasonable to adopt a SIP that puts sources in a state of repeated noncompliance.

Commenters further claimed that the decision in *NRDC v. EPA*, while allowing sources to argue unjust

punishment should not be imposed, conflicts with the CAA’s requirements for pre-enforcement review. The commenters stated that emission limitations that could have been challenged at the time of promulgation are not subject to judicial review in an enforcement proceeding. Thus, the commenters claimed that any challenges to the achievability of a SIP emission limitation must be made at the time the emission limitation is promulgated and that judges will not consider such arguments in the context of an enforcement action. The commenters argued that forcing states to adopt unachievable standards and then prohibiting them from including an affirmative defense for penalties for unavoidable exceedances creates a dilemma Congress sought to avoid.

Response: A number of the arguments that the commenters are raising appear to go beyond the scope of the affirmative defense issues in the SNPR. In the SNPR, the EPA revised its prior proposal with respect to issues related exclusively to affirmative defense provisions in SIPs. These comments are similar to an argument that any period during which an emission limitation cannot be met must be deemed not to be a violation of the standard. The EPA is addressing these types of issues, to the extent that they were raised in comments on the February 2013 proposal. The EPA does note, however, that the Agency is not requiring states to adopt standards that cannot be met and then providing that states rely only on enforcement discretion to address periods of noncompliance. As the EPA has already noted, states may choose to adopt standards that are different from the underlying standards for periods where the underlying standards cannot otherwise be met.

The EPA also disagrees with the comments that the holding in *NRDC v. EPA* is inconsistent with section 307(b)(2) that provides that regulations that could have been challenged at promulgation cannot later be challenged in an enforcement action. Nothing in section 307(b) limits the ability of the court to consider the criteria of section 113(e), such as good faith efforts of a source to comply in assessing penalties. Neither the decision in *NRDC v. EPA* nor this SIP call action requires states to adopt standards that cannot be met. Moreover, the public, including regulated sources, will be able to comment on the revised emission limitations developed by states in response to this SIP call. If an interested party believes that the state has adopted unachievable emission limitations, that

party can challenge such standards at the time of adoption.

40. Comments that the EPA should announce that it no longer recognizes existing affirmative defense provisions, effective immediately.

Comment: Commenters claimed that because the court held in *NRDC v. EPA* that the EPA was without authority to interpret the CAA to allow affirmative defenses, the EPA should explicitly state that it no longer recognizes such provisions immediately. The commenters argued that by proceeding under its authority under section 110(k)(5), the EPA is providing states 18 months to remove the affirmative defense provisions and that thereafter the EPA will take additional time to act upon those SIP revisions under section 110(k). The commenters argued that this in effect allows sources to continue relying on affirmative defense provisions that are not consistent with CAA requirements for a period of years into the future. Because the EPA did not have authority to approve the affirmative defense provisions in the first instance, the commenters contended that the Agency should simply declare that the affirmative defense provisions are now null and void.

Response: The EPA understands the concerns raised by the commenters but does not agree that it is inappropriate for the Agency to proceed under section 110(k)(5). The affirmative defense provisions at issue in this action are part of the EPA-approved SIPs for the affected states. The EPA, as well as states, cannot unilaterally change provisions of the approved SIP without following appropriate notice-and-comment procedures. To the extent that the commenters were advocating that the EPA should have proceeded under its authority to do error corrections under section 110(k)(6) rather than a SIP call under section 110(k)(5), the Agency has explained in detail in the February 2013 proposal and this document why it is more appropriate to proceed via SIP call instead. Under the SIP call process, the EPA cannot declare approved SIP provisions null and void prior to state submission and Agency approval of revised SIP provisions.

41. Comments that instead of acting through a nationwide SIP call action, the EPA should have worked individually with states to correct any deficient SIP provisions.

Comment: One commenter stated that rather than using a SIP call to address SSM issues in existing SIPs, the EPA should work with each state’s air agency individually to identify and address SIP deficiencies and work through the

normal rulemaking and SIP revision processes to correct any identified problems.

Response: The CAA provides a mechanism specifically for the correction of flawed SIPs. Section 110(k)(5) provides: "Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to . . . comply with any requirement of [the Act], the Administrator shall require the State to revise the plan as necessary to correct such inadequacies." This type of action is commonly referred to as a "SIP call." The EPA, in this action, is using a SIP call to notify states of flawed provisions in SIPs and initiate a process for correction of those provisions.

The EPA, largely through its Regional Offices, has individually reviewed each state provision subject to the SIP call. The EPA will work closely with each state, during future rulemaking actions taken by states to adopt SIP revisions and then subsequent actions by the EPA, to determine whether these adopted SIP revisions meet the mandate of the SIP call and are consistent with CAA requirements. As part of these actions, each individual state will work closely with the EPA to address the SIP deficiencies identified in this action.

42. Comments that the EPA should not consider those comments on the February 2013 proposal that concern affirmative defense provisions in SIPs to no longer be relevant.

Comment: One commenter disagreed with the EPA's decision not to respond to certain comments submitted on the February 2013 proposal, to the extent the comments applied to issues related to affirmative defense provisions in SIPs generally or to issues related to specific affirmative defense provisions identified by the Petitioner, on a basis that those comments are no longer relevant if the EPA finalizes its action as proposed in the SNPR. According to the commenter, the EPA's interpretation of the CAA has not changed so as to exclude the other SSM provisions in the proposed action, and this alone shows that the comments submitted on the February 2013 proposal are still relevant.

Response: The EPA's proposed action on the Petition in the SNPR superseded the February 2013 proposal with respect to the issues related to affirmative defense provisions in SIPs. As explained in detail in the SNPR, after the February 2013 proposal, a federal court ruled that the CAA precludes authority of the EPA to create affirmative defense provisions applicable to private civil suits in its own regulations. As a result, the EPA issued the SNPR to propose applying a

revised interpretation of the CAA to affirmative defense provisions in SIPs consistent with the reasoning of court's decision in *NRDC v. EPA*. The EPA supplemented and revised its proposed response to the issues raised in the Petition to the extent they concern affirmative defenses in SIPs, and the EPA solicited comment on its revised proposed response. Because the EPA's interpretation of the CAA with respect to the legal basis for affirmative defense provisions in SIPs changed from the time of the February 2013 proposal to the SNPR, comments on the February 2013 proposal, to the extent they concern affirmative defenses in SIPs, are not relevant to the EPA's revised proposed action. For example, comments on the February 2013 proposal that argue that the EPA was wrong to interpret the CAA to allow affirmative defense provisions for malfunction events but not for startup or shutdown events are not relevant when the Agency's interpretation of the CAA is now that no such affirmative defense provisions are valid. Similarly, comments that the criteria that the EPA previously recommended for valid affirmative defense provisions were too many, too few, too stringent or too lax simply have no relevance when the EPA does not interpret the CAA to allow any such affirmative defense provisions regardless of the number, nature or stringency of the criteria for qualifying for the affirmative defense. The EPA believes that it is reasonable for the Agency to determine that comments that have no bearing on the proposed action concerning affirmative defense provisions in the SNPR are not relevant. Because the EPA is finalizing the action on the Petition as proposed in the SNPR concerning affirmative defense provisions in SIPs, it is doing so based on evaluation of the comments that are relevant to the SNPR.

V. Generally Applicable Aspects of the Final Action in Response to Request for the EPA's Review of Specific Existing SIP Provisions for Consistency With CAA Requirements

A. What the Petitioner Requested

The Petitioner's second request was for the EPA to find as a general matter that SIPs "containing an SSM exemption or a provision that could be interpreted to affect EPA or citizen enforcement are substantially inadequate to comply with the requirements of the Clean Air Act."⁶⁵ In addition, the Petitioner requested that if the EPA finds such defects in existing

SIPs, the EPA "issue a call for each of the states with such a SIP to revise it in conformity with the requirements or otherwise remedy these defective SIPs."⁶⁶

The Petitioner argued that many SIPs currently contain provisions that are inconsistent with the requirements of the CAA. According to the Petitioner, these provisions fall into two general categories: (1) Exemptions for excess emissions by which such emissions are not treated as violations; and (2) enforcement discretion provisions that may be worded in such a way that a decision by the state not to enforce against a violation could be construed by a federal court to bar enforcement by the EPA under CAA section 113, or by citizens under CAA section 304.

First, the Petitioner expressed concern that many SIPs have either automatic or discretionary exemptions for excess emissions that occur during periods of SSM. Automatic exemptions are those that, on the face of the SIP provision, provide that any excess emissions during such events are not violations even though the source exceeds the otherwise applicable emission limitations. These provisions preclude enforcement by the state, the EPA or citizens, because by definition these excess emissions are defined as not violations. Discretionary exemptions or, more correctly, exemptions that may arise as a result of the exercise of "director's discretion" by state officials, are exemptions from an otherwise applicable emission limitation that a state may grant on a case-by-case basis with or without any public process or approval by the EPA, but that do have the effect of barring enforcement by the EPA or citizens. The Petitioner argued that "[e]xemptions that may be granted by the state do not comply with the enforcement scheme of title I of the Act because they undermine enforcement by the EPA under section 113 of the Act or by citizens under section 304."

The Petitioner explained that all such exemptions are fundamentally at odds with the requirements of the CAA and with the EPA's longstanding interpretation of the CAA with respect to excess emissions in SIPs. SIPs are required to include emission limitations designed to provide for the attainment and maintenance of the NAAQS and for protection of PSD increments. The Petitioner emphasized that the CAA requires that such emission limitations be "continuous" and that they be established at levels that achieve sufficient emissions control to meet the required CAA objectives when adhered

⁶⁵ Petition at 14.

⁶⁶ *Id.*

to by sources. Instead, the Petitioner contended, exemptions for excess emissions through “loopholes” in SIP provisions often result in real-world emissions that are far higher than the level of emissions envisioned and planned for in the SIP.

Second, the Petitioner expressed concern that many SIPs have provisions that may have been intended to govern only the exercise of enforcement discretion by the state’s own personnel but are worded in a way that could be construed to preclude enforcement by the EPA or citizens if the state elects not to enforce against the violation. The Petitioner contended that “any SIP provision that purports to vest the determination of whether or not a violation of the SIP has occurred with the state enforcement authority is inconsistent with the enforcement provisions of the Act.”

After articulating these overarching concerns with existing SIP provisions, the Petitioner requested that the EPA evaluate specific SIP provisions identified in the separate section of the Petition titled, “Analysis of Individual States’ SSM Provisions.”⁶⁷ In that section, the Petitioner identified specific provisions in the SIPs of 39 states that the Petitioner believed to be inconsistent with the requirements of the CAA and explained in detail the basis for that belief. In the conclusion section of the Petition, the Petitioner listed the SIP provisions in each state for which it seeks a specific remedy. A more detailed explanation of the Petitioner’s arguments appears in the 2013 February proposal.⁶⁸

B. What the EPA Proposed

In its February 2013 proposal, the EPA proposed to deny in part and to grant in part the Petition with respect to this two-part request. The EPA explained its longstanding interpretations of the CAA with respect to SIP provisions that apply to excess emissions during SSM events. The EPA also agreed that automatic exemptions, discretionary exemptions via director’s discretion, ambiguous enforcement discretion provisions that may be read to preclude EPA or citizen enforcement and affirmative defense provisions can interfere with the overarching objectives of the CAA, such as attaining and maintaining the NAAQS, protecting PSD increments and improving visibility. Such provisions in SIPs can interfere with effective enforcement by air agencies, the EPA and the public to

assure that sources comply with CAA requirements, and such interference is contrary to the fundamental enforcement structure provided in CAA sections 113 and 304.

Accordingly, the EPA evaluated each of the specific SIP provisions that the Petitioner identified to determine whether it is consistent with CAA requirements for SIP provisions. The EPA conducted this evaluation in light of its interpretations of the CAA reflected in the SSM Policy and recent court decisions pertaining to relevant issues. In section IX of the February 2013 proposal, the EPA provided its proposed view with respect to each of these SIP provisions. The EPA solicited comment on its proposed grant or denial of the Petition for each of the specific SIP provisions and its rationale for the proposed action. Through consideration of the overarching issues raised by the Petition, and informed by the evaluation of the specific SIP provisions identified in the Petition as a group, the EPA also determined that it was necessary to reiterate, clarify and amend its SSM Policy. The EPA thus took comment on its interpretations of the CAA set forth in the SSM Policy in order to assure that it provides comprehensive and up-to-date guidance to states concerning SIP provisions applicable to emissions from sources during SSM events.

C. What Is Being Finalized in This Action

The EPA is taking final action to deny in part and to grant in part the Petition with respect to the request to find specific SIP provisions inconsistent with the CAA as interpreted by the Agency in the SSM Policy. The EPA is also taking final action to grant the Petition on the request to make a finding of substantial inadequacy and to issue a SIP call for specific existing SIP provisions. The basis for the SIP call is that these provisions include an automatic exemption, a discretionary exemption, an inappropriate enforcement discretion provision, an affirmative defense provision, or other form of provision that is inconsistent with CAA requirements for SIP provisions. For those SIP provisions that the EPA has determined to be consistent with CAA requirements, however, the Agency is taking final action to deny the Petition and taking no further action with respect to those provisions. The specific SIP provisions at issue are discussed in detail in section IX of this document.

As a result of its review of the issues raised by the Petition, the EPA is also through this action clarifying, reiterating and updating its SSM Policy to make

certain that it provides comprehensive and up-to-date guidance to air agencies concerning SIP provisions to address emissions during SSM events, consistent with CAA requirements. With respect to automatic exemptions from emission limitations in SIPs, the EPA’s longstanding interpretation of the CAA is that such exemptions are impermissible because they are inconsistent with the fundamental requirements of the CAA. The EPA has reiterated this point in numerous guidance documents and rulemaking actions and is reaffirming that interpretation in this final action. By exempting emissions that would otherwise constitute violations of the applicable emission limitations, such exemptions interfere with the primary air quality objectives of the CAA (*e.g.*, attainment and maintenance of the NAAQS), undermine the enforcement structure of the CAA (*e.g.*, the requirement that all SIP provisions be legally and practically enforceable by states, the EPA and parties with standing under the citizen suit provision), and eliminate the incentive for emission sources to comply at all times, not solely during normal operation (*e.g.*, incentives to be properly designed, maintained and operated so as to minimize emissions of air pollutants during startup and shutdown or to take prompt steps to rectify malfunctions).

The court’s decision in *Sierra Club v. Johnson* concerning exemptions for SSM events in the EPA’s own regulations has reemphasized the fact that emission limitations under the CAA are required to be continuous. The court held that this statutory requirement precludes emission limitations that would allow periods during which emissions are exempt. Moreover, from a policy perspective, the EPA notes that the existence of impermissible exemptions in SIP provisions has the potential to lessen the incentive for development of control strategies that are effective at reducing emissions during certain modes of source operation such as startup and shutdown, even while such strategies could become increasingly helpful for various purposes, including attaining and maintaining the NAAQS. The issue of automatic exemptions for SSM events in SIP provisions is discussed in more detail in section VII.A of this document.

With respect to discretionary exemptions from emission limitations in SIPs, the EPA also has a longstanding interpretation of the CAA that prohibits “director’s discretion” provisions in SIPs if they provide unbounded discretion to allow what would amount to a case-specific revision of the SIP

⁶⁷ Petition at 17.

⁶⁸ See February 2013 proposal, 78 FR 12459 at 12473–74 (February 22, 2013).

without meeting the statutory requirements of the CAA for SIP revisions. In particular, the EPA interprets the CAA to preclude SIP provisions that provide director's discretion authority to create discretionary exemptions for violations when the CAA would not allow such exemptions in the first instance. As with automatic exemptions for excess emissions during SSM events, discretionary exemptions for such emissions interfere with the primary air quality objectives of the CAA, undermine the enforcement structure of the CAA and eliminate the incentive for emission sources to minimize emissions of air pollutants at all times, not solely during normal operations. Through this action, the EPA is reiterating its interpretation of the provisions of the CAA that preclude unbounded director's discretion provisions in SIPs. The EPA is also explaining two ways in which air agencies may elect to correct a director's discretion type of deficiency. The issue of director's discretion in SIP provisions applicable to SSM events is discussed in more detail in section VII.C of this document.

With respect to enforcement discretion provisions in SIPs, the EPA also has a longstanding interpretation of the CAA that SIPs may contain such provisions concerning the exercise of discretion by the air agency's own personnel, but such provisions cannot bar enforcement by the EPA or by other parties through a citizen suit.⁶⁹ In the event such a SIP provision could be construed by a court to preclude EPA or citizen enforcement, that provision would be at odds with fundamental requirements of the CAA pertaining to enforcement. Such provisions in SIPs can interfere with effective enforcement by the EPA and the public to assure that sources comply with CAA requirements, and this interference is contrary to the fundamental enforcement structure provided in CAA sections 113 and 304. The issue of enforcement discretion in SIP provisions applicable to SSM events is discussed in more detail in section VII.D of this document.

The EPA has evaluated the concerns expressed by the Petitioner with respect to each of the identified SIP provisions and has considered the specific remedy sought by the Petitioner. Through evaluation of comments on the February 2013 proposal and the SNPR, the EPA has taken into account the perspective of other stakeholders concerning the proper application of the CAA and the Agency's preliminary evaluation of the

specific SIP provisions identified in the Petition. In many instances, the EPA has concluded that the Petitioner's analysis is correct and that the provision in question is inconsistent with CAA requirements for SIPs. For those SIP provisions, the EPA is granting the Petition and is simultaneously making a finding of substantial inadequacy and issuing a SIP call to the affected state to rectify the specific SIP inadequacy. In other instances, however, the EPA disagrees with the Petitioner's analysis of the provision, in some instances because the analysis applied to provisions that have since been corrected in the SIP. For those provisions, the EPA is therefore denying the Petition and taking no further action. In summary, the EPA is granting the Petition in part, and denying the Petition in part, with respect to all of the specific existing SIP provisions for which the Petitioner requested a remedy. The EPA's evaluation of each of the provisions identified in the Petition and the basis for the final action with respect to each provision is explained in detail in section IX of this document.

D. Response to Comments Concerning the CAA Requirements for SIP Provisions Applicable to SSM Events

The EPA received numerous comments, both supportive and adverse, concerning the Agency's decision to propose action on the Petition with respect to the overarching issues raised by the Petitioner. A number of these comments also raised important issues concerning the rights of citizens to petition their government, the process by which the EPA evaluated the issues raised in the Petition and the relative authorities and responsibilities of states and the EPA under the CAA. Many commenters raised the same conceptual issues and arguments. For clarity and ease of discussion, the EPA is responding to these overarching comments, grouped by topic, in this section of this document. The responses to more specific substantive issues raised by commenters on the EPA's interpretation of the CAA in the SSM Policy appear in other sections of this document that focus on particular aspects of this action.

1. Comments that the EPA should not have responded to the petition for rulemaking or that the EPA was wrong to do so.

Comment: Some commenters opposed the EPA's proposed action on the Petition in the February 2013 proposal entirely and alleged that it is "sue-and-settle rulemaking" or "regulation by litigation." Commenters stated that the "proposed rule and corresponding

aggressive deadline schedule stem from" a settlement of litigation brought by Sierra Club to respond to the Petition.

Some commenters expressed concern that the EPA's proposed action was made in response to a settlement agreement, through a process that, the commenters alleged, did not permit any opportunity for participation by affected parties. Other commenters, believing that the EPA's proposed action was taken to fulfill a consent decree obligation, argued that consent decree deadlines "often do not allow EPA enough time to write quality regulations" or would not allow "opportunity to properly research and investigate the effect of State SSM provisions or the State's ability to meet the NAAQS, or to determine whether the SSM provisions are somehow inconsistent with the CAA." The commenters alleged that the process "bypasses the traditional rulemaking concepts of transparency and effective public participation" and "sidesteps the proper rulemaking channels and undercuts meaningful opportunities for those affected by the proposed rule to develop and present evidence that would support a competing and fully informed viewpoint on the substantive issues during the rulemaking process."

Response: The EPA believes that these comments reflect fundamental misunderstandings about this action. This is a rulemaking in which the EPA is taking action to respond to a petition for rulemaking, and it has undergone a full notice-and-comment rulemaking process as provided for in the CAA. In the February 2013 proposal, the EPA proposed to take action on the Petition. Under the CAA, the APA and the U.S. Constitution, citizens have the right to petition the government for redress. For example, the APA provides that "[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule."⁷⁰ When citizens file a petition for rulemaking, they are entitled to a response to such petition—whether that response is to grant the petition, to deny the petition, or to partially grant and partially deny the petition as has occurred in this rulemaking action.

Some of these commenters expressed concern that the EPA's action on the Petition was the result of the Agency's obligations under a consent decree or settlement agreement and that this fact in some way invalidates the substantive action. First, the EPA notes that the action was undertaken not in response to a consent decree but rather in

⁶⁹ See, e.g., 1983 SSM Guidance at Attachment p. 2.

⁷⁰ 5 U.S.C. 553(e).

response to a settlement agreement. Second, the EPA notes that this settlement agreement was entered into by the Agency and the Sierra Club in order to resolve allegations that the EPA was not correctly evaluating and acting upon SIP submissions from states. In particular, the Sierra Club claimed that the EPA was illegally ignoring existing deficiencies in the SIPs of many states, including existing allegedly deficient provisions concerning the treatment of excess emissions during SSM events, when acting on certain SIP submissions. As a result, the Sierra Club alleged, the EPA was acting in contravention of its obligations under the CAA and various consent decrees and thus should be held in contempt for failure to address these issues. In order to resolve these allegations, the EPA agreed only to take action on a petition for rulemaking and to take the action that it deemed appropriate after evaluation of the allegations in the petition. The terms of the settlement agreement underwent public comment and are a matter of public record and are in the docket for this rulemaking.⁷¹

The EPA does not enter into settlement agreements lightly, nor does the EPA enter into settlement agreements without following the full public process required by CAA section 113(g), which the Agency followed in this case.⁷² The EPA solicited comment on the draft settlement agreement as required by section 113(g). In no case does the EPA enter into a settlement agreement that has not been officially reviewed not only by the Agency but also by the Department of Justice. Thus, contrary to the commenters' implications, this rulemaking is the result of an appropriate settlement agreement that did undergo public comment and is legitimate.

In acting on the Petition the EPA has followed all steps of a notice-and-comment rulemaking, as governed by applicable statutes, regulations and executive orders, including a robust process for public participation. When the EPA initially proposed to take action on the Petition, in February 2013, it simultaneously solicited public comment on all aspects of its proposed response to the issues in the Petition and in particular on its proposed action with respect to each of the specific existing SIP provisions identified by the Petitioner as inconsistent with the

requirements of the CAA. In response to requests, the EPA extended the public comment period for this proposal to May 13, 2013, which is 80 days from the date the proposed rulemaking was published in the **Federal Register** and 89 days from the date the proposed rulemaking was posted on the EPA's Web site.⁷³ The EPA deemed this extension appropriate because of the issues raised in the February 2013 proposal. The EPA also held a public hearing on March 12, 2013. In response to this proposed action, the EPA received approximately 69,000 public comments, including over 50 comment letters from state and local governments, over 150 comment letters from industry commenters, over 25 comment letters from public interest groups and many thousands of comments from individual commenters. Many of these comment letters were substantial and covered numerous issues.

Similarly, when the EPA ascertained that it was necessary to revise its proposed action on the Petition with respect to affirmative defenses in SIP provisions, the Agency issued the SNPR. In that supplemental proposal, in September 2014, the EPA fully explained the issues and took comment on the questions related to whether affirmative defense provisions are consistent with CAA requirements concerning the jurisdiction of courts in enforcement actions, and thus whether such provisions are consistent with fundamental CAA requirements for SIP provisions. The EPA provided a public comment period ending November 6, 2014, which is 50 days from the date the SNPR was published in the **Federal Register** and 62 days from the date the SNPR was posted on the EPA's Web site. The EPA believes that the comment period was sufficient given that the subject of the SNPR was limited to the narrow issue of whether affirmative defense provisions are consistent with CAA requirements. The EPA also held a public hearing on the SNPR on October 7, 2014 on the specific topic of the legitimacy of affirmative defense provisions in SIPs. In response to the SNPR, the EPA received over 20,000 public comments, including at least 9 comment letters from states and local governments, over 40 comment letters from industry commenters, at least 6 comment letters from public interest

groups, and many thousands of comments from individual commenters.

2. Comments that EPA's action on the Petition violates "cooperative federalism."

Comment: Many commenters asserted that the EPA's proposed action on the Petition and the issuance of this SIP call violate principles of cooperative federalism because they impermissibly substitute the EPA's judgment for that of the states in the development of SIPs. This argument was raised by both air agency and industry commenters.

These commenters described the relationship between states and the EPA with respect to SIPs in general. The commenters stated that Congress designed the CAA as a regulatory partnership between the EPA and the states, *i.e.*, a relationship based on "cooperative federalism." Under cooperative federalism, the commenters noted, the EPA has the primary responsibility to identify air pollutants that endanger the public health and welfare and to set national standards for those pollutants. By contrast, the states have primary responsibility to determine how to achieve those national standards by developing federally enforceable measures through SIPs. According to these commenters, however, once a state has made a SIP submission, the EPA's role is relegated exclusively to the ministerial function of reviewing whether the SIP submission will result in compliance with the NAAQS. Similarly, the commenters claim that when EPA is evaluating in the context of a SIP call whether a state's existing SIP continues to meet applicable CAA requirements, the only relevant question is whether the existing SIP will result in compliance with the NAAQS. Thus, the commenters claimed that by finding certain existing SIP provisions substantially inadequate because they are legally deficient to meet CAA requirements for SIP provisions, the EPA is usurping state authority under the cooperative-federalism structure of the CAA.

To support this view, many commenters cited to the "*Train-Virginia* line of cases," named for the U.S. Supreme Court case *Train v. Natural Resources Defense Council, Inc.*,⁷⁴ and to the D.C. Circuit case *Virginia v. EPA*.⁷⁵ The D.C. Circuit has described these cases as defining a "federalism bar" that constrains the EPA's authority with respect to evaluation of state SIPs

⁷¹ See Settlement Agreement executed November 30, 2011, in the rulemaking docket at EPA-HQ-OAR-2012-0322-0039.

⁷² See "Proposed Settlement Agreement, Clean Air Act Citizen Suit" (notice of proposed settlement agreement; request for public comment), 76 FR 54465 (September 1, 2011).

⁷³ See "State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction; Notice of extension of public comment period," 78 FR 20855 (April 8, 2013), in the rulemaking docket at EPA-HQ-OAR-2012-0322-0126.

⁷⁴ 421 U.S. 60 (1975).

⁷⁵ 108 F.3d 1397 (D.C. Cir. 1997).

under section 110.⁷⁶ Many commenters asserted that this federalism bar limits the EPA's oversight of state SIPs exclusively to whether a SIP will result in compliance with the NAAQS. The commenters evidently construe "compliance with the NAAQS" very narrowly to mean the SIP will factually result in attainment of the NAAQS, regardless of whether the SIP provisions in fact meet all applicable CAA requirements (e.g., the requirement that the SIP emission limitations be continuous and enforceable).

Accordingly, most of these commenters selectively quoted or cited a passage in *Train*,⁷⁷ and similar passages in circuit court opinions following *Train*, for the proposition that the EPA cannot issue a SIP call addressing the SIP provisions at issue in this SIP call action. Some of these commenters asserted that if the EPA were to finalize this action, the states would have "nothing left" of their discretion in SIP development and implementation in the future.

Response: The EPA agrees that the CAA establishes a framework for state-federal partnership based on cooperative federalism. The EPA does not, however, agree with the commenters' characterization of that relationship. The EPA explained its view of the cooperative-federalism structure in the February 2013 proposal, especially the fact that under this principle both states and the EPA have authorities and responsibilities with respect to implementing the requirements of the CAA.⁷⁸ The EPA believes that the commenters fundamentally misunderstand or inaccurately describe this action, as well as the "'division of responsibilities' between the states and the federal government" in section 110 that is described in the *Train-Virginia* line of cases.⁷⁹

In CAA section 110(a)(1), Congress imposed the duty upon all states to have a SIP that provides for "the implementation, maintenance, and enforcement" of the NAAQS. In section 110(a)(2), Congress clearly set forth the basic SIP requirements that "[e]ach such plan shall" satisfy.⁸⁰ By using the

mandatory "shall" in section 110(a)(2), Congress established a framework of mandatory requirements *within which* states may exercise their otherwise considerable discretion to design SIPs to provide for attainment and maintenance of the NAAQS and to meet other CAA requirements. In other sections of the Act, Congress also imposed additional, more specific SIP requirements (e.g., the requirement in section 189 that states impose RACM-level emission limitations on sources located in PM_{2.5} nonattainment areas).

In particular, this SIP call action concerns whether SIP provisions satisfy section 110(a)(2)(A), which requires that each SIP "[shall] include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter."

As explained in the February 2013 proposal, the automatic and discretionary exemptions for emissions from sources during SSM events at issue in this action fail to meet this most basic SIP requirement and are also inconsistent with the enforcement requirements of the CAA. Similarly, the enforcement discretion provisions at issue in this action that have the effect of barring enforcement by EPA or citizens fail to meet this requirement for enforceable emission limitations by interfering with the enforcement structure of the CAA as established by Congress. The affirmative defense provisions at issue are similarly inconsistent with the requirement that SIPs provide for enforcement of the NAAQS and also contravene the statutory jurisdiction of courts to determine liability and to impose remedies for violations of SIP requirements. Each of these types of deficient SIP provisions is thus inconsistent with legal requirements of the CAA for SIP provisions. Contrary to the claims of many commenters, the EPA has authority and responsibility to assure that a state's SIP provisions in fact comply with fundamental legal requirements of the CAA as part of the obligation to ensure that SIPs protect the NAAQS.⁸¹

The *Train-Virginia* line of cases affirms the plain language of the Act—that in addition to providing generally for attainment and maintenance of the NAAQS, all state SIPs must satisfy the specific elements outlined in section 110(a)(2). Even setting aside that *Train* predated substantive revisions to the CAA that strengthened section 110(a)(2)(A) in ways relevant here,⁸² the *Train* Court clearly stated that section 110(a)(2) imposes additional requirements for state submissions to be accepted, independent of the general obligation to meet the NAAQS. Many commenters on the February 2013 proposal selectively quoted or cited only portions of the following excerpt from *Train*, omitting or ignoring the portions emphasized here:

The Agency is plainly charged by the Act with the responsibility for setting the national ambient air standards. Just as plainly, however, it is relegated by the Act to a secondary role in the process of determining and enforcing the specific, source-by-source emission limitations which are necessary if the national standards it has set are to be met. Under § 110(a)(2), the Agency is required to approve a state plan which provides for the timely attainment and subsequent maintenance of ambient air standards, *and which also satisfies that section's other general requirements*. The Act gives the Agency no authority to question the wisdom of a State's choices of emission limitations *if they are part of a plan which satisfies the standards of § 110(a)(2)*. . . . Thus [*i.e.*, provided the state plan satisfies the basic requirements of § 110(a)(2)], so long as the ultimate effect of a State's choice of emission limitations is compliance with the national standards for ambient air, the State is at liberty to adopt whatever mix of emission limitations it deems best suited to its particular situation.⁸³

the NAAQS, as well as to meet other objectives such as protection of PSD increments and visibility.

⁸² For example, to the extent the *Train* Court was construing section 110(a)(2)'s emission limitation provision, it is important to note that while that statutory section before the *Train* Court required approvable SIPs to include certain controls "necessary to insure compliance with [the] primary or secondary standards" (*i.e.*, the NAAQS), *see* CAA of 1970, Pub. L. 91-604, section 4(a), 84 Stat. 1676, 1680 (December 31, 1970), that section now more broadly speaks of controls "necessary or appropriate to meet the applicable requirements of this chapter" (*i.e.*, the CAA). Section 110(a)(2)(A) (emphasis added). Among the other relevant textual changes are the qualification that emission limitations and other controls be "enforceable," *id.*; a statutory definition of "emission limitation" that adds requirements not contemplated by *Train*, *compare* Section 302(k), *with Train*, 421 U.S. at 78; as well as a recharacterization of section 110(a)(2)'s emission limitation requirement from one bearing on whether "[t]he Administrator shall approve such plan," *see* Pub. L. 91-604, section 4(a), 84 Stat. at 1680, to a requirement expressly directed at what "[e]ach plan shall" include.

⁸³ 421 U.S. at 79 (emphasis added) (footnotes omitted).

⁷⁶ *See, e.g., Michigan v. EPA*, 213 F.3d 663, 687 (D.C. Cir. 2000).

⁷⁷ *See* 421 U.S. at 79.

⁷⁸ *See* 78 FR 12459 at 12468; Background Memorandum at 1-3.

⁷⁹ *See Virginia v. EPA*, 108 F.3d 1397, 1407 (D.C. Cir. 1997) (quoting *Train*, 421 U.S. at 79).

⁸⁰ Section 110(a)(2) (emphasis added); *see EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1600 (2014) (holding that section 110(a)(2) "speaks without reservation" regarding what "components" a SIP "shall include"); H. Rept. 101-490, at 217 (calling the provisions of section 110(a)(2)(A) through (M) "the basic requirements of SIPs").

⁸¹ The EPA notes that many of the specific SIP elements required in section 110(a)(2) are not themselves stated in terms of attainment and maintenance of the NAAQS. Instead, these requirements are part of the SIP structure that Congress deemed necessary to support implementation, maintenance and enforcement of

When read in its entirety, without omitting the portions italicized above, *Train* clearly does not stand for the proposition that SIPs must be judged exclusively on the basis of whether they will ensure attainment and maintenance of the NAAQS. To the contrary, the Court made clear that approvable SIP submissions must not only provide for attainment and maintenance of the NAAQS but must also satisfy section 110(a)(2)'s "other general requirements" ⁸⁴ Furthermore, while states have great latitude to select emission limitations, *Train* explained that those emission limitations must nevertheless be "part of a plan which satisfies the standards of § 110(a)(2)" ⁸⁵ Finally, the EPA notes that many commenters quoting the final sentence excerpted above typically excluded the word "Thus," which references the preceding sentence stating that SIPs must "satisfy [section 110(a)(2)]'s other general requirements." ⁸⁶ By omitting the word "thus," and the passages concerning the obligation of states to comply with section 110(a)(2) and other obligations of the CAA, the commenters disregard the critical point that the EPA has the statutory responsibility to assure that state SIPs meet the specific requirements of the CAA, not merely that they provide for attainment of the NAAQS regardless of whether they meet other mandatory legal requirements. ⁸⁷ In short, the *Train* Court did not hold that SIPs must merely provide for attainment of the NAAQS even under the 1970 Act, much less the text of the CAA applicable today. To the contrary, the U.S. Supreme Court indicated that approvable state plans were also required to meet other legal specifications of the CAA for SIPs such as those in section 110(a)(2) and that the EPA's responsibility is to determine whether they do so. The EPA's own

⁸⁴ See *id.* (emphasis added).

⁸⁵ See *id.* The EPA notes that section 110(a)(2) and other sections relevant to SIPs in fact contain numerous procedural and substantive requirements that air agencies must meet. Section 110(a) is not composed of a single sentence that directs states merely to attain the NAAQS; it is replete with legal requirements applicable to SIPs that help to assure that a SIP will successfully meet that objective.

⁸⁶ See *id.*

⁸⁷ As a related point, the EPA notes that commenters claiming that the proposed SIP call was a violation of cooperative federalism likewise typically did not address the existence or significance of sections 110(k), 110(l) and 193. All of these provisions indicate that the EPA has statutory authority and responsibility to approve or disapprove SIP submissions, based upon whether they meet applicable requirements of the CAA. The EPA fully explained its views concerning its authority and responsibility under these provisions in the February 2013 proposal. See 78 FR 12459 at 12471, 12477–78, 12483–89; Background Memorandum at 2–3.

obligations with respect to evaluating SIPs under sections 110(k)(3), 110(l) and 193 continue to provide this authority and responsibility today.

After *Train*, one of the cases most frequently cited by commenters for its discussion of cooperative federalism was the D.C. Circuit's decision in *EME Homer City Generation, L.P. v. EPA*, a case since overturned by the U.S. Supreme Court. ⁸⁸ In that case arising under section 110(a)(2), the D.C. Circuit vacated the EPA's Cross-State Air Pollution Rule for two reasons, one being related to statutory interpretation of section 110(a)(2)(D)(i), the other being "a second, entirely independent problem" based on the EPA's purported overstep of the federalism bar identified in the *Train-Virginia* line of cases. ⁸⁹ After recounting a list of decisions that recognize the cooperative-federalism structure of the CAA, the D.C. Circuit concluded that even though states have the "primary responsibility" for implementing the NAAQS, in this case the states had no responsibility to address interstate transport until the EPA first quantified the obligations of the states. The dissent described the majority's application of the *Train-Virginia* cases as "a redesign of Congress's vision of cooperative federalism in implementing the CAA" ⁹⁰ The commenters approvingly cited to the D.C. Circuit's *EME Homer City* decision, evidently to illustrate the importance of states' role under section 110. That states are given the first opportunity to develop a SIP that complies with section 110 is not in dispute. What is in dispute are the authority and the responsibility of the EPA to take action when states fail to comply with all of the requirements for SIP provisions under the CAA, whether that requirement is to address interstate transport or to meet other specific legal requirements of the Act applicable to SIP provisions.

The U.S. Supreme Court reversed the *EME Homer City* decision in June 2014, ⁹¹ rendering suspect the D.C. Circuit's interpretation of the *Train-Virginia* line of cases, as well as rendering suspect the commenters' even broader characterization of that interpretation as *per se* authorizing the states to create provisions such as the SSM exemptions and affirmative defenses at issue in this SIP call. The U.S. Supreme Court held that the

⁸⁸ 696 F.3d 7, 29 (D.C. Cir. 2012) *rev'd*, 134 S. Ct. 1584 (2014).

⁸⁹ *Id.* at 28.

⁹⁰ *Id.* at 38 (Rogers, J., dissenting).

⁹¹ See *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014).

touchstone for identifying the division of responsibility between the EPA and the states is the text of section 110(a)(2) itself. ⁹² Although this SIP call involves different requirements of section 110(a)(2) than the one at issue in *EME Homer City*—there, the interstate transport obligations of 110(a)(2)(D)(i)(I)—the Court expressly held that "[n]othing in the Act differentiates the Good Neighbor Provision from the several other matters a State must address in its SIP." ⁹³ After the U.S. Supreme Court's ruling, the EPA's role under section 110's cooperative-federalism framework—as the agency charged with reasonably interpreting the fundamental requirements of section 110(a)(2), and applying those reasonably interpreted requirements to state SIPs—cannot reasonably be in doubt. ⁹⁴

The touchstone of the cooperative-federalism concept outlined in the *Train-Virginia* line of cases is that, under the authority of section 110, the EPA may not legally or functionally require a state to adopt a specific control measure in its SIP in response to a SIP call. ⁹⁵ On this point, the DC Circuit's opinion in *EME Homer City* was largely in line with *Train, Virginia*, and other DC Circuit cases. In that decision, the court described the *Train-Virginia* federalism bar as prohibiting the EPA "from using the SIP process to adopt specific control measures." ⁹⁶ The *EME Homer City* court did not more broadly hold that section 110(a)(2) imposes no independent limits on state discretion

⁹² *Id.* at 1600–01.

⁹³ *Id.* at 1601 (citing, *inter alia*, section 110(a)(2)).

⁹⁴ See *id.* at 1593 (citing *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984)). See, e.g., *Oklahoma v. EPA*, 723 F.3d 1201, 1208 (10th Cir. 2013), *cert. denied*, 134 S. Ct. 2662 (2014) (applying *Chevron* to uphold EPA's disapproval of a SIP for noncompliance with regional haze requirements in section 110(a)(2)(J)); *North Dakota v. EPA*, 730 F.3d 750 (8th Cir. 2013), *cert. denied*, 134 S. Ct. 2662 (2014) (applying *Chevron* to uphold EPA's disapproval of a SIP for noncompliance with interstate visibility requirements in section 110(a)(2)(D)(i)(II)); *Luminant Generation v. EPA*, 714 F.3d 841, 856 (5th Cir. 2013), *cert. denied*, 134 S. Ct. 387 (2013); *Mont. Sulphur & Chem. Co. v. United States EPA*, 666 F.3d 1174, 1180, 1189 (9th Cir. 2012), *cert. denied*, 133 S. Ct. 409 (2012) ("The Clean Air Act gives the EPA significant national oversight over air quality standards, to be exercised pursuant to statutory specifications, and provides EPA with regulatory discretion in key respects relevant to SIP calls and determinations about the attainment of the NAAQS"); *Mich. Dep't of Env'tl. Quality v. Browner*, 230 F.3d 181, 184–85 (6th Cir. 2000) ("Although states are given broad authority to design programs, the EPA has the final authority to determine whether a SIP meets the requirements of the CAA.")

⁹⁵ 78 FR 12459 at 12489 & nn.89–90.

⁹⁶ See *EME Homer City Generation, L.P. v. EPA*, 696 F.3d at 29 (citing *Michigan*, 213 F.3d at 687; *Virginia*, 108 F.3d at 1410) (emphasis added).

by requiring the states to meet legal requirements for SIP provisions, or that the EPA is prohibited from either interpreting 110(a)(2)'s basic requirements or reviewing state SIPs for compliance with those requirements. Accordingly, the EPA believes that to the extent that the DC Circuit's *EME Homer City* decision is relevant to this action, the decision in fact supports the basic principle that the EPA has authority and responsibility to assure that states comply with legal requirements of the CAA applicable to SIP provisions.

This view of what cooperative federalism prohibits is consistent with *Train*, where the U.S. Supreme Court stated that the EPA "is relegated by the [1970] Act to a secondary role in the process of determining and enforcing the specific, source-by-source emission limitations which are necessary if the national standards it has set are to be met."⁹⁷ It is also consistent with the *Virginia* decision, where the DC Circuit held that the EPA cannot under section 110 functionally require states to "adopt[] particular control measures" in a SIP but must rather ensure that states have a meaningful choice among alternatives.⁹⁸ Moreover, it is consistent with the court's view in *Michigan v. EPA*,⁹⁹ a case involving a SIP call, in which the DC Circuit interpreted and applied those precedents:

Given the *Train* and *Virginia* precedent, the validity of the NOx budget program underlying the SIP call depends in part on whether the program in effect constitutes an EPA-imposed control measure or emission limitation triggering the *Train-Virginia* federalism bar: In other words, on whether the program constitutes an impermissible source-specific means rather than a permissible end goal. However, the program's validity also depends on whether EPA's budgets allow the covered states real choice with regard to the control measure options available to them to meet the budget requirements.¹⁰⁰

Clearly, in this SIP call the EPA is leaving the states the freedom to correct the inappropriate provisions in any manner they wish as long as they comply with the constraints of section 110(a)(2).

Finally, this view is consistent with *Appalachian Power Co. v. EPA*, where the DC Circuit reiterated that *Virginia* "disapproved the EPA's plan to reject SIPs that did not incorporate particular limits upon emissions from new cars."¹⁰¹ The specific controls discussed in these cases are quite different, both as a legal matter and functionally, from the statutory constraints on the states' exercise of discretion that the EPA is interpreting and applying in this action.¹⁰²

As explained in the February 2013 proposal, in this action the EPA is not requiring states to adopt any particular emission limitation or to impose a specific control measure in a SIP provision; the EPA is merely directing the states to address the fundamental statutory requirements that all SIP provisions must meet.¹⁰³ This SIP call outlines the principles and framework for how states can revise the existing deficient SIP provisions to meet a permissible end goal¹⁰⁴—compliance with the Act. In so doing, the EPA is merely acting pursuant to its supervisory role under the CAA's cooperative-federalism framework, to ensure that SIPs satisfy those broad requirements that section 110(a)(2) mandates SIPs "shall" satisfy. With respect to section 110(a)(2)(A), this means that a SIP must at least contain legitimate, enforceable emission limitations to the extent they are necessary or appropriate "to meet the applicable requirements" of the Act. SIPs cannot contain unbounded director's discretion provisions that functionally subvert the requirements of the CAA for approval and revision of SIP provisions. Likewise, SIPs cannot have enforcement discretion provisions or affirmative defense provisions that contravene the fundamental requirements concerning the enforcement of SIP provisions. Accordingly, the EPA believes that this SIP call fully accords with the federal-state partnership outlined in section 110, by providing the states meaningful latitude when developing SIP submissions, while "nonetheless subject[ing] the States to strict minimum compliances requirements' and giv[ing] EPA the authority to determine a state's compliance with those requirements."¹⁰⁵

The EPA emphasizes that this action also allows states "real choice" concerning their SIP provisions, so long as the provisions are consistent with applicable requirements. For example, this SIP call does not establish any specific, source-by-source limitations. To the contrary, as described in section VII.A of this document, emission limitations meeting the requirements of section 110(a)(2)(A) may take a variety of forms. Under section 110(a)(2)(A), states are free to include in their SIPs whatever emission limitations they wish, provided the states comply with applicable legal requirements. Among those requirements are that an emission limitation in a SIP must be an "emission limitation" as defined in section 302(k) and that all controls—emission limitations and otherwise—must be sufficiently "enforceable" to ensure compliance with applicable CAA requirements. The SSM provisions at issue in this SIP call subvert both of these legal requirements.

3. Comments that the EPA should expand the rulemaking to include additional SIP provisions that the commenters consider deficient with respect to SSM issues.

Comment: Some commenters requested that the EPA expand its February 2013 proposed action to include additional SIP provisions that the commenters consider deficient with respect to SSM issues. Specifically, commenters identified additional SIP provisions in Wisconsin (a state not identified by the Petitioner) and New Hampshire (a state for which the Petitioner did specifically identify other SIP provisions).

One commenter argued that "[i]t would substantially ease the administrative burden on EPA as well on public commenters" and "ensure that companies in all states are treated equally" if the EPA were to include "all SIPs with faulty SSM provisions in [a] consolidated SIP call." Another commenter noted that "the interests of regulatory efficiency will be served" by adding additional SIP provisions to the SIP call because "all changes required by the policy underlying this rulemaking" to state SIPs would then be made at once.

Response: The EPA acknowledges the requests made by the commenters concerning additional SIP provisions that may be inconsistent with CAA

Cir. 2012), cert. denied, 133 S. Ct. 409 (2012) ("The Clean Air Act gives the EPA significant national oversight power over air quality standards, to be exercised pursuant to statutory specifications, and provides the EPA with regulatory discretion in key respects relevant to SIP calls and determinations about the attainment of NAAQS.").

⁹⁷ 421 U.S. at 79 (emphasis added).

⁹⁸ *Virginia v. EPA*, 108 F.3d 1397, 1415 (D.C. Cir. 1997) (holding that functionally, in that case, "EPA's alternative is no alternative at all"); see also *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1047 (D.C. Cir. 2001) (citing *Virginia*, 108 F.3d at 1406, 1410) ("We did not suggest [in *Virginia*] that under § 110 states may develop their plans free of extrinsic legal constraints. Indeed, SIP development . . . commonly involves decisionmaking subject to various legal constraints.").

⁹⁹ 213 F.3d 663 (D.C. Cir. 2000).

¹⁰⁰ *Id.* at 687 (emphasis added).

¹⁰¹ 249 F.3d 1032, 1047 (D.C. Cir. 2001) (citing *Virginia*, 108 F.3d at 1410) (emphasis added).

¹⁰² See *id.*

¹⁰³ 78 FR 12459 at 12489.

¹⁰⁴ See, e.g., *Michigan*, 213 F.3d at 687.

¹⁰⁵ *Michigan v. EPA*, 213 F.3d 663, 687 (D.C. Cir. 2000) (quoting *Union Elec. Co. v. EPA*, 427 U.S. 246, 256–57 (1976)); see *Mont. Sulphur & Chem. Co. v. United States EPA*, 666 F.3d 1174, 1181 (9th

requirements. The EPA also agrees with the points made by the commenters concerning the potential benefits of expanding the rulemaking to include evaluation of additional provisions. However, in the February 2013 proposal the EPA elected to review the specific SIP provisions identified by the Petitioner in the SIPs of only the 39 states (and jurisdictions) identified by the Petitioner to determine whether they were consistent with the CAA as interpreted in the EPA's SSM Policy as requested in the Petition.¹⁰⁶ Although there may be additional SIP provisions that are deficient, the EPA determined that it would first focus its review on the SIP provisions for which possible deficiencies had already been identified by the Petitioner.¹⁰⁷ Accordingly, the February 2013 proposal addressed only those states identified in the Petition, in order to use EPA and state resources most efficiently.

With respect to the specific additional SIP provisions identified by the commenters on the February 2013 proposal, the EPA also notes that it cannot take final action on any additional SSM-related SIP provisions without first providing an opportunity for public notice and comment with respect to those additional SIP provisions. The EPA agrees that an important objective of its action on the Petition is to provide complete, comprehensive and up-to-date guidance to all air agencies concerning SIP provisions that apply to emissions during SSM events. The EPA is endeavoring to do this by responding to the Petition fully and by updating its interpretation of the CAA in the SSM Policy to reflect the relevant statutory requirements and recent court decisions. All states should feel free to apply this revised guidance in reviewing their own SIP provisions and revising them as appropriate. The EPA may address other SSM-related provisions that may be inconsistent with EPA's SSM Policy and the CAA in a later separate notice-and-comment action(s). The EPA has authority to address those provisions separately.¹⁰⁸

¹⁰⁶ February 2013 proposal, 78 FR 12459 (February 22, 2013).

¹⁰⁷ The SIP provisions for which the EPA proposed SIP calls in its February 2013 proposal were further limited to those for which the Petitioner specifically requested action, with three exceptions; the EPA proposed SIP calls for additional SIP provisions in Ohio, North Dakota and West Virginia (one each), for reasons explained in section IX of the February 2013 proposal.

¹⁰⁸ The EPA notes that it has received a separate petition for rulemaking requesting it to evaluate SIP provisions in the State of Wisconsin. The EPA is not taking action on that separate petition as part of this action but will take action on that petition in a future rulemaking.

The EPA notes that with respect to the issue of affirmative defenses in SIP provisions, the Agency determined that it was necessary to amend its February 2013 proposal to take into consideration a subsequent court decision concerning the legal basis for such provisions. As explained in the SNPR and also in section IV of this document, the DC Circuit in the *NRDC* case decided that the CAA precludes any affirmative defense provisions that would operate to limit a court's jurisdiction or discretion to determine the appropriate remedy in an enforcement action. Thus, the EPA issued the SNPR to address this development in the law. Because of recent EPA actions and court decisions on this subject, the Agency determined that it was important to address not only the affirmative defense provisions identified in the Petition but also affirmative defense provisions that the EPA independently identified in six states' SIPs.¹⁰⁹ The SNPR was explicitly limited to the narrow concern of affirmative defense provisions, which was one of the types of issued specifically identified by the Petitioner. The EPA issued the SNPR with the same intention as that with which it issued the February 2013 proposal—so that the final action would provide guidance that reflects the EPA's updated interpretation of the CAA and would respond to the Petitioner's request that "EPA find that all SIPs containing an SSM exemption or a provision that could be interpreted to affect EPA or citizen enforcement are substantially inadequate to comply with the requirements of the Clean Air Act and issue a call for each of the states with such a SIP to revise it in conformity with the requirements of the Act or otherwise remedy these defective SIPs."¹¹⁰ The EPA included these six states' affirmative defense provisions in order to provide comprehensive guidance to all states concerning affirmative defense provisions in SIPs and to avoid confusion that may arise due to recent rulemakings and court decisions relevant to such provisions under the CAA.

¹⁰⁹ Of these six states in which the EPA independently identified affirmative defense provisions, two states (California and Texas) were not identified in the Petition. For another two of these states (New Mexico and Washington), the EPA had already reviewed other affirmative defense provisions specifically identified in the Petition and had already proposed SIP calls in the February 2013 proposal. For the other two states (South Carolina and West Virginia), the EPA had already reviewed and proposed SIP calls for provisions that were identified by the Petitioner but that did not include affirmative defenses.

¹¹⁰ Petition at 14.

The SIP call promulgated by the EPA in this action applies only to the particular SIP provisions identified in this document, and the scope of the SIP call for each state is limited to those provisions. However, if states of their own accord wish to revise SIP provisions, beyond those identified in this SIP call, that they believe are inconsistent with the SSM Policy and the CAA, the EPA will review and act on those SIP revisions in accordance with CAA sections 110(k), 110(l) and 193.

4. Comments that the EPA should create regulatory text in 40 CFR part 51 to forbid SSM exemptions in SIP provisions if the CAA precludes them.

Comment: Commenters argued that the EPA, before issuing a SIP call requiring states to revise SIP provisions containing exemptions for emissions during SSM events, should first have promulgated specific regulations articulating that such exemptions are precluded by the CAA. According to commenters, taking this approach would have given states more certainty and clarity and provided states with more time to develop SIP revisions consistent with those regulatory requirements. Commenters also asserted that it is not appropriate for the EPA to proceed with a SIP call to states without prior rulemaking to create regulatory provisions explicitly prohibiting SSM exemptions in SIPs, given that the Agency has previously approved the SIP provisions at issue.

Response: The EPA disagrees with the commenters' argument that the Agency must first promulgate regulations to make clear that exemptions for emissions during SSM events are not permissible in SIPs, prior to issuing this SIP call. The EPA likewise disagrees with the implication that its authority to promulgate a SIP call is restricted only to those issues for which there is specifically applicable regulatory text, as opposed to requirements related to statutory provisions, court decisions or other legal or factual bases for a determination that an existing SIP provision is substantially inadequate to meet CAA requirements. The EPA disagrees with the commenters for several reasons.

First, the CAA does not impose a general obligation upon the Agency to promulgate regulations applicable to all SIP requirements. Although the EPA has elected to promulgate regulations to address a broad variety of issues relevant to SIPs,¹¹¹ the Agency is not obligated to promulgate regulations

¹¹¹ See, generally, 40 CFR part 51 (including regulations applicable to many aspects of SIPs).

unless there is a specific statutory mandate that it do so.¹¹² In addition, the EPA has authority under section 301 to promulgate such regulations as it deems necessary to implement the CAA (e.g., to fill statutory gaps left by Congress for the EPA to fill or to clarify ambiguous statutory language). With respect to SIP requirements, however, the EPA has elected to promulgate regulations or to issue guidance to states to address different requirements, as appropriate.¹¹³ In short, there is no specific statutory requirement that the EPA promulgate regulations with respect to the types of deficiencies in SIP provisions at issue in this action prior to issuing a SIP call.

Second, the EPA has historically elected to address the key issues relevant to this SIP call action in guidance. Through a series of guidance documents, issued in 1982, 1983, 1999 and 2001, the EPA has previously explained its interpretations of the CAA with respect to SIP provisions that contain automatic SSM exemptions, discretionary SSM exemptions, the exercise of enforcement discretion for SSM events and affirmative defenses for SSM events. Starting in the 1982 SSM Guidance, the EPA explicitly acknowledged that it had previously approved some SIP provisions related to emissions during SSM events that it should not have, because the provisions were inconsistent with requirements for SIPs. In addition, the EPA has in rulemakings applied its interpretation of the CAA with respect to issues such as exemptions for emissions during SSM events, and these actions have been approved by courts.¹¹⁴ Under these circumstances, the EPA does not agree that promulgation of generally applicable regulations was necessary to put states on notice of the Agency's interpretation of the CAA with respect

to these issues, prior to issuance of a SIP call.

Finally, the EPA's authority under section 110(k)(5) is not limited, expressly or otherwise, solely to inadequacies related to regulatory requirements. To the contrary, section 110(k)(5) refers broadly to attainment and maintenance of the NAAQS, adequate mitigation of interstate transport and compliance with "any requirement of" the CAA. In addition, section 110(k)(5) specifically contemplates situations such as this one, "whenever" the EPA finds previously approved SIP provisions to be deficient. Nothing in the CAA requires the EPA to conduct a separate rulemaking clarifying its interpretation of the CAA prior to issuance of this SIP call. For the types of deficiencies at issue in this action, the EPA believes that the statutory requirements of the CAA itself and recent court decisions concerning those statutory provisions provide sufficient basis for this SIP call.

For the foregoing reasons, the EPA disagrees that before requiring states to revise SIPs that contain provisions with SSM exemptions, the EPA first must promulgate regulations explicitly stating that such exemptions are impermissible under the CAA. In addition, the EPA notes that although it is not promulgating generally applicable regulations in this action, it is nonetheless revising its guidance in the SSM Policy through rulemaking and has thereby provided states and other parties the opportunity to comment on the Agency's interpretation of the CAA with respect to this issue.

5. Comments that the EPA did not provide a sufficiently long comment period on the proposal in general or as contemplated in Executive Order 13563.

Comment: A number of commenters argued that the comment period provided by the EPA for the February 2013 proposal was "at odds with" Executive Order 13563. The commenters alleged that the comment period was "unconscionably short," even so short as to be "arbitrary and capricious" because, in order to provide comments, "impacted States and industries must perform the data collection and analysis necessary to evaluate the need for the proposed rule and its impacts." Further, the commenters alleged, the "EPA's failure and refusal to perform any technical analyses of the feasibility of source operations after the elimination of SSM provisions or the likely capital and operating costs of additional control equipment required to meet numeric standards during all operational periods has denied the States, the affected

parties, and the public a meaningful opportunity to evaluate and comment upon the proposed rule." Finally, one commenter asserted that Executive Order 13563 requires that "[b]efore issuing a notice of proposed rulemaking, each agency, where feasible and appropriate, shall seek the views of those who are likely to be affected."¹¹⁵ The commenter claimed that because the EPA allegedly "failed to seek the views of those who are likely to be affected and those who are potentially subject to such rulemaking, EPA's actions ignore the requirements of the Executive Order."

Response: The EPA disagrees that it has not provided sufficiently long comment periods to address the specific issues relevant to this action. As described in section IV.D.1 of this document, the EPA has followed all steps of a notice-and-comment rulemaking, as governed by applicable statutes, regulations and executive orders, including a robust process for public participation. When the EPA initially proposed to take action on the Petition, in February 2013, it simultaneously solicited public comment on all aspects of its proposed response to the issues in the Petition and in particular on its proposed action with respect to each of the specific existing SIP provisions identified by the Petitioner as inconsistent with the requirements of the CAA. In response to requests, the EPA extended the public comment period for this proposal to May 13, 2013, which is 80 days from the date the proposed rulemaking was published in the **Federal Register** and 89 days from the date the proposed rulemaking was posted on the EPA's Web site.¹¹⁶ The EPA deemed this extension appropriate because of the issues raised in the February 2013 proposal. The EPA also held a public hearing on March 12, 2013. In response to this proposed action, the EPA received approximately 69,000 public comments, including over 50 comment letters from state and local governments, over 150 comment letters from industry commenters, over 25 comment letters from public interest groups and many thousands of comments from individual commenters. Many of these comment

¹¹² See, e.g., CAA section 169A(a)(4) (requiring the EPA to promulgate regulations governing the requirements relevant to SIP requirements for purposes of regional haze reduction).

¹¹³ See, e.g., "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," 57 FR 13498 (April 16, 1992) (the "General Preamble" that continues to provide guidance recommendations to states for certain attainment plan requirements for various NAAQS); 40 CFR part 51, subpart Z (imposing regulatory requirements for certain attainment plan requirements for the 1997 PM_{2.5} NAAQS).

¹¹⁴ See, e.g., *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000) (upholding the "NO_x SIP Call" to states requiring revisions to previously approved SIPs with respect to ozone transport and section 110(a)(2)(D)(i)(I)); "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 74 FR 21639 (April 18, 2011) (the EPA issued a SIP call to rectify SIP provisions dating back to 1980).

¹¹⁵ See E.O. 13563 section 2(c).

¹¹⁶ See "State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction; Notice of extension of public comment period," 78 FR 20855 (April 8, 2013), in the rulemaking docket at EPA-HQ-OAR-2012-0322-0126.

letters were substantial and covered numerous issues.

Similarly, when the EPA ascertained that it was necessary to revise its proposed action on the Petition with respect to affirmative defenses in SIP provisions, the Agency issued the SNPR. In that supplemental proposal, in September 2014, the EPA fully explained the issues and took comment on the questions related to whether affirmative defense provisions are consistent with CAA requirements concerning the jurisdiction of courts in enforcement actions, and thus whether such provisions are consistent with fundamental CAA requirements for SIP provisions. The EPA provided a public comment period ending November 6, 2014, which is 50 days from the date the SNPR was published in the **Federal Register** and 62 days from the date the SNPR was posted on the EPA's Web site. The EPA believes that the comment period was sufficient given that the subject of the SNPR was limited to the narrow issue of whether affirmative defense provisions are consistent with CAA requirements. The EPA also held a public hearing on the SNPR on October 7, 2014 on the specific topic of the legitimacy of affirmative defense provisions in SIPs. In response to the SNPR, the EPA received over 20,000 public comments, including at least 9 comment letters from states and local governments, over 40 comment letters from industry commenters, at least 6 comment letters from public interest groups, and many thousands of comments from individual commenters.

Executive Order 13563 provides that each agency should "afford the public a meaningful opportunity to comment through the Internet on any proposed regulation, with a comment period that should generally be *at least 60 days*."¹¹⁷ The length of the Agency's comment period for the original proposed rulemaking well-exceeded this standard. The EPA also facilitated comment on the action by providing a full and detailed evaluation of the relevant issues in the February 2013 proposal, the background memorandum supporting the proposal and the SNPR.

When considering whether an agency has provided for adequate public input, reviewing courts are generally most concerned with the overall adequacy of the opportunity to comment. This, in turn, typically depends on steps the agency took to notify the public of information that is important to this action. Comment period length is only one factor that courts consider in this analysis, and courts have regularly

found that comment periods of significantly shorter length than the 80 days provided here on the February 2013 proposal were reasonable in various circumstances.¹¹⁸ Given the nature of the issues raised by the Petition, the EPA believes that the comment period was appropriate and sufficient to allow for full analysis of the issues and preparation of comments. The number of comments received on the February 2013 proposal, and the breadth of issues and level of detail provided by the commenters, both supportive and adverse, serve to support the EPA's view on this point.

The EPA also disagrees with respect to the claims of commenters that the comment period was insufficient because the EPA should provide time for commenters to evaluate and analyze fully the possible ultimate impacts of the SIP call upon particular sources, to determine what type of SIP revision by a state is appropriate in response to a SIP call, or to ascertain what specific new emission limitation or control measure requirement states should impose upon sources in such a future SIP revision. The EPA's action on the Petition concerning specific existing SIP provisions is focused upon whether those existing provisions meet fundamental legal requirements of the CAA for SIP provisions. The EPA is not required to provide a comment period for this action that allows states actually to determine which of the potential forms of SIP revision they may wish to undertake, or to complete those SIP revisions, as part of this rulemaking. The subsequent state and EPA rulemaking processes on the SIP revisions in response to this SIP call action will provide time for further evaluation of the issues raised by commenters.

As explained in the February 2013 proposal, the EPA does not interpret section 110(k)(5) to require it to "prove causation" concerning what precise impacts illegal SIP provisions are having on CAA requirements, such as attainment and maintenance of the NAAQS and enforcement of SIP

requirements.¹¹⁹ Nor is the EPA directing states to adopt a specific control measure in response to the SIP call; the decision as to how to revise the affected SIP provisions in response to the SIP call is left to the states. The state's response to the SIP call will be developed in future rulemaking actions at both the state and federal level which will similarly be subject to full notice-and-comment proceedings. In electing to proceed by SIP call under section 110(k)(5), rather than by error correction under section 110(k)(6), the EPA is providing affected states with the maximum time permitted by statute to determine how best to revise their SIP provisions, consistent with CAA requirements. During this process, the commenters and other stakeholders will have the opportunity to participate in the development of the SIP revision, including decisions such as how the state elects to revise the deficient SIP provisions (e.g., merely to eliminate an exemption for SSM events or to impose an alternative emission limitation applicable to startup and shutdown).

The questions posed by the commenters about what specific emission limitations should apply during startup and shutdown events, what control measures will meet applicable CAA legal requirements, what control measures will be effective and cost-effective to meet applicable legal standards and other similar questions are exactly the sorts of issues that states will evaluate in the process of revising affected SIP provisions. Moreover, these are the same sorts of questions that the EPA will be evaluating when it reviews state SIP submissions made in response to the SIP call. The EPA is not required, by Executive Order 13563 or otherwise, to provide a comment period that would allow for all future actions in response to the SIP call to occur before issuing the SIP call. The EPA anticipates that the commenters will be able to participate actively in the actions that will happen in due course in response to this SIP call.

Finally, the EPA disagrees that it did not adequately seek the views of potentially affected entities prior to issuance of the February 2013 proposal. The EPA alerted the public to the existence of the Petition by soliciting comment on the settlement agreement that obligated the Agency to act upon it, in accordance with CAA section 113(g). Subsequently, EPA personnel communicated about the Petition and the issues it raised in various standing

¹¹⁹ This issue is addressed in more detail in section VIII.A.1 of this document.

¹¹⁷ See E.O. 13563 section 2(b) (emphasis added).

¹¹⁸ See, e.g., *Omnipoint Corp. v. Fed. Comm'n's Comm'n*, 78 F.3d 620, 629 (D.C. Cir. 1996) (approving a 7-day comment period); *Florida Power & Light Co. v. United States*, 846 F.2d 765, 772 (D.C. Cir. 1988) (holding a 15-day comment period to not be unreasonable under the governing circumstances); *Conn. Light & Power Co. v. NRC*, 673 F.2d 525, 534 (D.C. Cir. 1982) (holding 30 days not unreasonable in the particular situation); *Am. Farm Bureau Fed'n v. United States EPA*, 984 F.Supp.2d 289, 333 (M.D. Pa. 2013) (holding that a 45-day comment period was adequate despite "technical complexities of the regulations and issues raised").

meetings and conference calls with states and organizations that represent state and local air regulators.

6. Comments that this action is not “nationally applicable” for purposes of judicial review.

Comment: Commenters alleged that the SSM SIP call is not “nationally applicable” for purposes of judicial review. One state commenter cited *ATK Launch Systems* for the proposition that the specific language of the regulation being challenged indicates whether an action is nationally or locally/regionally applicable. Because a SIP provision subject to this SIP call is state-specific, the commenter argued, it is of concern only for that state and thus the SIP call is a locally applicable action.¹²⁰

Response: The EPA disagrees with the commenter that the SIP call is not a nationally applicable action. In this action, the EPA is responding to a Petition that requires the Agency to reevaluate its interpretations of the CAA in the SSM Policy that apply to SIP provisions for all states across the nation. In so doing, the EPA is reiterating its interpretations with respect to some issues (e.g., that SIP provisions cannot include exemptions for emissions during SSM events) and revising its interpretations with respect to others (e.g., so that SIP provisions cannot include affirmative defenses for emissions during SSM events). In addition to reiterating and updating its interpretations with respect to SIP provisions in general, the EPA is also applying its interpretations to specific existing provisions in the SIPs of 41 states. Through this action the EPA is establishing a national policy that it is applying to states across the nation. As with many nationally applicable rulemakings, it is true that this action also has local or regional effects in the sense that EPA is requiring 36 individual states to submit revisions to their SIPs. However, through this action the EPA is applying the same legal and policy interpretation to each of these states. Thus, the underlying basis for the SIP call has “nationwide scope and effect” within the meaning of section 307(b)(1) as explained by the EPA in the February 2013 proposal. A key purpose of the CAA in channeling to the D.C. Circuit challenges to EPA rulemakings that have nationwide scope and effect is to minimize instances where the same legal and policy basis for decisions may be challenged in multiple courts of appeals, which instances would potentially lead to inconsistent judicial holdings and a patchwork application of

the CAA across the country. We note that in the *ATK Launch* case cited by commenters, the U.S. Court of Appeals for the Tenth Circuit (Tenth Circuit) in fact transferred to the D.C. Circuit challenges to the designation of two areas in Utah that were part of a national rulemaking designating areas across the U.S. for the PM_{2.5} NAAQS. In transferring the challenges to the D.C. Circuit, the Tenth Circuit noted that the designations rulemaking “reached areas coast to coast and beyond” and that the EPA had applied a uniform process and standard.¹²¹ Significantly, in support of its decision to transfer the challenges to the D.C. Circuit, the Tenth Circuit stated: “The challenge here is more akin to challenges to so-called ‘SIP Calls,’ which the Fourth and Fifth Circuits have transferred to the D.C. Circuit . . . Although each of the SIP Call petitions challenged the revision requirement as to a particular state, the SIP Call on its face applied the same standard to every state and mandated revisions based on that standard to states with non-conforming SIPs in multiple regions of the country.”¹²²

7. Comments that the EPA was obligated to address and justify the potential costs of the action and failed to do so correctly.

Comment: Several commenters alleged that the EPA has failed to address the costs associated with this rulemaking action appropriately and consistent with legal requirements. In particular, commenters alleged that the EPA is required to address costs of various impacts of this SIP call, including the costs that may be involved in changes to emissions controls or operation at sources and the costs to states to revise permits and revise SIPs in response to the SIP call.

Commenters also alleged that the EPA has failed to comply with Executive Order 12291, Executive Order 12866, Executive Order 13211, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act.

One commenter supported the EPA’s approach with respect to cost.

Response: The EPA disagrees with commenters concerning its compliance with the Executive Orders and statutes applicable to agency rulemaking in general. The EPA maintains that it did properly consider the costs imposed by this SIP call action, as required by law. As explained in the February 2013 proposal, to the extent that the EPA is issuing a SIP call to a state under section 110(k)(5), the Agency is only requiring a state to revise its SIP to

comply with existing requirements of the CAA. The EPA’s action, therefore, would leave to states the choice of how to revise the SIP provision in question to make it consistent with CAA requirements and of determining, among other things, which of several lawful approaches to the treatment of excess emissions during SSM events will be applied to particular sources. Therefore, the EPA considers the only direct costs of this rulemaking action to be those to states associated with preparation and submission of a SIP revision by those states for which the EPA issues a SIP call.¹²³ Examples of such costs could include development of a state rule, conducting notice and public hearing and other costs incurred in connection with a SIP submission. The EPA notes that it did not consider the costs of potential revisions to operating permits for sources to be a direct cost imposed by this action, because, as stated elsewhere in this document, the Agency anticipates that states will elect to delay any necessary revision of permits until the permits need to be reissued in the ordinary course after revision of the underlying SIP provisions.

The commenters also incorrectly claim that the EPA failed to comply with Executive Order 12291. That Executive Order was explicitly revoked by Executive Order 12866, which was signed by President Clinton on September 30, 1993.

The commenters are likewise incorrect that the EPA did not comply with Executive Order 12866. This action was not deemed “significant” on a basis of the cost it will impose as the commenters claimed. The EPA has already concluded that this action will not result in a rule that may have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, of state, local or tribal governments or communities. The EPA instead determined that, as noted in both the February 2013 proposal (section X.A) and the SNPR (section VIII.A), this action is a “significant regulatory action” as that term is defined in Executive Order 12866 because it raises novel legal or policy issues. Accordingly, it was on that basis that the EPA submitted the February 2013 proposal, the SNPR and the final action to the Office of Management and Budget (OMB) for review. Changes made

¹²⁰ See *ATK Launch Systems, Inc. v. EPA*, 651 F.3d 1194 (10th Cir. 2011).

¹²¹ *Id.*, 651 F.3d at 1197.

¹²² *Id.*, 651 F.3d at 1199.

¹²³ See Memorandum, “Estimate of Potential Direct Costs of SSM SIP Calls to Air Agencies,” April 28, 2015, in the rulemaking docket.

in response to OMB review are documented in the docket for this action. The EPA believes it has fully complied with Executive Order 12866.

As stated in the February 2013 proposal, the EPA does not believe this is a “significant energy action” as defined in Executive Order 13211, because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. As described earlier, this action merely requires that states revise their SIPs to comply with existing requirements of the CAA. States have the choice of how to revise the deficient SIP provisions that are the subject of this action; there are a variety of different ways that states may treat the issue of excess emissions during SSM events consistent with CAA requirements for SIPs. This action merely prescribes the EPA’s action for states regarding their obligations for SIPs under the CAA, and therefore it is not a “significant energy action” under Executive Order 13211.

With respect to the Regulatory Flexibility Act (RFA), as the EPA explained in the February 2013 proposal, courts have interpreted the RFA to require a regulatory flexibility analysis only when small entities will be subject to the requirements of the rule.¹²⁴ This action will not impose any requirements on small entities. Instead, it merely reiterates the EPA’s interpretation of the statutory requirements of the CAA. To the extent that the EPA is issuing a SIP call to a state under section 110(k)(5), the EPA is only requiring the state to revise its SIP to comply with existing requirements of the CAA. In turn, the state will determine whether and how to regulate specific sources, including any small entities, through the process of deciding how to revise a deficient SIP provision. The EPA’s action itself will not have a significant economic impact on a substantial number of small entities.

As the EPA explained in the February 2013 proposal, this action is not subject to the requirements of the Unfunded Mandates Reform Act (UMRA) because it does not contain a federal mandate that may result in expenditures of \$100 million or more for state, local and tribal governments, in the aggregate, or the private sector in any one year. With respect to the impacts on sources, the EPA’s action in this rulemaking is not directly imposing costs on any sources. The EPA’s action is merely directing states to revise their SIPs in order to bring them into compliance with the

legal requirements of the CAA for SIP provisions. In response to the SIP call, the states will determine how best to revise their deficient SIP provisions in order to meet CAA requirements. It is thus the states that will make the decisions concerning how best to revise their SIP provisions and will determine what impacts will ultimately apply to sources as a result of those revisions.

8. Comments that the EPA’s action violates procedural requirements of the CAA or the APA, because the EPA is acting on the Petition, updating its SSM Policy and applying its interpretation of the CAA to specific SIP provisions in one action.

Comment: Commenters argued that the EPA’s proposed action on the Petition, which includes simultaneous updating of its interpretations of the CAA in the SSM Policy and application of those revised interpretations to existing SIP provisions, is in violation of procedural requirements of the CAA and the APA. According to the commenters, the EPA’s combination of actions is a “subterfuge” to avoid notice and comment on the proposed actions in the February 2013 proposal. The commenters claimed that the EPA could only take these actions through two or more separate rulemaking actions. By proposing to update its interpretation of the CAA in the SSM Policy through notice-and-comment rulemaking and proposing to apply its interpretation of the CAA through notice-and-comment rulemaking to existing SIP provisions, the commenters claimed, the EPA has prejudged the outcome of this action.

Response: The EPA does not agree that it was required to take this action in multiple separate rulemakings as claimed by the commenters. First, the EPA notes, the fact that the commenters’ allegation—that the Agency failed to proceed by notice and comment—was raised in a comment letter submitted on the February 2013 proposal belies the commenters’ overarching procedural argument that the EPA is failing to subject its interpretations of the CAA to notice-and-comment rulemaking. Second, although the EPA could elect to undertake two or more separate notice-and-comment rulemakings in order to answer the Petition, to revise its interpretations of the CAA in the SSM Policy and to evaluate existing provisions in state SIPs against the requirements of the CAA, there is no requirement for the Agency to do so. To the contrary, the EPA believes that it is preferable to take these interrelated actions in a combined rulemaking process. This combined approach allows the EPA to explain its actions comprehensively and in their larger

context. The combined approach allows commenters to participate more meaningfully by considering together the proposed action on the Petition, the proposed interpretations of the CAA in the SSM Policy and the proposed application of the EPA’s interpretation to specific SIP provisions. By addressing the interrelated actions together and comprehensively, the EPA is striving to be efficient with the resources of both regulators and regulated parties. Most importantly, by combining these actions the EPA is being responsive to the need for prompt evaluation of the SIP provisions at issue and for correction of those found to be legally deficient in a timely fashion. Far from “prejudging” the issues, the EPA explicitly sought comment on all aspects of the February 2013 proposal and sought additional comment on issues related to affirmative defense provisions in the SNPR. Naturally, the EPA’s proposal and supplemental proposal reflected its best judgments on the proper interpretations of the CAA and application of those interpretations to the issues raised by the Petition, as of the time of the February 2013 proposal and the SNPR.

VI. Final Action in Response To Request That the EPA Limit SIP Approval to the Text of State Regulations and Not Rely Upon Additional Interpretive Letters From the State

A. What the Petitioner Requested

The Petitioner’s third request was that when the EPA evaluates SIP revisions submitted by a state, the EPA should require “all terms, conditions, limitations and interpretations of the various SSM provisions to be reflected in the unambiguous language of the SIPs themselves.”¹²⁵ The Petitioner expressed concern that the EPA has previously approved SIP submissions with provisions that “by their plain terms” do not appear to comply with the EPA’s interpretation of CAA requirements embodied in the SSM Policy and has approved those SIP submissions in reliance on separate “letters of interpretation” from the state that construe the provisions of the SIP submission itself to be consistent with the SSM Policy.¹²⁶ Because of this reliance on interpretive letters, the Petitioner argued that “such constructions are not necessarily apparent from the text of the provisions and their enforceability may be difficult and unnecessarily complex and

¹²⁴ See, e.g., *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000); *Mid-Tex Elec. Co-op, Inc. v. FERC*, 773 F.2d 327 (D.C. Cir. 1985).

¹²⁵ Petition at 16.

¹²⁶ Petition at 14.

inefficient.”¹²⁷ The Petitioner cited various past rulemaking actions to illustrate how EPA approval of ambiguous SIP provisions can inject unintended confusion for regulated entities, regulators, and the public in the future, especially in the context of future enforcement actions. Accordingly, the Petitioner requested that the EPA discontinue reliance upon interpretive letters when approving state SIP submissions, regardless of the circumstances. A more detailed explanation of the Petitioner’s arguments appears in the 2013 February proposal.¹²⁸

B. What the EPA Proposed

In the February 2013 proposal, the EPA proposed to deny the Petition with respect to this issue. The EPA explained the basis for this proposed disapproval in detail, including a discussion of the statutory provisions that the Agency interprets to permit this approach, an explanation of why this approach makes sense from both a practical and an efficiency perspective under some circumstances, and a careful explanation of the process by which EPA intends to rely on interpretive letters in order to assure that the concerns of the Petitioner with respect to potential future disputes about the meaning of SIP provisions should be alleviated.

C. What is being finalized in this action?

The EPA is taking final action to deny the Petition on this request. The EPA believes that it has statutory authority to rely on interpretive letters to resolve ambiguity in a SIP submission under appropriate circumstances and so long as the state and the EPA follow an appropriate process to assure that the rulemaking record properly reflects this reliance. To avoid any misunderstanding about the reasons for this denial or any misunderstandings about the circumstances under which, or the proper process by which, the EPA intends to rely interpretive letters, the Agency is repeating its views in this final action in detail.

As stated in the February 2013 proposal, the EPA agrees with the core principle advocated by the Petitioner, *i.e.*, that the language of regulations in SIPs that pertain to SSM events should be clear and unambiguous. This is necessary as a legal matter but also as a matter of fairness to all parties, including the regulated entities, the regulators, and the public. In some

cases, the lack of clarity may be so significant that amending the state’s regulation may be warranted to eliminate the potential for confusion or misunderstanding about applicable legal requirements that could interfere with compliance or enforcement. Indeed, as noted by the Petitioner, the EPA has requested that states clarify ambiguous SIP provisions when the EPA has subsequently determined that to be necessary.¹²⁹

However, the EPA believes that the use of interpretive letters to clarify ambiguity or perceived ambiguity in the provisions in a SIP submission is a permissible, and sometimes necessary, approach under the CAA. Used correctly, and with adequate documentation in the **Federal Register** and the docket for the underlying rulemaking action, reliance on interpretive letters can serve a useful purpose and still meet the enforceability concerns of the Petitioner. So long as the interpretive letters and the EPA’s reliance on them is properly explained and documented, regulated entities, regulators, and the public can readily ascertain the existence of interpretive letters relied upon in the EPA’s approval that would be useful to resolve any perceived ambiguity. By virtue of being part of the stated basis for the EPA’s approval of that provision in a SIP submission, the interpretive letters necessarily establish the correct interpretation of any arguably ambiguous SIP provision. In other words, the rulemaking record should reflect the shared state and EPA understanding of the meaning of a provision at issue at the time of the approval, which can then be referenced should any question about the provision arise in a future enforcement action.

In addition, reliance on interpretive letters to address concerns about perceived ambiguity can often be the most efficient and timely way to resolve concerns about the correct meaning of regulatory provisions. Both air agencies and the EPA are required to follow time- and resource-intensive administrative processes in order to develop and evaluate SIP submissions. It is reasonable for the EPA to exercise its discretion to use interpretive letters to clarify concerns about the meaning of regulatory provisions, rather than to require air agencies to reinitiate a complete administrative process merely to resolve perceived ambiguity in a

provision in a SIP submission.¹³⁰ In particular, the EPA considers this an appropriate approach where reliance on such an interpretive letter allows the air agency and the EPA to put into place SIP provisions that are necessary to meet important CAA objectives and for which unnecessary delay would be counterproductive. For example, where an air agency is adopting emission limitations for purposes of attaining the NAAQS in an area, a timely letter from the air agency clarifying that an enforcement discretion provision is applicable only to air agency enforcement personnel and has no bearing on enforcement by the EPA or the public could help to assure that the provision is approved into the SIP promptly and thus allow the area to reach attainment more expeditiously than requiring the air agency to undertake a time-consuming administrative process to make a minor clarifying change in the regulatory text.

There are multiple reasons why the EPA does not agree with the Petitioner with respect to the alleged inadequacy of using interpretive letters to clarify specific ambiguities in a SIP submission and the SIP provisions that may ultimately result from approval of such a submission, provided this process is done correctly. First, under section 107(a), the CAA gives air agencies both the authority and the primary responsibility to develop SIPs that meet applicable statutory and regulatory requirements. However, the CAA generally does not specify exactly how air agencies are to meet the requirements substantively, nor does the CAA specify that air agencies must use specific regulatory terminology, phraseology, or format, in provisions submitted in a SIP submission. Air agencies each have their own requirements and practices with respect to rulemaking, making flexibility respecting terminology on the EPA’s part appropriate, so long as CAA requirements are met.

As a prime example relevant to the SSM issue, CAA section 110(a)(2)(A) requires that a state’s SIP shall include “enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights) as well as schedules and

¹²⁷ Petition at 15.

¹²⁸ See February 2013 proposal, 78 FR 12459 at 12474 (February 22, 2013).

¹²⁹ See, e.g., “Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision,” 76 FR 21639 at 21648 (April 18, 2011).

¹³⁰ CAA section 110(k) directs the EPA to act on SIP submissions and to approve those that meet statutory and regulatory requirements. Implicit in this authority is the discretion, through appropriate notice-and-comment rulemaking, to determine whether a given SIP provision meets such requirements, in reliance on the information that the EPA considers relevant for this purpose.

timetables for compliance as may be necessary or appropriate to meet the applicable requirements of” the CAA. Section 302(k) of the CAA further defines the term “emission limitation” in important respects but nevertheless leaves room for variations of approach, stating that it is “a requirement established by the State or Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under [the CAA].”

Even this most basic requirement of SIPs, the inclusion of enforceable “emission limitations,” allows air agencies discretion in how to structure or word the emission limitations, so long as the provisions meet fundamental legal requirements of the CAA.¹³¹ Thus, by the explicit terms of the statute and by design, air agencies generally have considerable discretion in how they elect to structure or word their state regulations submitted to meet CAA requirements in a SIP.

Second, under CAA section 110(k), the EPA has both the authority and the responsibility to assess whether a SIP submission meets applicable CAA and regulatory requirements. Given that air agencies have authority and discretion to structure or word SIP provisions as they think most appropriate, so long as the SIP provisions meet CAA and regulatory requirements, the EPA’s role is to evaluate whether those provisions in fact meet those legal requirements.¹³² Necessarily, this process entails the exercise of judgment concerning the specific text of regulations, with regard both to content and to clarity. Because actions on SIP submissions are subject to notice-and-comment rulemaking, there is also the opportunity for other parties to identify SIP provisions that they consider problematic and to bring to the EPA’s attention any concerns

about ambiguity in the meaning of the SIP provisions under evaluation.

Third, careful review of regulatory provisions in a SIP submission can reveal areas of potential ambiguity. It is essential, however, that regulations are sufficiently clear that regulated entities, regulators and the public can all understand the SIP requirements. Where the EPA perceives ambiguity in draft SIP submissions, it endeavors to resolve those ambiguities through interactions with the relevant air agency even in advance of the SIP submission. On occasion, however, there may still remain areas of regulatory ambiguity in a SIP submission’s provisions that the EPA identifies, either independently or as a result of public comments on a proposed action, for which resolution is both appropriate and necessary as part of the rulemaking action.

In such circumstances, the ambiguity may be so significant as to require the air agency to revise the regulatory text in its SIP submission in order to resolve the concern. At other times, however, the EPA may determine that with adequate explanation from the state, the provision is sufficiently clear and complies with applicable CAA and associated regulatory requirements. In some instances, the air agency may supply the explanation necessary to resolve any potential ambiguity in a SIP submission by sending an official letter from the appropriate authority. When the EPA bases its approval of a SIP submission in reliance on the air agency’s official interpretation of the provision, that reading is explicitly incorporated into the EPA’s action and is memorialized as the proper intended reading of the provision. In other words, the state and the EPA will have a shared understanding of the proper interpretation of the provision, and that interpretation will provide the basis for the approval of that provision into the SIP. The interpretation will also be clearly identified and presented for the public and regulated entities in the **Federal Register** document approving the SIP submission.

For example, in the Knoxville redesignation action that the Petitioner noted in the Petition, the EPA took careful steps to ensure that the perceived ambiguity raised by commenters was substantively resolved and fully reflected in the rulemaking record, *i.e.*, through inclusion of the interpretive letters in the rulemaking docket, quoting relevant passages from the letters in the **Federal Register**, and carefully evaluating the areas of potential ambiguity in response to public comments on a provision-by-provision basis. By discussing the

resolution of the perceived ambiguity explicitly in the rulemaking record, the EPA assured that the correct meaning of that provision should be evident from the record, should any question concerning its meaning arise in a future dispute.

Finally, the EPA notes that while it is possible to reflect interpretive letters in the Code of Federal Regulations (CFR) or incorporate them into the regulatory text of the CFR in appropriate circumstances, there is no requirement to do so in all actions, and there are other ways for the public to have a clear understanding of the content of the SIP. First, for each SIP, the CFR contains a list or table of actions that reflects the various components of the approved SIP, including information concerning the submission of, and the EPA’s action approving, each component. With this information, interested parties can readily locate the actual **Federal Register** document in which the EPA will have explained the basis for its approval in detail, including any interpretive letters that may have been relied upon to resolve any potential ambiguity in the SIP provisions. With this information, the interested party can also locate the docket for the underlying rulemaking and obtain a copy of the interpretive letter itself. Thus, if there is any debate about the correct reading of the SIP provision, either at the time of the EPA’s approval or in the future, it will be possible to ascertain the mutual understanding of the air agency and the EPA of the correct reading of the provision in question at the time the EPA approved it into the SIP. Most importantly, regardless of whether the content of the interpretive letter is reflected in the CFR or simply described in the **Federal Register** preamble accompanying the EPA’s approval of the SIP submission, this mutual understanding of the correct reading of that provision upon which the EPA relied will be the reading that governs, should that later become an issue.

The EPA notes that the existence of, or content of, an interpretive letter that is part of the basis for the EPA’s approval of a SIP submission is in reality analogous to many other things related to that approval. Not everything that may be part of the basis for the SIP approval in the docket—including the proposal or final preambles, the technical support documents, responses to comments, technical analyses, modeling results, or docket memoranda—will be restated *verbatim*, incorporated into, or referenced in the CFR. These background materials remain part of the basis for the SIP

¹³¹ The EPA notes that notwithstanding discretion in wording in regulatory provisions, many words have specific recognized legal meaning whether by statute, regulation, case law, dictionary definition, or common usage. For example, the term “continuous” has a specific meaning that must be complied with substantively, however the state may elect to word its regulatory provisions.

¹³² See, e.g., *Luminant Generation v. EPA*, 714 F.3d 841 (5th Cir. 2013) (upholding the EPA’s disapproval in part of affirmative defense provision with unclear regulatory text); *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1170 (10th Cir. 2012) (upholding the EPA’s issuance of a SIP call to clarify a provision that could be interpreted in a way inconsistent with CAA requirements).

approval and remain available should they be needed in the future for any purpose. To the extent that there is any question about the correct interpretation of an ambiguous provision in the future, an interested party will be able to access the docket to verify the correct meaning of SIP provisions.

With regard to the Petitioner's concern that either actual or alleged ambiguity in a SIP provision could impede an effective enforcement action, the EPA believes that its current process for evaluating SIP submissions and resolving potential ambiguities, including the reliance on interpretive letters in appropriate circumstances with correct documentation in the rulemaking action, minimizes the possibility for any such ambiguity in the first instance. To the extent that there remains any perceived ambiguity, the EPA concludes that regulated entities, regulators, the public, and ultimately the courts, have recourse to use the administrative record to shed light on and resolve any such ambiguity as explained earlier in this document.

The EPA emphasizes that it is already the Agency's practice to assure that any interpretive letters are correctly and adequately reflected in the **Federal Register** and are included in the rulemaking docket for a SIP approval. Should the Petitioner or any other party have concerns about any ambiguity in a provision in a SIP submission, the EPA strongly encourages that they bring this ambiguity to the Agency's attention during the rulemaking action on the SIP submission so that it can be addressed in the rulemaking process and properly reflected in the administrative record. Should an ambiguity come to light later, the EPA encourages the Petitioner or any other party to bring that ambiguity to the attention of the relevant EPA Regional Office. If the Agency agrees that there is ambiguity in a SIP provision that requires clarification subsequent to final action on the SIP submission, then the EPA can work with the relevant air agency to resolve that ambiguity by various means.

D. Response to Comments Concerning Reliance on Interpretive Letters in SIP Revisions

The EPA received relatively few comments, both supportive and adverse, concerning the Agency's overarching decision to deny the Petition with respect to this issue. For clarity and ease of discussion, the EPA is responding to these comments, grouped by whether they were supportive or adverse, in this section of this document.

1. Comments that supported the EPA's interpretation of the CAA to

allow reliance on interpretive letters to clarify ambiguities in state SIP submissions.

Comment: A number of state and industry commenters agreed with the EPA that the use of interpretive letters to clarify perceived ambiguity in the provisions in a SIP is a permissible, and sometimes necessary, approach to approving SIP submissions under the CAA when done correctly. Those commenters who supported the EPA's proposed action on the Petition did not elaborate upon their reasoning, but generally supported it as an efficient and reasonable approach to resolve ambiguities.

Response: The EPA agrees with the commenters who expressed support of the proposal based on practical considerations such as efficiency. These commenters did not, however, base their support for the proposed action on the EPA's interpretation of the CAA in the February 2013 proposal, nor did they acknowledge the parameters that the EPA itself articulated concerning the appropriate situations for such reliance and the process by which such reliance is appropriate. Thus, the EPA reiterates that reliance on interpretive letters to resolve ambiguities or perceived ambiguities in SIP submissions must be weighed by the Agency on a case-by-case basis, and such evaluation is dependent upon the specific facts and circumstances present in a specific SIP action and would follow the process described in the proposal.

2. Comments that opposed the EPA's interpretation of the CAA to allow reliance on interpretive letters to clarify ambiguities in state SIP submissions.

Comment: Other commenters disagreed with the EPA's proposed response to the Petition on this issue. One commenter opposed the Agency's reliance on interpretive letters under any circumstances and did not draw any factual or procedural distinctions between situations in which this approach might or might not be appropriate or correctly processed. This commenter argued that citizens should not be required "to sift through a large and complex rulemaking docket in order to figure out the meaning and operation of state regulations." The commenter asserted that simply as a matter of "good government," all state regulations approved as SIP provisions should be clear and unambiguous on their face. This commenter also expressed concern that courts could not or would not accord legal weight to interpretive letters created after state regulations were adopted and submitted to the EPA, or after the EPA's approval of the SIP submission occurred, and

would view such letters as *post hoc* interpretations of no probative value. Another commenter added its view that reliance on interpretive letters is appropriate only when affected parties have the right to comment on the interpretive letters and the EPA's proposed use of them during the rulemaking in which the EPA relies on such letters to resolve ambiguities and before the Agency finally approves the SIP revision.

Response: As a general matter, the commenter opposing the EPA's reliance on interpretive letters in any circumstances because citizens would be required "to sift through" the docket did not provide specific arguments regarding the EPA's interpretation of the statute as stated in the February 2013 proposal. Consistent with the EPA's interpretation of the CAA, and as explained earlier in this document, the EPA agrees with the core principle that the language of regulations in SIPs that pertain to SSM events should be clear and unambiguous. A commenter argued that "a fundamental principle of good government is making sure that all people know what the applicable law is. Having the applicable law manifest in a letter sitting in a filing cabinet in one office clearly does not qualify as good government." The EPA generally agrees on this point as well. As explained earlier in this document, the EPA allows the use of interpretive letters to clarify perceived ambiguity in the provisions of a SIP submission only when used correctly, with adequate documentation in both the **Federal Register** and the docket for the underlying rulemaking action. Section VI.B of this document explains how interested parties can use the list or table of actions that appears in the CFR and that reflects the various components of the approved SIP, to identify the **Federal Register** document wherein the EPA has explained the basis for its decision on any individual SIP provision. As such, the EPA does not envision a scenario whereby a citizen or a court would be unable to determine how the air agency and the EPA interpreted a specific SIP provision at the time of its approval into the SIP. Assuming there is any ambiguity in the provision, the mutual understanding of the state and the EPA as to the proper interpretation of that provision would be clear at the time of the approval of the SIP revision, as reflected in the **Federal Register** document for the final rule and the docket supporting that rule, which should answer any question about the correct interpretation of the term.

The same commenter also questioned whether "courts can or will give any

legal weight to interpretative letters created after state regulations are adopted or SIP approvals occurred, in the face of industry defendant arguments that the SIP provisions do not accord with those *post hoc* interpretive letters.” This commenter asserted that by not requiring all interpretations of the SSM provisions in the “unambiguous language of the SIPs,” the EPA is accepting “great legal uncertainty” as to whether judges will consider interpretive letters in enforcement actions. As a preliminary matter, as explained earlier in this document, this action does not apply to “*post hoc*” interpretive letters, *i.e.*, to situations where a state would submit an interpretive letter after the EPA’s approval of the SIP. Through this action the EPA is confirming its view that it may use interpretive letters to clarify ambiguous SIP provisions only when those letters were submitted to the EPA during the evaluation of the SIP submission and before final approval of the SIP revision and were included in the final rulemaking docket and explicitly discussed in the **Federal Register** document announcing such final action.

In addition, as explained earlier in this document, once the EPA approves a SIP revision, it becomes part of the state’s SIP identified in the CFR and thus becomes a federally enforceable regulation. In cases where the substance of the interpretive letter is provided in the CFR itself, either by copying the interpretation *verbatim* into the regulatory text or by incorporating the letter by reference, courts need not look further for the state and the Agency’s agreed upon interpretation. The EPA’s interpretation will be clearly reflected in the CFR. The EPA recognizes that actual or perceived regulatory ambiguity may become an issue in instances where the interpretive letter is reflected in the preamble to the final rulemaking but is not copied or incorporated by reference in the CFR text itself. It is important to note, however, that once included in the preamble to the final rule, the air agency’s interpretation of the SIP provision, as reflected in the interpretive letter, becomes the EPA’s promulgated interpretation as well. While the EPA recognizes that an agency’s preamble guidance generally does not have the binding force of an agency’s regulations, courts do view it as informative in understanding an agency’s interpretation of its own regulation,¹³³ and courts accord an

agency’s interpretation of its own regulations a “‘high level of deference,’ accepting it ‘unless it is plainly wrong.’”¹³⁴ When reviewing a purportedly ambiguous agency regulation, courts have found that the agency’s interpretation of its own regulation is “controlling unless ‘plainly erroneous or inconsistent with the regulation.’”¹³⁵ Based on these settled legal principles, the EPA would expect a court in an enforcement action to look not only to the text of the regulation at issue but also to the preamble to the final rule. The preamble would contain an explanation of any interpretive letter from the state upon which the EPA relied in order to interpret any ambiguous SIP provisions.¹³⁶ As such, the EPA disagrees that it is “accepting an unreasonable amount of legal uncertainty” in future enforcement actions by allowing the use of interpretive letters to clarify SIP provisions where such letters are specifically discussed in the final rulemaking. The EPA reiterates that reliance on such interpretive letters is not appropriate in all circumstances, such as instances in which the state’s SIP submission is so significantly ambiguous that it is necessary to request that the state revise the regulatory text before the EPA can approve it into the SIP.

Finally, a commenter stated its view that reliance on interpretive letters may be appropriate, but only when affected parties have the right to comment on the letter and the EPA’s reliance on it during the rulemaking in which the letter is relied upon. The EPA has explained earlier in this document the proper circumstances under which such reliance may be appropriate and the proper process to be followed when reliance upon such letters is appropriate, but the EPA also notes that the process does not require that the letters always be made available for public comment. As explained earlier in this document, the EPA makes every attempt to identify ambiguities in state-

submitted SIPs and requests states to submit interpretive letters to explain any ambiguities, before putting the proposed action on the SIP submission out for public notice and comment. On occasion, however, ambiguous provisions may inadvertently remain and are not identified until the notice-and-comment period has begun. As explained earlier in this document, sometimes these ambiguities are so significant that the EPA requires the state to resubmit its SIP submission altogether, which would entail another notice-and-comment period. When the EPA does not deem the ambiguity to be so significant as to warrant a revision to the state’s regulatory text in the SIP submission, the Agency believes that resolution of the ambiguity through the submission of an interpretive letter, which then is incorporated into the EPA’s action, reflected in the administrative record and memorialized as the proper intended reading of the provision, is appropriate.

This approach comports with well-established principles applicable to notice-and-comment rulemaking generally. One purpose of giving interested parties the opportunity to comment is to provide these parties the opportunity to bring areas of potential ambiguity in the proposal to an agency’s attention so that the concerns may be addressed before the agency takes final action. If the APA did not allow the agency to consider comments and provide clarification when issuing its final action as necessary, this purpose would be defeated. Courts have held that so long as a final rule is a “logical outgrowth” of the proposed rule, adequate notice has been provided.¹³⁷ It is the EPA’s practice to neither require a state to resubmit a SIP submission nor repropose action on the submission, so long as the clarification provided in the interpretive letter is a logical outgrowth of the proposed SIP provision. If an interested party believes that the EPA is incorrect in not requiring the state to revise its SIP submission or that the EPA should repropose action on a submission, including the clarification provided by the interpretive letter in the plain language of the SIP submission itself, that party does have recourse. The APA gives that party the opportunity to petition the EPA for rulemaking to reconsider the decision under 5 U.S.C. 553(e). For these reasons, the EPA believes that its process for using interpretive letters to clarify SIP

Outdoor Council v. U.S. Forest Serv., 165 F.3d 43, 53 (D.C. Cir. 1999) (“Although the preamble does not ‘control’ the meaning of the regulation, it may serve as a source of evidence concerning contemporaneous agency intent.”).

¹³⁴ *Howmet* at 549 (quoting *Gen Elec. Co. v. EPA*, 53 F.3d 1324, 1327 (D.C. Cir. 1990)).

¹³⁵ *Auer v. Robbins*, 519 U.S. 452, 461 (1997) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 359 (1989)).

¹³⁶ Indeed, the APA requires agencies to “incorporate in the rules adopted a concise general statement of their basis and purpose,” 5 U.S.C. 553(c), often referred to as the regulatory preamble. It would not make sense for a court to attempt to interpret the text of a regulation independently from its statutorily mandated statement of basis and purpose.

¹³⁷ See, e.g., *Shell Oil Co.*, 950 F.2d 741; *NRDC v. Thomas*, 838 F.2d 1224 (D.C. Cir. 1988); *South Terminal Corp. v. EPA*, 504 F.2d 646.

¹³³ See, e.g., *Howmet Corp. v. EPA*, 614 F.3d 544, 552 (D.C. Cir. 2010) (using preamble guidance to interpret an ambiguous regulatory provision); *Wyo.*

provisions, as articulated in this rulemaking, is appropriate.

VII. Clarifications, Reiterations and Revisions to the EPA's SSM Policy

A. Applicability of Emission Limitations During Periods of SSM

1. What the EPA Proposed

In the February 2013 proposal, the EPA reiterated its longstanding interpretation of the CAA that SIP provisions cannot include exemptions from emission limitations for excess emissions during SSM events. This has been the EPA's explicitly stated interpretation of the CAA with respect to SIP provisions since the 1982 SSM Guidance, and the Agency has reiterated this important point in the 1983 SSM Guidance, the 1999 SSM Guidance and the 2001 SSM Guidance. In accordance with CAA section 302(k), SIPs must contain emission limitations that "limit the quantity, rate, or concentration of emissions of air pollutants on a continuous basis." Court decisions confirm that this requirement for continuous compliance prohibits exemptions for excess emissions during SSM events.¹³⁸

2. What Is Being Finalized in This Action

For the reasons explained in the February 2013 proposal, in the background memorandum supporting that proposal and in the EPA's responses to comments in this document, the EPA interprets the CAA to prohibit exemptions for excess emissions during SSM events in SIP provisions. This interpretation has long been reflected in the SSM Policy. The EPA acknowledges, however, that both states and the Agency have failed to adhere to the CAA consistently with respect to this issue in some instances in the past, and thus the need for this SIP call action to correct the existing deficiencies in SIPs. In order to be clear about this important point on a going-forward basis, the EPA is reiterating that emission limitations in SIP provisions cannot contain exemptions for emissions during SSM events.

Many commenters wrongly asserted that the EPA declared in the February 2013 proposal that all emission

limitations in SIPs must be established as numerical limitations, or must be set at the same numerical level at all times. The EPA did not take this position. In the case of section 110(a)(2)(A), the statute does not include an explicit requirement that all SIP emission limitations must be expressed numerically. In practice, it may be that numerical emission limitations are the most appropriate from a regulatory perspective (e.g., to be legally and practically enforceable) and thus the limitation would need to be established in this form to meet CAA requirements. The EPA did not, however, adopt the position ascribed to it by commenters, i.e., that SIP emission limitations must always be expressed only numerically and must always be set at the same numerical level during all modes of source operation.

The EPA notes that some provisions of the CAA that govern standard-setting limit the EPA's own ability to set non-numerical standards.¹³⁹ Section 110(a)(2)(A) does not contain comparable explicit limits on non-numerical forms of emission limitation. Presumably, however, some commenters misunderstood the explicit statutory requirement for emission limitations to be "continuous" as a requirement that states must literally establish SIP emission limitations that would apply the same precise numerical level at all times. Evidently these commenters did not consider the explicit recommendations that the EPA made in the February 2013 proposal concerning creation of alternative emission limitations in SIP provisions that states may elect to apply to sources during startup, shutdown or other specifically defined modes of source operation.¹⁴⁰ As many of the commenters acknowledged, the EPA itself has recently promulgated emission limitations in NSPS and NESHAP regulations that impose different numerical levels during different modes of source operation or impose emission limitations that are composed of a combination of a numerical limitation during some modes of operation and a specific technological control requirement or work practice requirement during other modes of operation. In light of the court's

decision in *Sierra Club v. Johnson*, the EPA has been taking steps to assure that its own regulations impose emission limitations that apply continuously, including during startup and shutdown, as required.¹⁴¹

Regardless of the reason for the commenters' apparent misunderstanding on this point, many of the commenters used this incorrect premise as a basis to argue that "continuous" SIP emission limitations may contain total exemptions for all emissions during SSM events. Therefore, in this final action the EPA wishes to be very clear on this important point, which is that SIP emission limitations: (i) Do not need to be numerical in format; (ii) do not have to apply the same limitation (e.g., numerical level) at all times; and (iii) may be composed of a combination of numerical limitations, specific technological control requirements and/or work practice requirements, with each component of the emission limitation applicable during a defined mode of source operation. It is important to emphasize, however, that regardless of how the air agency structures or expresses a SIP emission limitation—whether solely as one numerical limitation, as a combination of different numerical limitations or as a combination of numerical limitations, specific technological control requirements and/or work practice requirements that apply during certain modes of operation such as startup and shutdown—the emission limitation as a whole must be continuous, must meet applicable CAA stringency requirements and must be legally and practically enforceable.¹⁴²

Another apparent common misconception of commenters was that SIP provisions may contain exemptions for emissions during SSM events, so long as there is some other generic regulatory requirement of some kind somewhere else in the SIP that coincidentally applies during those exempt periods. The other generic regulatory requirements most frequently referred to by commenters are "general duty" type requirements, such as a general duty to minimize emissions at all times, a general duty to use good engineering judgment at all times, or a

¹³⁸ See, e.g., *Sierra Club v. Johnson*, 551 F.3d 1019, 1021 (D.C. Cir. 2008) (interpreting the definition of emission limitation in section 302(k) and section 112); *Mich. Dep't of Envtl. Quality v. Browner*, 230 F.3d 181 (6th Cir. 2000) (upholding disapproval of SIP provisions because they contained exemptions applicable to SSM events); *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1170 (10th Cir. 2012) (upholding the EPA's issuance of a SIP call to a state to correct SSM-related deficiencies).

¹³⁹ See, e.g., CAA section 112(h)(1) (authorizing design, equipment, work practice, or other operational emission limitations under certain conditions); 40 CFR 51.308(e)(1)(iii) (regulations applicable to regional haze plans).

¹⁴⁰ See February 2013 proposal, 78 FR 12459 at 12478 (February 22, 2013) (the recommended criteria for consideration in creation of SIP provisions that apply during startup and shutdown).

¹⁴¹ 551 F.3d 1019 (D.C. Cir. 2008).

¹⁴² The EPA notes that CAA section 123 explicitly prohibits certain intermittent or supplemental controls on sources. In a situation where an emission limitation is continuous, by virtue of the fact that it has components applicable during all modes of source operation, the EPA would not interpret the components that applied only during certain modes of operation, e.g., startup and shutdown, to be prohibited intermittent or supplemental controls.

general duty not to cause a violation of the NAAQS at any time. To the extent that such other general-duty requirement is properly established and legally and practically enforceable, the EPA would agree that it may be an appropriate separate requirement to impose upon sources in addition to the (continuous) emission limitation. The EPA itself imposes separate general duties of this type in appropriate circumstances.¹⁴³ The existence of these generic provisions does not, however, legitimize exemptions for emissions during SSM events in a SIP provision that imposes an emission limitation.

In accordance with the definition of section 302(k), SIP emission limitations must be continuous and apply at all times. SIP provisions may be composed of a combination of numerical limitations, specific technological control requirements and/or work practice requirements, but those must be components of a continuously applicable SIP emission limitation. In addition, the SIP emission limitation must meet applicable stringency requirements during all modes of source operation (e.g., be RACT for stationary sources located in a nonattainment area) and be legally and practically enforceable. General-duty requirements that are not clearly part of or explicitly cross-referenced in a SIP emission limitation cannot be viewed as a component of a continuous emission limitation. Even if clearly part of or explicitly cross-referenced in the SIP emission limitation, however, a given general-duty requirement may not be consistent with the applicable stringency requirements for that type of SIP provision during startup and shutdown. The EPA's recommendations for developing appropriate alternative emission limitations applicable during certain modes of source operation are discussed in section VII.B.2 of this document. In general, the EPA believes that a legally and practically enforceable alternative emission limitation applicable during startup and shutdown should be expressed as a numerical limitation, a specific technological control requirement or a specific work practice requirement applicable to affected sources during specifically defined periods or modes of operation.

3. Response to Comments

The EPA received a substantial number of comments, both supportive

¹⁴³ See, e.g., "Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews; Final rule," 77 FR 49489 at 49570, 49586 (August 16, 2012) (added general standards to apply at all times).

and adverse, concerning the issue of exemptions in SIP provisions for excess emissions during SSM events. Many of these comments raised the same core issues, albeit using slight variations on the arguments or variations on the combination and sequence of arguments. For clarity and ease of discussion, the EPA is responding to these comments, grouped by issue, in this section of this document.

a. Comments that the EPA's proposed action on the Petition is incorrect because some of the Agency's own regulations contain exemptions for emissions during SSM events.

Comment: Many commenters argued that the EPA is misinterpreting the CAA to preclude SIP provisions with exemptions for emissions during SSM events because some of the Agency's own existing NSPS and NESHAP rules contain such exemptions. Some commenters provided a list of existing NSPS or NESHAP standards that they claimed currently contain exemptions for emissions during SSM events. Commenters also noted that the NSPS general provisions at 40 CFR 60.11(d) excuse noncompliance with many NSPS during periods of startup and shutdown. Other commenters asserted that the EPA's interpretations in the February 2013 proposal are inconsistent with its longstanding interpretation of the Act because the EPA itself has a long history of adopting exceptions to numerical emission limitations for emissions during SSM events, citing to the NSPS general provisions at 40 CFR 60.8, the NSPS for Fossil-Fuel-Fired Steam Generators and for Electric Utility Steam Generating Units (40 CFR part 60, respectively subparts D and Da) and the NSPS for Industrial-Commercial-Institutional Steam Generating Units and for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR part 60, respectively subparts Db and Dc). Commenters claimed that recent revisions to 40 CFR part 60, subpart Da excluded periods of startup and shutdown from new PM standards. The commenters pointed to these facts or alleged facts as evidence that the EPA is interpreting the term "emission limitation" or other provisions of the statute inconsistently to preclude SSM exemptions in SIP provisions.

Response: Commenters are correct that many of the EPA's existing NSPS and NESHAP standards still contain exemptions from emission limitations during periods of SSM. The exemptions in these EPA regulations, however, predated the 2008 issuance of the D.C. Circuit decision in *Sierra Club v. Johnson*, in which the court held that emission limitations must be

continuous and thus cannot contain exemptions for emissions during SSM events. Likewise, the NSPS general provisions in 40 CFR 60.8 that commenters identified as inconsistent also predate that 2008 court decision. Although these other EPA regulations that include exemptions for emissions during SSM events were not before the court in the *Sierra Club* case, the EPA's view is that the legal reasoning of the *Sierra Club* decision applies equally to these exemptions and that the exemptions are thus inconsistent with the CAA.

Consequently, since the *Sierra Club* decision, the EPA has eliminated exemptions in many existing federal emission limitations as these standards are revised or reviewed pursuant to CAA requirements, such as CAA sections 111(b)(1)(B), 112(d)(6) and 112(f)(2).¹⁴⁴ Similarly, the EPA has established emission standards that apply at all times, including during SSM events, when promulgating new NSPS and NESHAP standards to be consistent with the *Sierra Club* decision.¹⁴⁵ The EPA recognizes that the NSPS general provisions regulations also include exemptions for emissions during SSM events, but in promulgating new NSPS since the *Sierra Club* decision, the EPA has established emission limitations in the new NSPS that apply at all times thereby superseding those general provisions. Therefore, the EPA's action in this rulemaking is consistent with other actions that the EPA has taken since the *Sierra Club* decision concerning the issue of SSM exemptions.

The fact that the EPA has not completed the process of updating its own regulations to bring them into compliance with respect to CAA requirements concerning proper treatment of emissions during SSM events does not render this SIP call action arbitrary or capricious. The existence of a deficiency in an existing EPA regulation that has not yet been corrected does not alter the legal requirements imposed by the CAA upon states with respect to SIP provisions. Thus, for example, the EPA does not agree with commenters that the continued existence of SSM exemptions

¹⁴⁴ See, e.g., "New Source Performance Standards Review for Nitric Acid Plants; Final rule," 77 FR 48433 (August 14, 2012) (example of NSPS emission limitation that no longer includes exemption for periods of startup or shutdown).

¹⁴⁵ See, e.g., "Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews; Final rule," 77 FR 49489 (August 16, 2012) (consistent with *Sierra Club v. Johnson*, the EPA has established standards in both rules that apply at all times).

in the general provisions applicable to the emission limitations in the Agency's own NSPS for Fossil-Fuel-Fired Steam Generators in 40 CFR part 60, subpart D, is evidence that exemptions for emissions during SSM events are permitted by the CAA.

The EPA acknowledges that correction of longstanding regulatory deficiencies by proper rulemaking procedures requires time and resources, not only for the EPA but also for states and affected sources. Hence, the EPA has elected to proceed via its authority under section 110(k)(5) and to provide states with the full 18 months allowed by statute for compliance with this action. This SIP call is intended to help assure that state SIP provisions are brought into line with CAA requirements for emission limitations, just as the EPA is undertaking a process to update its own regulations.

The EPA also specifically disagrees with the commenters' implication that 40 CFR 60.11(d) completely excuses noncompliance during periods of startup and shutdown. Rather, that provision imposes a separate affirmative obligation to maintain and operate the affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practices at all times. The existence of this separate duty to minimize emissions, however, does not justify or excuse the existence of an exemption for emissions during SSM events from the emission limitations of an EPA NSPS. It is a separate obligation that sources must also meet at all times.

The EPA also disagrees with the commenters who argued that the Agency has recently created new exemptions for PM emissions during startup and shutdown events in the NSPS for Electric Utility Steam Generating Units in 40 CFR part 60, subpart Da. The EPA has not created new exemptions for emissions during startup and shutdown. To the contrary, the EPA has taken steps to assure that these regulations are consistent with the statutory definition of emission limitation and with the logic of the *Sierra Club* decision on a going-forward basis. In accordance with that decision, the revised emission limitations in subpart Da NSPS apply continuously. In revising subpart Da to establish requirements for sources on which construction, modification or reconstruction commenced after May 3, 2011, the EPA determined that it was appropriate to provide that the exemptions for emissions during SSM events in the General Provisions do not

apply.¹⁴⁶ Although the *Sierra Club v. Johnson* decision specifically addressed the validity of SSM exemptions in NESHAP regulations, the EPA concluded that the court's focus on the definition of "emission limitation" in section 302(k) applied equally to any such SSM exemptions in NSPS regulations. Thus, for affected sources on which construction, modification or reconstruction starts after May 3, 2011, the General Provisions do not provide an exemption to compliance with the applicable emission limitations during SSM events.

For such sources, the emission limitation for PM in 40 CFR 60.42Da(a) imposes a numerical level of 0.03 lb/MMBtu that applies at all times except during startup and shutdown and specific work practices that apply during startup and shutdown.¹⁴⁷ The related emission limitation for opacity from such sources in 40 CFR 60.42Da(b) is 20 percent opacity at all times, except for one 6-minute period per hour of not more than 27 percent, and it applies at all times except during periods of startup and shutdown when the work practices for PM limit opacity. Commenters alleged that the EPA created an "exemption" from the PM emission limitations in subpart Da applicable to post-May 3, 2011, affected sources. That is simply incorrect. The revised regulations in subpart Da impose a numerical emission limitation that applies at all times except during startup and shutdown and impose specific work practice requirements that apply during startup and shutdown as a component of the emission limitation. Specifically, 40 CFR 60.42Da(e)(2) explicitly requires post-May 3, 2011, affected sources to comply with specific work practice standards in part 63, subpart UUUUU. The numerical emission limitation and the work practice requirement together comprise a continuous emission limitation and there is no exemption for emissions during startup and shutdown. The fact that the EPA has established different requirements for different periods of operation does not constitute creation of an exemption. These emission

¹⁴⁶ See 40 CFR 60.48Da(a). For affected facilities for which construction, modification, or reconstruction commenced after May 3, 2011, the applicable SO₂ emissions limit under § 60.43Da, NO_x emissions limit under § 60.44Da, and NO_x plus CO emissions limit under § 60.45Da apply at all times.

¹⁴⁷ The EPA notes that the emission standards for SO₂ in 40 CFR 60.43Da and for NO_x in 40 CFR 60.44Da, applicable to sources on which construction, modification or reconstruction commenced after May 3, 2011, also apply continuously and contain no exemptions for emissions during SSM events.

limitations have numerical limitations that apply during most periods and specific technological control requirements or work practice requirements that apply during startup and shutdown, but all periods of operation are subject to controls and no periods of operation are exempt from regulation. States are similarly able to alter their regulations, in response to this SIP call, to provide for emission limitations with different types of controls applicable during different modes of source operation, so long as those controls apply at all times and no periods are exempt from controls. As explained in section VII.A of this document, the EPA interprets section 110(a)(2)(A) to permit SIP provisions that are composed of a combination of numerical limitations, specific technological control requirements and/or work practice requirements, so long as the resulting emission limitations are continuous, meet applicable stringency requirements (e.g., are RACT for sources in nonattainment areas) and are legally and practically enforceable.

The EPA also notes that the provisions of 40 CFR 60.42Da(b)(1) do not provide an "exemption" from the opacity standard. That section merely provides that the affected sources do not need to meet the opacity standard of the NSPS (at any time), if they have installed a PM continuous emission monitoring system (PM CEMS) to measure PM emissions continuously instead of relying on periodic stack tests to assure compliance with the PM emission limitation. One reason for the imposition of opacity standards on sources is to provide an effective means of monitoring for purposes of assuring source compliance with PM emission limitations and proper operation of PM emission controls on a continuous basis. If a source is subject to a sufficiently stringent PM limitation and has opted to install, calibrate, maintain and operate a PM CEMS to measure PM emissions, then it is reasonable for the EPA to conclude that an opacity emission limitation is not needed for that particular source for those purposes.¹⁴⁸ The direct measurement of PM, in conjunction with an appropriately stringent PM emission limitation that

¹⁴⁸ For example, for NSPS regulations under subparts D, Da, Db and Dc of 40 CFR part 60, the EPA has deemed 0.030 lb/MMBtu to be a sufficiently stringent PM limitation for certain sources operating PM CEMS to conclude that an opacity emission limitation is not needed, on the basis that the contribution of filterable PM to opacity at PM levels of 0.030 lb/MMBtu or less is generally negligible, and sources with mass limits at this level or less will operate with little or no visible emissions (i.e., less than 5 percent opacity). See 74 FR 5072 at 5073 (January 28, 2009).

applies continuously, is an appropriate means to assure adequate control of PM emissions on a continuous basis. States evaluating how best to replace impermissible SSM exemptions from opacity standards may wish to consider a similar approach, conditioned upon the use of PM CEMS and a sufficiently stringent PM emission limitation.

Finally, the EPA emphasizes that what is at issue in this action is the question of whether emission limitations in SIP provisions can include exemptions for emissions during SSM events. The EPA is reiterating its longstanding interpretation of the CAA with respect to this question, in the process of responding to the Petition, updating its SSM Policy and applying its current interpretations of the CAA to the specific SIP provisions at issue in this SIP call action. To the extent that commenters intend to point out that the EPA needs to address exemptions for emissions during SSM events in its own existing regulations, the Agency is already aware of that need due to recent judicial decisions and is proceeding to correct those regulations in due course.

b. Comments that the EPA's proposed action on the Petition is incorrect because the Agency has previously allowed the inclusion of exemptions for emissions during SSM events through approval of NSPS or NESHAP requirements into SIPs.

Comment: Commenters asserted that the EPA is being inconsistent because it has previously approved SIP submissions that rely on NSPS rules, including the SSM exemptions in those existing rules. The commenters argued that the EPA's current interpretation of the CAA to preclude SSM exemptions in SIP provisions is thus at odds with past guidance and practice.

Response: The EPA disagrees with the argument that past approval of SIP submissions that relied upon an NSPS or NESHAP with an SSM exemption is evidence that such exemptions should be permissible in SIP provisions in the future. In the 1999 SSM Guidance, the EPA addressed the related issue of whether states could create affirmative defenses in SIP provisions that would alter or add to the requirements of an existing EPA NSPS or NESHAP.¹⁴⁹ At that time, the EPA clearly stated that it would be inappropriate for a state to seek to "deviate" from the specific requirements of an NSPS or NESHAP when adopting that standard as a SIP provision, stating that "[b]ecause EPA set these standards taking into account technological limitations, additional

exemptions would be inappropriate." Thus, so long as a state did not alter the requirements of the existing NSPS or NESHAP by including additional affirmative defenses or exemptions, the EPA indicated that it would approve a SIP submission that included an NSPS or NESHAP.

The commenters' argument has brought to the EPA's attention that past guidance on this issue is in fact inconsistent with more recent legal developments. At the time of the 1999 SSM Guidance, the EPA was still of the belief that its own NSPS and NESHAP regulations could legitimately include exemptions for emissions during SSM events. In that light, recommending to states that they could rely on an EPA NSPS or NESHAP as an emission limitation in a SIP provision so long as they did not alter the NSPS or NESHAP in any fashion was logical. At that time, the reasoning was that NSPS and NESHAP standards were technology-based standards that, although neither designed nor intended to meet the separate legal requirements for SIP provisions, could be used to provide emission reductions creditable in SIPs. Since the 2008 D.C. Circuit decision in *Sierra Club v. Johnson*, however, it has been clear that NSPS and NESHAP standards themselves cannot contain such exemptions. The reasoning of the court was that exemptions for SSM events are impermissible because they contradict the requirement that emission limitations be "continuous" in accordance with the definition of that term in section 302(k). Although the court evaluated this issue in the context of EPA regulations under section 112, the EPA believes that this same logic extends to SIP provisions under section 110, which similarly must contain emission limitations as defined in the CAA. Section 110(a)(2)(A) requires states to have emission limitations in their SIPs to meet other CAA requirements, and any such emission limitations would similarly be subject to the definition of that term in section 302(k).

Accordingly, the EPA concludes that, prospectively, a state should not submit an NSPS or NESHAP for inclusion into its SIP as an emission limitation (whether through incorporation by reference or otherwise), unless that NSPS or NESHAP does not include an exemption for SSM events or unless the state otherwise takes action to exclude the SSM exemption from the standard as part of the SIP submission. Because SIP provisions must apply continuously, including during SSM events, the EPA can no longer approve SIP submissions that include any

emission limitations with such exemptions, even if those emission limitations are NSPS or NESHAP regulations that the EPA has not yet revised to make consistent with CAA requirements. Alternatively, states may elect to adopt an existing NSPS or NESHAP as a SIP provision, so long as the state provision excludes the SSM exemption.¹⁵⁰ States may also wish to replace the SSM exemption with appropriately developed alternative emission limitations that apply during startup and shutdown in lieu of the SSM exemption. Otherwise, the EPA's approval of the deficient SSM exemption provisions into the SIP would contravene CAA requirements for SIP provisions and would potentially result in misinterpretation or misapplication of the standards by regulators, regulated entities, courts and members of the public. The EPA emphasizes that the inclusion of an NSPS or NESHAP as an emission limitation in a state's SIP (which approach, as noted in section VII.B.3 of this document, would be at the state's option) is different and distinct from reliance on such standards indirectly, such as sources of emission reductions that may be taken into account for SIP planning purposes in emissions inventories or attainment demonstrations. For these uses (*i.e.*, other than as direct emission limitations), states may continue to rely on EPA NSPS and NESHAP regulations, even those that have not yet been revised to remove inappropriate exemptions, in accordance with the requirements applicable to those SIP planning functions.

c. Comments that the EPA is misinterpreting the *Sierra Club* case because it applies only to MACT regulations and not to SIP provisions.

Comment: Many commenters claimed that the EPA incorrectly applies the holding in the *Sierra Club* decision to preclude exemptions for emissions during SSM events in SIP provisions and that the *Sierra Club* decision does not apply in this context. The commenters argued that the *Sierra Club* decision was directly dependent on the structure of CAA section 112 and cannot be extended to the different regulatory

¹⁵⁰ Under CAA section 116, states have the explicit general authority to regulate more stringently than the EPA. Indeed, under section 116 states can regulate sources subject to EPA regulations promulgated under section 111 or section 112 so long as they do not regulate them less stringently. Accordingly, the EPA believes that states may elect to adopt EPA regulations under section 111 or section 112 as SIP provisions and expressly eliminate the exemptions for emissions during SSM events.

¹⁴⁹ See 1999 SSM Guidance at Attachment p. 3.

structure that governs SIPs under CAA section 110.

The commenters further contended that in the SIP context, the underlying air quality pollution control requirement for SIPs is to attain NAAQS and no specific level of stringency is required, unlike section 112, and Congress gave states broad discretion in the design of their SIPs. Commenters asserted that the *Sierra Club* decision held only that the general-duty requirement in the section 112 regulations did not meet the stringency requirements of CAA section 112 and that this holding does not apply in the SIP context because in the SIP context no specific level of stringency is required.

Commenters also asserted that a general-duty requirement is an appropriate alternative standard for SSM events in the SIP context because CAA sections 302(k) and 110(a)(2)(A) give states broad authority to develop the mix of controls necessary and appropriate to implement the NAAQS. Other commenters contended that the *Sierra Club* decision does not preclude states from constructing a compliance regime that uses multiple methods to limit emissions as long as the overall compliance regime to minimize emissions is enforceable.

Commenters also suggested that the decision in *Kamp v. Hernandez* relied upon in the *Sierra Club* case affirmed EPA's approval of a state emission limitation in a SIP that specifically allowed and even expected a certain number of annual exceedances of the emission limit.¹⁵¹ Some commenters argued that the *Sierra Club* decision should not be read to impose a "continuous emissions limitation" requirement and that to the extent it does, it was incorrectly decided.

Response: The EPA disagrees that the court's decision in *Sierra Club v. Johnson* has no relevance to this action. Of course that decision specifically addressed the validity of exemptions for emissions during SSM events in the Agency's own regulations promulgated under section 112. Naturally, that decision turned, in part, on the specific provisions of section 112 and the specific arguments that each of the litigants raised in that case. However, the decision also turned in large part on the explicit statutory definition of the term "emission limitation" in section 302(k), which requires such limitations to be "continuous."

In that litigation, the EPA itself had argued that the exemptions from the otherwise applicable MACT standards

during SSM events were consistent with CAA requirements because the MACT standards and the separate "general duty" requirements "together form an uninterrupted, *i.e.*, continuous" emission limitation, because either the numerical limitation or the general duty applied at all times.¹⁵² The *Sierra Club* court rejected this argument, in part because the general duty that EPA required sources to meet during SSM events was not itself consistent with section 112(d) and the EPA did not purport to act under section 112(h). Thus, the EPA agrees that the court in *Sierra Club* explicitly found that the SSM exemption in EPA's NESHAP general provision rules violated the CAA because the general duty to minimize emissions was not a section 112(d)-compliant standard and had not been justified by the EPA as a 112(h)-compliant standard. The court reasoned that when sections 112 and 302(k) are read together, there must be a continuous section 112-compliant standard. It is important to note that if the otherwise applicable numerical MACT standards had themselves applied at all times consistent with section 302(k), then there would have been no question that they were in fact continuous.

The EPA has concluded that the reasoning of the *Sierra Club* decision is correct and further supports the Agency's interpretations of the CAA with respect to SIP provisions. As explained in the February 2013 proposal, the EPA's longstanding SSM guidance has interpreted the CAA to prohibit exemptions for emissions during SSM events since at least 1982. The EPA has long explained that exemptions for emissions during SSM events are not permissible in SIP provisions, because they interfere with attainment and maintenance of the NAAQS, protection of PSD increments and improvement of visibility, and because they are inconsistent with the enforcement structure of the CAA. The EPA also noted that the definition of emission limitation in section 302(k) was part of the basis for its interpretation concerning SIP provisions.¹⁵³ In the February 2013 proposal, the EPA explained that the *Sierra Club* court's emphasis on the definition of the term emission limitation in section 302(k) further bolsters the Agency's basis for interpreting the CAA to preclude such exemptions in SIP provisions. In other

words, under the CAA and the court's decision, emission limitations in SIP provisions as well as in NSPS and NESHAP regulations must be continuous, although they can impose different levels or forms of control during different modes of source operation.

The EPA also disagrees with the argument that the *Sierra Club* decision does not apply because section 110, unlike section 112, does not impose any specific level of "stringency" for SIP provisions. In accordance with section 110(a)(1), states are required to have SIPs that provide for attainment, maintenance and enforcement of the NAAQS in general. Pursuant to section 110(a)(2), states are required to have SIP provisions that meet many specific procedural and substantive requirements, including but not limited to, the explicit requirements of section 110(a)(2)(A) for emission limitations necessary to meet other substantive CAA requirements. In addition, however, states must have SIP provisions that collectively meet a host of other statutory requirements that also impose more specific stringency requirements. Merely by way of example, section 110(a)(2)(I) requires states with nonattainment areas to have SIP provisions that collectively meet part D requirements.¹⁵⁴ In turn, the different subparts of part D applicable to each NAAQS impose many requirements that require emission limitations in SIPs that meet various levels of stringency. Again, merely by way of example, states with nonattainment areas for PM under part D subpart 4 must have SIPs that include emission limitations that meet either the RACM and RACT level of stringency (if the nonattainment area is classified Moderate) or meet the BACM and BACT level of stringency (if the area is classified Serious).¹⁵⁵ There are similar requirements for states to impose emission limitations that must meet various levels of stringency for each of the NAAQS. Likewise, states must impose SIP emission limitations that meet BART and reasonable progress levels of stringency for regional haze program purposes¹⁵⁶ and must ensure that emission limitations meet BACT or LAER levels of stringency for PSD or nonattainment NSR permitting program

¹⁵⁴ Sections 171–193 of CAA title I comprise part D.

¹⁵⁵ See CAA section 172(c)(2) (generally applicable attainment plan requirements including RACM and RACT); CAA section 189(a)(1) (requirements for areas classified Moderate); section 189(b) (requirements for areas classified Serious).

¹⁵⁶ See CAA section 169A(b)(2)(A).

¹⁵² See 551 F.3d 1019, 1026 (D.C. Cir. 2008).

¹⁵³ See 1999 SSM Guidance at 2, footnote 1 (citing the section 302(k) definition of emission limitations and emission standards).

¹⁵¹ 752 F.2d 1444 (9th Cir. 1985).

purposes.¹⁵⁷ The EPA agrees that states have broad discretion in how to devise SIP provisions under section 110, but states nevertheless are required to devise SIP provisions that meet applicable statutory stringency requirements. In short, the argument that the *Sierra Club* decision is not germane because there are no comparable “stringency” requirements applicable to SIP provisions is simply in error. While it is true that SIP provisions do not need to meet section 112 levels of stringency, they must still be continuous under section 302(k) and meet applicable NAAQS, PSD and visibility requirements and stringency levels. In short, they cannot contain exemptions for emissions during SSM events.

Finally, the EPA does not agree with the commenters’ view of the significance of the reference to the *Kamp v. Hernandez* decision by the court in the *Sierra Club* decision. The *Kamp* decision upheld the EPA’s approval of a SIP provision that imposed an SO₂ emission limitation on a specific stationary source.¹⁵⁸ To the extent that the commenters believe that the *Kamp* decision stands for the principle that SIP emission limitations can be “continuous” even if they do not restrict emissions to the same numerical limitation at all times, this point is not in dispute. As explained in section VII.A of this document, the EPA agrees with this principle. If, however, the commenters believe that the *Kamp* decision instead indicates that SIP emission limitations may contain exemptions, such that no emission standard applies during some mode of source operation, then that is simply incorrect. The EPA-approved SIP provision at issue in *Kamp* did not itself allow for a certain number of “exceedances” of the emission limitation each year. The state emission limitation rule in that case was developed to ensure attainment and maintenance of the then applicable SO₂ NAAQS and the approved emission limitation for the source fluctuated but was continuous. It was the specifications of the SO₂ NAAQS standard that allowed for a certain number of “exceedances” each year. The NAAQS themselves are not “emission limitations” governed by section 302(k) and commonly have a statistical “form” that authorizes a set number of “exceedances” of the numerical level of the NAAQS before

there is a “violation” of the NAAQS.¹⁵⁹ Thus, the EPA believes that the court in the *Sierra Club* decision properly cited the *Kamp* case as support for the fundamental proposition that emission limitations must be “continuous.” Moreover, the EPA notes that commenters did not address other reported decisions in which courts have upheld the Agency’s disapproval of SIP submissions containing SSM exemptions.¹⁶⁰

d. Comments that the EPA’s proposed action contradicts a 2009 guidance document concerning the effect of the *Sierra Club* decision on SSM exemptions in existing standards.

Comment: A number of commenters suggested that the EPA’s February 2013 proposal is inconsistent with a memorandum (in fact a public letter) issued by the Agency following the *Sierra Club* decision in which the D.C. Circuit vacated two EPA provisions that exempt sources from section 112(d) emission standards during periods of SSM (Kushner letter).¹⁶¹ The commenters noted that the Kushner letter explained that many MACT standards have SSM exemptions that were not affected by the *Sierra Club* decision. They argued that the Kushner letter should be read to mean that no emission limitations other than the ones explicitly discussed within that letter would be affected by the court’s holding that emission limitations under the CAA must be continuous.

Response: The EPA disagrees with these comments for several reasons. First, the commenters misinterpret the Kushner letter. The purpose of the Kushner letter was to explain the direct and immediate impact of the *Sierra Club* decision, which vacated the SSM exemption in EPA’s NESHAP general provisions regulations. The Kushner letter explained that the vacatur would “immediately and directly” affect only the subset of NESHAP source category standards that incorporated the general provisions’ exemption by reference, and that contain no other regulatory text exempting or excusing, in any way, compliance during SSM events, because

¹⁵⁹ See, e.g., 40 CFR 50.18 (24-hour PM_{2.5} NAAQS met when 98th-percentile monitored value is less than or equal to 35 ug/m³).

¹⁶⁰ See, e.g., *Mich. Dep’t of Env’tl. Quality v. Browner*, 230 F.3d 181 (6th Cir. 2000) (upholding disapproval of SIP provisions because they contained exemptions applicable to SSM events); *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1170 (10th Cir. 2012) (upholding the EPA’s issuance of a SIP call to a state to correct SSM-related deficiencies).

¹⁶¹ See Letter from A. Kushner, Director, Office of Civil Enforcement, EPA/OECA, regarding “*Vacatur of Startup, Shutdown, and Malfunction (SSM) Exemption (40 CFR 63.6(f)(1) and 63.6(h)(1))*,” July 22, 2009, in the rulemaking docket.

only the general provisions’ exemption was challenged and before the court in the *Sierra Club* case. However, the Kushner letter clearly stated that the legality of all NESHAP SSM exemption provisions was in question and that EPA would examine such provisions in light of the court’s decision. Therefore, the commenters’ suggestion that the Kushner letter supports a limited reading of the legal reasoning of the *Sierra Club* case is incorrect.

Second, the Kushner letter did not explicitly or implicitly address the issue of whether the CAA allows exemptions for emissions during SSM events in SIP provisions. That fact is unsurprising, in that at the time of the Kushner letter the EPA already had guidance in the SSM Policy (issued and reiterated in 1982, 1983, 1999 and 2001) that clearly stated the Agency’s view that such exemptions are not permissible in SIP provisions, consistent with CAA requirements. It would also have been unnecessary for the Kushner letter discussing the impact of the *Sierra Club* decision on NESHAP standards to have mentioned that the statutory definition of emission limitation also precludes exemptions for SSM provisions in SIPs. The EPA had already made this point explicitly in the 1999 SSM Guidance, when it explained the reasons why such provisions would be contrary to CAA requirements for SIPs.¹⁶² Thus, the EPA’s guidance for SIP provisions concerning emissions during SSM events had already explicitly articulated that provisions with exemptions for SSM events could not be approved pursuant to CAA section 110(l), because that would interfere with a fundamental requirement of the CAA, *i.e.*, the definition of “emission limitation” in section 302(k).

Finally, the EPA disagrees that the Kushner letter could override the applicability of the logic of the *Sierra Club* decision to SIP provisions, even if the Agency had any such intentions. The D.C. Circuit’s evaluation of the issue with respect to the EPA’s own regulations was premised not solely upon the particular requirements of section 112 but also more broadly on the meaning and specific definition of the term “emission limitation” under the CAA. That definition applies to SIP provisions as well as to the EPA’s own regulations. Because the SSM Policy in effect at the time of the *Sierra Club* decision and the time of the Kushner letter already stated that EPA interpreted the CAA to prohibit SIP provisions that exempt emissions during SSM events, there would have

¹⁶² See 1999 SSM Guidance at 2, footnote 1.

¹⁵⁷ See CAA section 165(a)(4) and CAA section 173(a)(2).

¹⁵⁸ 753 F.3d 1444, 1452–53 (9th Cir. 1985).

been no need for the Kushner letter to speak to this issue.¹⁶³

e. Comments that the EPA's proposed action on the Petition is incorrect because the Agency's recent MATS rule and Area Source Boiler rule regulations contain exemptions for emissions during SSM events.

Comment: Many commenters asserted that the EPA's February 2013 proposed action to find SIP provisions with exemptions for emissions during SSM events to be substantially inadequate is arbitrary and capricious because recent Agency NESHAP regulations under section 112 contain similar exemptions. Commenters pointed to recently promulgated rules such as the MATS rule¹⁶⁴ and the Area Source Boiler rule¹⁶⁵ as examples of NESHAP regulations that they claim contain similar exemptions. According to commenters, the emission limitations in EPA's own MATS rule "allow excess emissions during SSM events," suggesting that the Agency created exemptions for such emissions.¹⁶⁶ Other commenters similarly argued that the EPA created emission limitations in the Area Source Boiler rule that do not apply "continuously" because the numerical limitations do not apply during startup and shutdown.¹⁶⁷ In short, these commenters argued that the EPA is being arbitrary and capricious because it is holding emission limitations in SIPs to a different and higher standard than emission limitations under its own NSPS and NESHAP regulations.

Response: The EPA disagrees with these commenters. The recent EPA rulemaking efforts that commenters claim are at odds with EPA's SIP call are completely consistent with the Agency's action today. First, as explained in the February 2013 proposal, the EPA has not taken the position that sources must be subject to SIP emission limitations that are set at the same numerical level at all times, or that are expressed as numerical limitations at all times. As the EPA stated, "[i]f justified, the state can develop special emission

limitations or control measures that apply during startup or shutdown if the source cannot meet the otherwise applicable emission limitation in the SIP."¹⁶⁸ The EPA's 1999 SSM Guidance articulated that SIP provisions may include alternative emission limitations applicable during startup and shutdown as part of a continuously applicable emission limitation when properly developed and otherwise consistent with CAA requirements. Moreover, the EPA recommended specific criteria relevant to the creation of such alternative emission limitations. The EPA reiterated that guidance in the February 2013 proposal and is providing a clarified version of the guidance in this final action. This issue is addressed in more detail in section VII.B.2 of this document.

The EPA also disagrees with the assertion that it is holding state SIP provisions to a different standard than its own NSPS and NESHAP regulations. The EPA notes that SIP emission limitations and NSPS and NESHAP emission limitations are, of course, designed for different purposes (e.g., to meet the NAAQS versus to reduce emissions of HAPs) and have to meet some different statutory requirements (e.g., to be RACM versus be standards that are compliant with section 112). However, the EPA understands the commenters' claim to be more specifically that the Agency is applying a different interpretation of the term "emission limitation" and taking a different approach to the treatment of emissions during SSM events in its own regulations, even in recent regulations developed subsequent to the *Sierra Club* decision. The EPA believes that this argument reflects a misunderstanding of both the February 2013 proposal and what the Agency's own new regulations contain.

The MATS rule and the Area Source Boiler rule in fact illustrate how the EPA is creating emission limitations that apply continuously, with numerical limitations or combinations of numerical limitations and other specific technological control requirements or work practice requirements applicable during startup and shutdown, depending upon what is appropriate for the source category and the pollutants at issue. For example, in the MATS rule the EPA has promulgated regulations that impose emission limitations on various subcategories of sources to address HAP emissions. To do so, the EPA developed emission limitations to address the relevant pollutants using a

combination of numerical emission limitations and work practices. The work practice requirements specifically apply to sources during startup and shutdown and are thus components of the continuously applicable emission limitations.¹⁶⁹

Similarly, in the Area Source Boiler rule¹⁷⁰ the EPA has imposed emission limitations on affected sources for PM, mercury and CO. The specific emission limitations that apply vary depending upon the subcategory of boiler. The emission limitations include a combination of numerical emission limitations and work practice requirements that together apply during all modes of source operation. For some subcategories, the standards that apply during startup and shutdown differ from the standards that apply during other periods of operation. This illustrates what the EPA considers the correct approach to creating emission limitations: (i) The emission limitation contains no exemption for emissions during SSM events; (ii) the component of the emission limitation that applies during startup and shutdown is clearly stated and obviously is an emission limitation that applies to the source; (iii) the component of the emission limitation that applies during startup and shutdown meets the applicable stringency level for this type of emission limitation (in this case section 112); and (iv) the emission limitation contains requirements to make it legally and practically enforceable. In short, the Area Source Boiler rule established emission limitations that apply continuously, in accordance with the requirements of the CAA, and consistent with the court's decision in the *Sierra Club* decision. States with SIP provisions that are deficient because they contain automatic or discretionary exemptions for emissions during SSM events may wish to consider the Agency's own approach when they develop SIP revisions in response to this SIP call.

f. Comments that section 110(a)(2)(A) authorizes states to have SIP provisions with exemptions for emissions during SSM events because they are not "emission limitations" and are not

¹⁶³ See, e.g., 1999 SSM Guidance, Attachment at 1 ("any provision that allows for an automatic exemption for excess emissions is prohibited").

¹⁶⁴ The mercury and air toxics standards (MATS) rule for power plants regulates emissions from new and existing coal- and oil-fired electric utility steam generating units (EGUs) under 40 CFR part 63, subpart UUUUU.

¹⁶⁵ The Area Source Boiler rule regulates industrial, commercial and institutional boilers at area sources under 40 CFR part 63, subpart JJJJJJ.

¹⁶⁶ See MATS rule, requirements during startup, shutdown and malfunction, 77 FR 9304 at 9370 (February 16, 2012).

¹⁶⁷ See Area Source Boiler rule, notice of final action on reconsideration, periods of startup and shutdown, 78 FR 7487 at 7496 (February 1, 2013).

¹⁶⁸ See February 2013 proposal, 78 FR 12459 at 12488 (February 22, 2013).

¹⁶⁹ The EPA took final action on a petition for reconsideration concerning the MATS rule and the Utility NSPS that made certain revisions related to the emission limitations and work practices applicable during startup and shutdown. Those revisions did not, however, alter the basic structure of the emission limitations as numerical limitations, or numerical limitations with work practice components during startup and shutdown, depending upon the source category and the pollutants at issue. See 79 FR 68777 (November 19, 2014).

¹⁷⁰ 78 FR 7487 (February 1, 2013).

subject to the requirement to be “continuous.”

Comment: Section 110(a)(2)(A) requires states to have SIPs that include emission limitations for purposes of imposing restrictions on sources of emissions in order to attain and maintain the NAAQS and to meet other CAA requirements. Some commenters noted that, in addition to “emission limitations,” section 110(a)(2)(A) also explicitly refers to “other control measures, means, or techniques.” Unlike the term “emission limitation,” which is defined in section 302(k), commenters contended that these “other control[s]” need not be continuous. Accordingly, these commenters argued that emission controls in SIP provisions that either contain, or are subject to, SSM exemptions can be viewed merely as examples of these “other control measures, means, or techniques” that are validly included in SIPs and that do not have to limit emissions from sources on a continuous basis. Specifically, these commenters asserted that the plain text of section 110(a)(2)(A) does not require SIPs to include only emission limitations but rather requires that SIPs include “emission limitations,” “other control measures, means, or techniques,” or a mixture thereof. Furthermore, according to some of these commenters, an interpretation of section 110(a)(2)(A) that requires all SIP provisions to be “emission limitations,” and thus subject to the requirement that they be continuous, would render the “other control” language in the statute superfluous.

Response: The EPA agrees with the commenters that SIPs do not have to be composed solely of numerical emission limitations, that SIPs can contain other forms of controls in addition to emission limitations and that certain forms of controls other than emission limitations may not need to apply to sources continuously. However, the EPA disagrees with the commenters’ conclusion that the mere act of labeling certain SIP provisions as “control measures, means, or techniques” rather than as “emission limitations” can be a means to circumvent the requirement that emission limitations must regulate sources continuously. To the extent that there is any ambiguity in the requirements of section 110(a)(2), it is not reasonable to interpret the statute to allow the explicit requirement that emission limitations must be continuous to be negated in this fashion.

As an initial matter, the SIP provisions that contain automatic or discretionary exemptions during SSM events at issue in this SIP call excuse compliance with requirements that

presumably were submitted to the EPA as emission limitations, were intended to limit emissions on a continuous basis or were otherwise included to ensure that the SIP contained continuous emission limitations. All of the SIP provisions at issue in this action provide automatic or discretionary exemptions from emission limitations that are formulated as restrictions on the “quantity, rate, or concentration” of emissions from affected sources, just as section 302(k) describes the purpose of an emission limitation. Longstanding EPA regulations applicable to SIPs require that states have a control strategy to provide for attainment and maintenance of the NAAQS.¹⁷¹ The required “control strategy” is defined to be the combination of measures including, but not limited to, “emission limitations,” “emission control measures applicable to in use motor vehicles” and “transportation control measures” listed in section 108(f).¹⁷² The regulatory definition of “emission limitation” applicable to SIP provisions tracks the statutory definition of section 302(k) and notably also does not define the term to allow exemptions for emissions during SSM events.¹⁷³ To the EPA’s knowledge, none of the specific SIP provisions that contain or that are subject to the automatic or discretionary exemptions at issue in this SIP call action were developed by the states with the intention or expectation that absent the exemption they would not apply at all times when the source is in operation; *i.e.*, they impose restrictions on emissions that were intended to apply continuously when the source is emitting pollutants. Logically, the states intended the emission limitations to impose limits that apply continuously at all times when the affected sources are emitting pollutants or else there would have been no impetus to include any exemptions for emissions during SSM events.

However, even if the EPA were to accept the commenters’ premise *arguendo*—that inclusion of an SSM exemption in a given SIP provision turns “emission limitations” into “other control measures, means, or techniques,” this would not be a reasonable reading of the requirements of section 110(a)(2)(A) and section 302(k) for several reasons. To the extent that either section 110(a)(2)(A) or section 302(k) is ambiguous with respect to this point, the EPA does not interpret the CAA to allow exemptions for emissions during SSM events in SIP

provisions in the way advocated by the commenters.

First, section 110(a)(2)(A) explicitly requires that SIPs must contain emission limitations as necessary to meet various CAA requirements. Section 302(k) requires that such emission limitations must limit “the quantity, rate, or concentrations of emissions of air pollutants on a *continuous* basis.” Moreover, section 302(k) reiterates that the term “continuous emission limitation” also specifically includes “any requirement relating to the operation or maintenance of a source to assure *continuous* emission reduction.” Lest there be doubt, section 302(m) provides a definition for the related term “means of emission limitation” as “a system of continuous emissions reduction (including the use of specific technology or fuels with specified pollution characteristics).” In the *Sierra Club v. Johnson* decision, the D.C. Circuit concluded that the statutory definition of “emission limitation” in section 302(k) precludes exemptions for emissions during SSM events because such exemptions are inconsistent with the requirement for continuous controls.¹⁷⁴ Given the emphasis that the statute places on the requirement that sources be subject to continuous emission controls, and given the emphasis that courts have placed on the requirement that sources be subject to continuous controls on their emissions, the EPA believes that it is illogical that the statutory requirement for continuous controls on sources could be subverted merely by the act of labeling a given SIP provision a “control measure” rather than an “emission limitation.” The commenters’ argument that if a given SIP provision contains an SSM exemption, it is merely a “control measure[], mean[], or technique[]” reduces the explicit requirement for continuous controls on emissions to a semantic exercise.

Second, the EPA believes that the commenters’ reading of the statute to permit SIP provisions to contain an SSM exemption by virtue of what it is labeled is incorrect if taken to its logical extreme. The commenters’ interpretation of section 110(a)(2)(A) would theoretically allow a SIP to contain no emission limitations whatsoever, merely a collection of requirements labeled “control measures” so that sources can be excused from having to limit emissions on a continuous basis. This result is contrary to judicially approved EPA

¹⁷¹ See, e.g., 40 CFR 51.100.

¹⁷² See, e.g., 40 CFR 51.100(m).

¹⁷³ See 40 CFR 51.100(z).

¹⁷⁴ See *Sierra Club v. Johnson*, 551 F.3d 1019, 1027–28 (citing CAA sections 112(d)(2), 302(k)).

interpretations of prior versions of the CAA as requiring all SIPs to include continuously applicable emission limitations and only requiring “other” additional controls “as may be necessary” to satisfy the NAAQS.¹⁷⁵ Additionally, this result is contrary to legislative history of the 1990 Clean Air Act Amendments, which indicates that in slightly revising this portion of section 110(a)(2)(A), Congress intended to merely “combine and streamline” previously existing SIP requirements into a single provision, not to vitiate statutory requirements concerning emission limitations.¹⁷⁶

Finally, the EPA’s interpretation of the requirements of section 110(a)(2) does not render the “other control” language in the statute superfluous as claimed by the commenters. In addition to emission limitations, the EPA interprets that section to allow other “control measures, means or techniques” as contemplated by the statute. For example, the EPA’s regulations implementing SIP requirements explicitly enumerate nine separate types of measures that states may include in SIPs.¹⁷⁷ This list of nine different forms of potential SIP provisions to reduce emissions varies broadly, from measures that “impose emission charges or taxes or other economic incentives or disincentives” to “changes in schedules or methods of operation of commercial or industrial facilities” to “any transportation control measure including those transportation measures listed in section 108(f).” The EPA made clear that this list is not all-inclusive. In addition, the EPA has, when appropriate, approved SIP provisions that impose various forms of emission controls that are not, by definition, emission limitations.¹⁷⁸

¹⁷⁵ See, e.g., *Kennecott Copper Corp. v. Train*, 526 F.2d 1149, 1153 (9th Cir. 1975). The current version of section 110(a)(2)(A) is admittedly worded differently than the 1970 version. However, for purposes of these commenters the critical distinction is not that Congress changed the location of the word “necessary” but rather that Congress changed the subject that “necessary” modifies—and thus the entire scope of 110(a)(2)(A)—from satisfying the NAAQS to meeting “applicable requirements” of the entire CAA.

¹⁷⁶ See, e.g., S. Rept. 101–228, at 20 (noting that the structure of section 110(a)(2)(A) as it appears today reflects congressional intent to “combine and streamline” previously existing SIP requirements into a single provision).

¹⁷⁷ See 40 CFR 51.100(n).

¹⁷⁸ See, e.g., 71 FR 7683 (February 14, 2006) (approving as BACM the use of “conservation management practices” to control fugitive dust emissions from agricultural sources, including techniques that limit emissions only during certain activities or times); 68 FR 56181 (September 30, 2003) (approving as BACM an “episodic wood burning curtailment” program that restricts the use

of wood-burning stoves based on predicted particulate matter concentrations).

Thus, the commenters are in error in their belief that the EPA’s reading of the statute to require that SIPs contain emission limitations that apply continuously ignores the other forms of potential measures that section 110(a)(2)(A) authorizes.

Section 110(a)(2) requires SIPs to include enforceable emission limitations and other controls “as necessary or appropriate to meet the applicable requirements” of the CAA. Regardless of whether commenters’ semantic labeling arguments are valid in the abstract, they are not correct with respect to the fundamental CAA requirements for SIPs relating to continuous emission limitations. The automatic or discretionary exemptions for emissions during SSM events in the SIP provisions at issue in this SIP call authorize exemptions from statutorily required emission limitations. To the extent that such a SIP provision would functionally or legally exempt sources from regulation during SSM events, the SIP provision fails to be a continuously applicable enforceable emission limitation as required by the CAA. The fact that a SIP may also contain “other control[s]” as advocated by the commenters does not negate the statutory requirement that emission limitations must apply continuously.

g. Comments that the definition of “emission limitation” in section 302(k) does not require that all forms of emission limitations must apply continuously.

Comment: Section 110(a)(2)(A) requires that SIPs must contain emission limitations, and section 302(k) defines the term “emission limitation” to mean a limit on emissions from a source that applies continuously. A number of commenters disagreed that section 302(k) requires that *all* “emission limitations” have to be “continuous.” The commenters argued that section 302(k) establishes two distinct categories of emission limitations: (1) Requirements that “limit[] the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction,” and (2) requirements constituting a “design, equipment, work practice or operational standard promulgated under this chapter.” These commenters claimed that only the first purported category is emission limitations that must be continuous and that the second purported category is

emission limitations that do not need to apply continuously. Accordingly, these commenters asserted that SIP provisions that are rendered noncontinuous by inclusion of exemptions for emissions during SSM events are still legally valid “emission limitations” because they fall within the second category. Other commenters separately contended that under section 302(k), SIP provisions imposing requirements “relating to the operation or maintenance of sources” do not need to be continuous, unlike those imposing requirements that limit “the quantity, rate, or concentration of emissions or air pollutants.”

Response: The EPA disagrees with the commenters’ view that section 302(k) establishes two discrete categories of emission limitations, only one of which must reduce continuous emissions on a continuous basis. The EPA acknowledges that the text of section 302(k) is ambiguous with respect to this point, but the Agency does not agree with the commenters’ interpretation of the statute. The statutory text of section 302(k) begins with a catch-all definition of the term “emission limitation” as “a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis”¹⁷⁹ The EPA believes that the rest of the first sentence in section 302(k), beginning with the word “including,” is best read as a list of examples of types of measures that satisfy this general definition. In other words, the remainder of the sentence provide examples of types of SIP provisions that could be used to limit emissions on a continuous basis, including any design standard, equipment standard, work practice standard or operational standard promulgated under the CAA, as well as “any requirement relating to the operation or maintenance of a source to assure continuous emission reduction.” However, each of these forms of emission limitation would be required to apply at all times, or be required to apply in combination at all times, in order to meet the fundamental requirement that the emission limitation serves to limit emissions from the affected sources continuously. Thus, the EPA interprets the term “emission limitation” to permit emission limitations that are composed of a combination of numerical limitations, technological control requirements and/or work practice requirements, so long as they are components of an emission limitation that applies continuously. This interpretation accords with

of wood-burning stoves based on predicted particulate matter concentrations).

¹⁷⁹ CAA section 302(k).

statutory context,¹⁸⁰ the legislative history regarding the definition of “emission limitation,”¹⁸¹ judicial interpretations of section 302(k)¹⁸² and the EPA’s definition of “emission limitation” in its SIP regulations.¹⁸³ Accordingly, the EPA’s interpretation of section 302(k) is reasonable.

The EPA also disagrees with the commenters who contended that the third clause of section 302(k) authorizes exemptions for emissions during SSM events in emission limitations. The commenters argued that requirements “relating to the operation or maintenance of sources” do not have to be continuous. The EPA believes that this reading of the statute is simply in error, because section 302(k) on its face provides that these requirements must “assure continuous emission reduction.”¹⁸⁴

h. Comments that exemptions or affirmative defenses are not only not prohibited, but are actually required by the CAA because they are necessary to make an emission limitation “reasonable” or “achievable” for sources that cannot comply during SSM events.

Comment: Commenters argued that some emission limitations currently in SIPs are only “reasonable” or technologically “achievable” because they include exemptions or affirmative defenses applicable to emissions during SSM events. According to these commenters, without exemptions or affirmative defenses to excuse sources from compliance with the limits during SSM events, these emission limitations would not be reasonable or achievable as required by law. To support these contentions, commenters cited case law from the early 1970s to argue that the CAA requires emission limitations in SIP provisions to include exemptions or affirmative defenses for SSM events.

Response: The EPA agrees that SIP provisions should impose emission

limitations that are reasonable and achievable by sources, so long as they are also consistent with the applicable legal requirements for that type of provision. The EPA acknowledges that in some cases, emission limitations may need to include alternative numerical limitations, technological controls or work practices during some modes of operation, such as startup and shutdown. As explained in detail in the February 2013 proposal and in this action, the EPA interprets the CAA to allow SIP provisions to include different numerical limitations or other control requirements as components of a continuously applicable emission limitation, so long as the SIP provision meets all other applicable requirements. However, the EPA disagrees with these commenters’ conclusions that the need for “reasonable” and “achievable” emission limitations provides a legal justification for exemptions or affirmative defenses for excess emissions during SSM events.

First, many of the commenters erroneously presupposed that an emission limitation must continuously control emissions at the *same* rate, quantity, or concentration at all times. For sources or source categories that cannot comply with otherwise applicable emission limitations during certain modes of operation, such as startup and shutdown, the state may elect to develop alternative emission limitations applicable during those events as a component of the SIP provision. The EPA has provided recommended criteria for states to use in developing appropriate alternative emission limitations. Appropriate alternative emission limitations would ensure the existence of requirements that limit the quantity, rate or concentration of pollutants from the affected sources on a continuous basis, while also providing differing limitations tailored specifically to limit emissions during specified modes of source operation. As long as those differing limitations are components of a continuously applicable emission limitation that meets other applicable substantive requirements (e.g., is RACT for stationary sources in nonattainment areas) and that is legally and practically enforceable, then such alternative emission limitations are valid. States are not required to create such alternative emission limitations, but to do so is an acceptable approach.

Second, these commenters pointed to no provision of the CAA requiring or allowing exemptions or affirmative defenses for SSM events. Instead, they contend that D.C. Circuit opinions in *Portland Cement Association v.*

*Ruckelshaus*¹⁸⁵ and *Essex Chemical Corp. v. Ruckelshaus*¹⁸⁶ require SIPs to include exemptions for emissions during SSM events. As an initial matter, these cases predate amendments to the CAA that expressly defined “emission limitation” as a requirement that continuously limits emissions. Furthermore, even accepting these commenters’ interpretations of those cases (which as explained below, EPA does not), any purported holdings to that effect have been further eroded by more recent case law from the D.C. Circuit and other courts. Most importantly, the *Sierra Club v. Johnson* decision has reiterated that emission limitations must apply continuously in order to comply with section 302(k), and the logic of *NRDC v. EPA* decision indicates that affirmative defense provisions are not appropriate because they purport to alter the jurisdiction of the courts.¹⁸⁷

In addition to these more recent legal developments, however, the two earlier D.C. Circuit cases highlighted by commenters simply did not hold what commenters claim that they held. With respect to the *Portland Cement Association* decision, commenters selectively quoted from the case for the proposition that the D.C. Circuit had “acknowledged” that malfunctions are an inescapable aspect of industrial life and that EPA must make allowances for malfunctions when promulgating standards. The full sentence from the opinion, however, makes clear that the D.C. Circuit was merely summarizing the “concern of manufacturers,” not stating the court’s own position.¹⁸⁸ To the contrary, the EPA believes that *Portland Cement* stands for the broader proposition that a system incorporating flexibility is reasonable and consistent with the overall intent of the CAA, and the EPA merely “may” take such flexibility into account.¹⁸⁹ As relevant to this action, the flexibility provided states to ensure continuous controls by developing alternative emission limitations is fully consistent with that view of the CAA. SIP provisions that include alternative emission limitations provide the sort of “limited safety valve” contemplated by the courts that can serve to make SIP emission limitations more achievable without authorizing complete exemptions for

¹⁸⁰ See, e.g., CAA section 302(m) (defining “means of emission limitation” as a “system of continuous emission reduction”).

¹⁸¹ See e.g., H.R. Rep. 95–294, at 92 (1977) (explaining that the definition of “emission limitation,” like the definition of “standard of performance,” was intended to “ma[ke] clear that constant or continuous means of reducing emissions must be used to meet th[ose] requirements”); S. Rep. 95–127, at 94 (explaining that the definition of “emission limitation” was intended to “clarify the committee’s view that the only acceptable basic strategy is one based on continuous emission control,” rather than “unacceptable” “[i]ntermittent controls or dispersion techniques . . .”).

¹⁸² See, e.g., *Sierra Club v. Johnson*, 551 F.3d 1019, 1027–28 (D.C. Cir. 2008).

¹⁸³ See 40 CFR 51.100(n) (defining “emission limitation” as a requirement that limits emissions on a continuous basis).

¹⁸⁴ See CAA section 302(k).

¹⁸⁵ 486 F.2d 375 (D.C. Cir. 1973).

¹⁸⁶ 486 F.2d 427 (D.C. Cir. 1973).

¹⁸⁷ See *Sierra Club v. Johnson*, 551 F.3d 1019 (D.C. Cir. 2008); *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014).

¹⁸⁸ *Portland Cement Ass’n*, 486 F.2d at 398.

¹⁸⁹ *Id.* at 399.

emissions during SSM events in violation of statutory requirements.¹⁹⁰

Commenters also cited *Essex Chemical Corp.* for the proposition that SSM exemptions are necessary to ensure that standards are reasonable. This court decision, however, also did not hold that emission limitations must provide exemptions or affirmative defenses for excess emissions during SSM events. To the contrary, the petitioners' complaint in *Essex Chemical Corp.* was that EPA had "fail[ed] to provide that *lesser standards*, or no standards at all, should apply when the stationary source is experiencing startup, shutdown, or mechanical malfunctions through no fault of the manufacturer."¹⁹¹ It was these variant provisions that, in the court's opinion, "appear[ed] necessary" to ensure that the standards before it were reasonable.¹⁹² Again, the EPA believes that emission limitations in SIP provisions may include alternative emission limitations that can provide those "lesser standards" that apply during startup and shutdown events consistent with the court's opinion but also ensure that emissions are continuously limited as required by the 1977 CAA Amendments defining "emission limitation."

As a legal matter, the court in *Essex Chemical* was reviewing a specific "never to be exceeded" standard for new and modified sources and addressed only whether the EPA's failure to provide some form of flexibility during SSM events was supported by the record;¹⁹³ the court was not interpreting whether the CAA inherently required such exemptions (rather than alternative limits) regardless of future developments in technology. Accordingly, the D.C. Circuit ultimately remanded the challenged standards to the EPA for reconsideration, not because SSM exemptions are mandatory but rather because of comments made by the EPA Acting Administrator and deficiencies identified in the administrative record with respect to "never to be exceeded" limits for those specific standards. In short, the *Essex Chemical* court did not hold that the CAA "requires" emission limitations to include exemptions for emissions during SSM events as suggested by commenters.

Furthermore, the EPA notes that the most salient legal holding of *Essex Chemical* with respect to achievability

is not what the court said about the circumstances peculiar to the EPA's development of those specific standards but rather is the court's holding that standards of performance can be "achievable" even if there is no facility "currently in operation which can at all times and under all circumstances meet the standards" ¹⁹⁴ Thus, the decision supports the EPA's conclusion that the CAA requires appropriately drawn emission limitations that apply on a continuous basis. As explained in section IV of this document, SIP provisions also cannot include the affirmative defenses advocated by commenters, because those are inconsistent with CAA provisions concerning the jurisdiction of the courts.

i. Comments that the EPA is requiring that all SIP emission limitations must be "numerical" at all times and set at the same numerical level at all times.

Comment: Many commenters on the February 2013 proposal evidently believed that the EPA was proposing an interpretation of the term "emission limitation" under section 302(k) that would require all SIP provisions to impose numerical emission limits, and that such limits must be set at the same numerical level at all times. These commenters argued that numerical emission limitations are not required by the text of section 302(k). For example, commenters pointed to section 302(k)'s use of "work practice or operational standard[s]" as evidence that an emission limitation may be composed of more than merely numerical criteria. These commenters also reiterated their view that section 302(k) allows for or requires alternative limits during periods of SSM, including non-numerical alternative limits such as work practice or operational standards.

Response: At the outset, the EPA notes that it did not intend to imply that all emission limitations in SIP provisions must be expressed numerically, or that they must be set at the same numerical level for all modes of source operation. To the contrary, the EPA intended to indicate that states may elect to create emission limitations that include alternative emission limitations that apply during certain modes of source operation, such as startup and shutdown. This was the reason for inclusion of the recommended criteria for states to develop appropriate alternative emission limitations applicable during startup and shutdown in section VII.A of the February 2013 proposal. The EPA has provided similar

recommended criteria in this final action (see section VII.B.2 of this document). The EPA agrees that neither section 110(a)(2)(A) nor section 302(k) inherently requires that SIP emission limitations must be expressed numerically. Furthermore, section 302(k) does not itself require imposition of numerical limitations or foreclose the use of higher numerical levels, specific technological controls or work practices during certain modes of operation.

Although some CAA programs may require or impose a presumption that emission limitations be expressed numerically, the text of section 110(a)(2)(A) and section 302(k) does not expressly state a preference for emission limitations that are in all cases numerical in form.¹⁹⁵ Rather, as many commenters pointed out, the critical aspect of an emission limitation in general is that it be a "requirement . . . which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis" ¹⁹⁶ Accordingly, although other regulatory requirements may also apply, a non-numerical design standard, equipment standard, work practice standard or operational standard could theoretically meet the definition of "emission limitation" for purposes of section 302(k) if it continuously limited the quantity, rate or concentration of air pollutants.¹⁹⁷ By contrast, if a non-numerical requirement does not itself (or in combination with other components of the emission limitation) limit the quantity, rate or concentration of air pollutants on a continuous basis, then the non-numerical standard (or overarching requirement) does not meet the statutory definition of an emission limitation under section 302(k).

Finally, the EPA does not believe that section 110(a)(2)(A) or section 302(k) mandates that an emission limitation be composed of a single, uniformly applicable numerical emission limitation. As the EPA stated in the February 2013 proposal, "[i]f sources in fact cannot meet the otherwise applicable emission limitations during planned events such as startup and shutdown, then an air agency can develop specific alternative

¹⁹⁵ Numerical requirements or preferences for some emission limitations flow from substantive requirements of specific CAA programs, which are incorporated into section 110(a)(2)(A) by the requirement that SIPs "include enforceable emission limitations . . . as may be necessary or appropriate to meet the applicable requirements of" the CAA. CAA section 110(a)(2)(A).

¹⁹⁶ See, e.g., *id.*, section 112(h)(4).

¹⁹⁷ For example, emission limitations must meet the requirements of various substantive provisions of the CAA and must be legally and practically enforceable.

¹⁹⁰ *Id.* (citing *International Harvester*, 478 F.2d 615, 641 (D.C. Cir. 1973)).

¹⁹¹ *Essex Chem. Corp v. Ruckelshaus*, 486 F.2d at 433 (emphasis added).

¹⁹² See *id.*

¹⁹³ *Id.* ("the record does not support the 'never to be exceeded' standard currently in force").

¹⁹⁴ *Essex Chem. Corp v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973).

requirements that apply during such periods, so long as they meet other applicable CAA requirements.”¹⁹⁸ As explained in the EPA’s response in section VII.A.3 of this document regarding the meaning of the statutory term “continuous,” the critical aspect for purposes of section 302(k) is not whether the emission limitation is expressed as a static versus variable numerical limitation but rather whether as a whole it constitutes a requirement that limits emissions on a continuous basis. Furthermore, any emission limitation must also meet all other applicable CAA requirements concerning stringency and enforceability.

j. Comments that an emission limitation can be “continuous” even if it has different numerical limitations applicable during some modes of source operation or has a combination of numerical emission limitations and specific control technologies or work practices applicable during other modes of operation.

Comment: Several commenters argued that an emission limitation can be “continuous” under section 302(k) even if it provides different substantive requirements applicable during SSM events. One commenter illustrated this position with a hypothetical:

[W]hile Section 302 requires “emission limits” to be “continuous,” it does not specify . . . that the same “emission limit” must apply at all times. That is, if a state chooses to require sources to comply with a 40% opacity limit during steady-state operations, the Act does not then require the state to apply that 40% limit at all times, including startup, shutdown and malfunction events.

Commenters pointed to a number of sources as justification for this position, including the text of section 302(k), relevant case law, legislative history of the 1977 CAA Amendments, prior EPA interpretations, and practical concerns.

Response: The EPA agrees with these commenters’ conclusion that an “emission limitation” under section 302(k) does not need to be expressed as a static, inflexible limit on emissions. Rather, a SIP provision qualifying as an “emission limitation” consistent with section 302(k) must merely limit “the quantity, rate, or concentration” of emissions, and must do so “on a continuous basis.” The critical aspect for purposes of section 302(k) is that the SIP provision impose limits on emissions on a continuous basis, regardless of whether the emission limitation as a whole is expressed numerically or as a combination of

numerical limitations, specific control technology requirements and/or work practice requirements, and regardless of whether the emission limitation is static or variable. For example, so long as the SIP provision meets other applicable requirements, it may impose different numerical limitations for startup and shutdown.

The EPA also agrees that the text of section 302(k) does not require states to impose emission limitations that include a static, inflexible standard. Rather, the term “emission limitation” is merely defined as a “requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis. . . .” The continuous limits imposed by emission limitations are a fundamental distinction between emission limitations and the other control measures, means or techniques that may also limit emissions.¹⁹⁹ The text of section 302(k), however, does not distinguish between a variable or static “requirement” that continuously limits emissions—all that is required is that the emissions are limited on a continuous basis.

This interpretation is consistent with prior EPA interpretations of section 302(k), as well as relevant case law. In *Kamp v. Hernandez*, the U.S. Court of Appeals for the Ninth Circuit (Ninth Circuit) upheld the EPA’s interpretation of “continuous” in section 302(k), as requiring that “some limitation on emissions, although not necessarily the same limitation, is always imposed” on the source.²⁰⁰ More recently, the D.C. Circuit favorably cited *Kamp* when holding that section 302(k) requires emission standards to limit emissions on a continuous basis and precludes exemptions for emissions during SSM events.²⁰¹

Legislative history confirms that Congress was primarily concerned that there be constant or continuous means of reducing emissions—not that the nature of those controls could not be different during different modes of operation.²⁰² For example, legislative

history from the 1977 CAA Amendments states that Congress added section 302(k)’s definition of “emission limitation” to:

. . . ma[ke] clear that constant or continuous means of reducing emissions must be used to meet these requirements. By the same token, intermittent or supplemental controls or other temporary, periodic, or limited systems of control would not be permitted as a final means of compliance.²⁰³

Although this legislative history demonstrates congressional intent that any “emission limitation” would require limits on emissions at all times, this history does not necessarily indicate that the emission limitation must consist of a single static numerical limitation. Accordingly, this legislative history is consistent with the EPA’s view that section 302(k) requires continuous limits on emissions and that variable (albeit still continuous) limits on emissions can qualify as an emission limitation for purposes of section 302(k).

Finally, although the EPA agrees with these commenters’ conclusion, the EPA does not agree with these commenters’ view that practical concerns *require* states in all cases to establish alternative emission limitations for modes of operation such as startup and shutdown within any continuously applicable emission limitation. Principles of cooperative federalism incorporated into section 110 allow states great leeway in developing SIP emission limitations, provided those limitations comply with applicable legal requirements.²⁰⁴ States are thus not required to establish alternative emission limitations for any sources during startup and shutdown, but they may elect to do so. Neither the definition of “emission limitation” in section 302(k) nor the requirements of section 110(a)(2)(A) explicitly require states to develop emission limitations that include alternative emission limitations for periods of SSM, just as they do not explicitly preclude states from doing so.

requirements”); S. Rep. 95–127, at 94 (explaining that the definition of “emission limitation” was intended to “clarify the committee’s view that the only acceptable basic strategy is one based on continuous emission control,” rather than “unacceptable” “[i]ntermittent controls or dispersion techniques . . .”).

²⁰³ H.R. Rep. 95–294, at 92 (1977), as reprinted in 1977 U.S.C.C.A.N. 1077, 1170); *Sierra Club v. Johnson*, 551 F.3d at 1027 (quoting the same); *Kamp v. Hernandez*, 752 F.2d at 1453–54 (quoting the same).

²⁰⁴ As discussed above and elsewhere in this document, those requirements include satisfying the definition of “emission limitation” under CAA section 302(k), and being “enforceable” in accordance with section 110(a)(2)(A).

¹⁹⁹ See CAA section 110(a)(2)(A).

²⁰⁰ *Kamp v. Hernandez*, 752 F.2d 1444, 1452–53 (9th Cir. 1985) (citing *Chevron, U.S.A., Inc. v. Natural Res. Def. Council*, 467 U.S. 837 (1984)) (upholding EPA’s “broader definition of ‘continuous’” under section 302(k)).

²⁰¹ *Sierra Club v. Johnson*, 551 F.3d 1019, 1027–28 (D.C. Cir. 2008) (quoting *Kamp*, 752 F.2d at 1452).

²⁰² See, e.g., H.R. Rep. 95–294, at 92 (1977) (explaining that the definition of “emission limitation,” like the definition of “standard of performance,” was intended to “ma[ke] clear that constant or continuous means of reducing emissions must be used to meet th[ose]

k. Comments that an emission limitation can be “continuous” even if it includes periods of exemptions from the emission limitation.

Comment: Commenters asserted that a requirement limiting emissions can be “continuous” even if a SIP provision includes periods of exemption from that limit. For example, some commenters contended that SSM exemptions only excuse compliance with emission limitations for a “short duration,” or “brief” period of time, and that these purportedly ephemeral interruptions should not be viewed as rendering the requirement noncontinuous. Other commenters contended that the EPA misinterpreted portions of the D.C. Circuit’s opinion in *Sierra Club v. Johnson*,²⁰⁵ interpreting section 302(k). Specifically, this group of commenters claimed that because the holding of that case was based on a combined reading of sections 112 and 302(k), the court’s interpretation of the word “continuous” in section 302(k) does not extend outside the context of section 112. This included one commenter who suggested, in a one-sentence footnote, that “[i]n the cooperative-federalism context”—presumably of section 110—“the standard of flexibility that Congress gave the States with respect to selecting the elements of their SIPs is not necessarily the same standard Congress set to govern EPA’s responsibility to establish the NAAQS or section 112 standards.” Still other commenters further argued that the EPA mischaracterized legislative history discussing “continuous” in section 302(k). According to these commenters, the context of legislative history on section 302(k) indicates that Congress did not intend for the word “continuous” to be given its plain meaning but rather intended to use “continuous” in relation only to specific types of intermittent controls.

Response: The EPA disagrees with these commenters. First, commenters’ interpretation would contravene the plain meaning of “continuous.” Section 302(k) defines “emission limitation” as a requirement that “limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis. . . .”²⁰⁶ Although the word “continuous” is not separately defined in the Act, its plain and unambiguous meaning is “uninterrupted.”²⁰⁷ Accordingly, to the extent that a SIP provision provides for any period of

time when a source is *not* subject to any requirement that limits emissions, the requirements limiting the source’s emissions by definition cannot do so “on a continuous basis.” Such a source would not be subject to an “emission limitation,” as that term is defined under section 302(k). The same principle applies even for “brief” exemptions from limits on emissions, because such exemptions nevertheless render the emission limitation noncontinuous.

Second, the EPA disagrees with commenters’ interpretation of the D.C. Circuit’s opinion in *Sierra Club*. While the court’s ultimate decision was based on “sections 112 and 302(k) . . . read together,”²⁰⁸ the court’s analysis of what makes a standard “continuous” was based on section 302(k) alone.²⁰⁹ Although the precise components of an emission limitation or standard may expand depending on which other provisions of the CAA are applicable, the bedrock definition for what it means to be an “emission limitation” under section 302(k) does not. Congress appeared to share the EPA’s view that section 302(k) provides a bedrock definition of “emission limitation” applicable “to all emission limitations under the act, not just to limitations under sections 110, 111, or 112 of the act.”²¹⁰ Accordingly, the D.C. Circuit’s interpretation of section 302(k) applies equally in the context of SIP provisions developed by states as in the context of MACT standards developed by the EPA, even if additional requirements may be different.²¹¹

Finally, the EPA rejects commenters’ contention that section 302(k)’s legislative history indicates that use of the word “continuous” in the definition of “emission limitation” was merely intended to prevent the use of

intermittent controls or, even more narrowly, only dispersion techniques. While legislative history of the 1977 Amendments discusses at length the concerns associated with these types of controls, section 302(k) was not intended to merely prevent the narrow problem of intermittent controls. To the contrary, the House Report states that under section 302(k)’s definition of emission limitation, “intermittent or supplemental controls or other temporary, periodic, or limited systems of control would not be permitted as a final means of compliance.”²¹²

In explaining congressional intent behind adopting a statutory definition of “emission limitation,” the House Report articulated a rationale broader than would apply if Congress had merely intended to prohibit the tall stacks and dispersion techniques that commenters claim were targeted: “Each source’s prescribed emission limitation is the fundamental tool for assuring that ambient standards are attained and maintained. Without an enforceable emission limitation which will be complied with at all times, there can be no assurance that ambient standards will be attained and maintained.”²¹³ By contrast, Congress criticized limitations structured in ways that could not “provide assurances that the emission limitation will be met at all times,” or that would sometimes allow the “emission limitation [to] be exceeded, perhaps by a wide margin”²¹⁴ Such flaws “would defeat the remedy provision provided by section 304 of the act which allows citizens to assure compliance with emission limitations and other requirements of the act.”²¹⁵ Exemptions for emissions during SSM events have the same effects.²¹⁶

In adopting section 302(k)’s definition of “emission limitation,” Congress did not merely intend to prohibit the use of intermittent controls as final compliance strategies—much less intermittent controls as narrowly defined by commenters to mean only dispersion techniques and certain “tall stacks.” Rather, Congress intended to eliminate the fundamental problems

²⁰⁸ *Sierra Club*, 551 F.3d at 1027.

²⁰⁹ See *id.* (quoting H.R. Rep. 95–294, at 92 (1977), as reprinted in 1977 U.S.C.C.A.N. 1077, 1170); see also *Kamp v. Hernandez*, 752 F.2d at 1453–54 (quoting the same and coming to the same conclusion).

²¹⁰ See H.R. 95–294, at 92 (1977); see also section 302 (stating that the definitions appearing therein apply “[w]hen used in this chapter”).

²¹¹ The fact that CAA section 110 incorporates principles of cooperative federalism does not inevitably mean that the definition of “emission limitation” under section 302(k) changes depending on whether it is applied in the context of section 110 versus section 112. Accordingly, in the context of judicial interpretation of a statute, the U.S. Supreme Court has held that judges cannot “give the same statutory text different meanings in different cases.” *Clark v. Martinez*, 543 U.S. 371, 386 (2005). The EPA believes that the text and legislative history of section 302(k) evince congressional intent to consistently apply the definition of “emission limitation” under section 302(k) rather than to develop an inconsistent interpretation peculiar to section 110.

²¹² H.R. 95–294, at 92 (emphasis added).

²¹³ *Id.* (emphasis added). The Senate Report expressed a similar sentiment. See S. Rep. No. 95–127, at 94–95 (1977) (explaining that the definition of “emission limitation” was intended “to clarify the committee’s view that the only acceptable basic strategy [for emission limitations in SIPs] is one based on continuous emission control”).

²¹⁴ See H.R. 95–294, at 92.

²¹⁵ See *id.*

²¹⁶ See, e.g., *NRDC v. EPA*, 749 F.3d 1055, 1064 (D.C. Cir. 2014) (holding that an affirmative defense for excess emissions during malfunctions contradicts the requirement that an emission limitation be “continuous”).

²⁰⁵ 551 F.3d 1019 (D.C. Cir. 2008).

²⁰⁶ CAA section 302(k).

²⁰⁷ See *Webster’s Third New International Dictionary* 493–94 (Phillip Babcock Gove ed., Merriam-Webster 1993) (defining “continuous”).

that were illustrated by use of those controls.²¹⁷ SSM exemptions and affirmative defenses raise many of the same problems, and addressing those problems through this action fully accords with section 302(k)'s legislative history.

1. Comments that the "as may be necessary or appropriate" language in section 110(a)(2)(A) *per se* authorizes states to create exemptions in SIP emission limitations.

Comment: Some commenters contended that section 110(a)(2)(A) merely requires states to include emission limitations and other control measures in their SIPs "as may be necessary or appropriate." These commenters interpreted that language as a broad delegation of discretion to states to develop SIP provisions that are necessary or appropriate to satisfy the particular needs of a state, as judged solely by that state. Some of the commenters argued that the EPA's interpretation of "as may be necessary or appropriate" would, in all circumstances, improperly substitute the EPA's judgment for that of the state concerning what emission limitations are necessary or appropriate. One commenter highlighted the EPA's proposal to deny the Petition with respect to a specific SIP provision of the South Carolina SIP that entirely exempts a source category from regulation.²¹⁸ According to this commenter, if the "as may be necessary or appropriate" language grants states the authority to exempt a source category from regulation entirely, then it must allow states to exempt sources selectively during SSM events.

Some commenters further argued that regardless of what the terms "emission limitations" or "other control measures, means, or techniques" mean, section 110(a)(2)(A) only requires states to include such emission controls in SIPs "as may be necessary or appropriate" to meet the NAAQS, or some requirement germane to attainment of the NAAQS, such as various technology-based standards or general principles of enforceability. Commenters also disagreed with the EPA's purported interpretation that the statutory phrase "as may be necessary" only qualifies what "other control[s]" are required, rather than also qualifying what

emission limitations are required. According to these commenters, that interpretation is a vestige of the 1970 CAA and was foreclosed by textual changes in the 1977 CAA Amendments or, alternatively, the 1990 CAA Amendments.

Response: The EPA disagrees with the commenters' interpretation of the "as may be necessary or appropriate" language of section 110(a)(2)(A). As an initial matter, those commenters contending that section 110(a)(2)(A) is only concerned with what is "necessary or appropriate" to attain and maintain the NAAQS (or some requirement germane to the NAAQS) ignore the plain language of section 110(a)(2)(A). While the predecessor provisions to section 110(a)(2)(A) prior to the 1990 CAA Amendments did indeed speak in terms of emissions controls "necessary to insure attainment and maintenance of [the NAAQS],"²¹⁹ the statute in effect today requires controls "necessary or appropriate to meet the applicable requirements of this chapter,"^{220—i.e.,} to meet the requirements of the CAA as a whole. Thus, at a minimum, the EPA interprets the phrase "as may be necessary or appropriate" to include what is necessary or appropriate to meet legal requirements of the CAA, including the requirement that emission limitations must apply on a continuous basis.

Regardless of whether all SIPs must always contain emission limitations, the text of the CAA is clear that the EPA is at a minimum tasked with determining whether SIPs include all emission limitations that are "necessary" (*i.e.,* required) "to meet the applicable requirements of" that CAA. Broadly speaking, this requires that the EPA determine whether the SIP meets the basic legal requirements applicable to all SIPs (*e.g.,* the requirements of section 110(a)(2)(A) through (M)), whether the SIP contains emission limitations necessary to meet substantive requirements of the Act (*e.g.,* RACT-level controls in nonattainment areas) and whether all emission limitations and other controls, as well as the schedules and timetables for compliance, are legally and functionally enforceable.

In every state subject to this SIP call, the EPA has previously concluded in approving the existing SIP provisions that the emission limitations are necessary to comply with legal requirements of the CAA. The states in

question would not have developed and submitted them, and the EPA would not have approved them, unless the state and the EPA considered those emission limitations fulfilled a CAA requirement in the first instance. However, the automatic and discretionary exemptions for emissions during SSM events in the SIP provisions at issue in this action render those necessary emission limitations noncontinuous, and thus not meeting the statutory definition of "emission limitations" as defined in section 302(k). Accordingly, regardless of whether all SIPs must always include emission limitations, these specific SIP provisions fail to meet a fundamental requirement of the CAA because they do not impose the continuous emission limitations required by the Act.

The EPA also disagrees with the argument raised by commenters that its denial of the Petition with respect to a South Carolina SIP provision supports the validity of SSM exemptions in SIP emission limitations.²²¹ In that situation, the state determined that regulating the source category at issue was not a necessary or appropriate means of meeting the requirements of the CAA. The EPA's approval of that provision indicates that the Agency agreed with that determination. This factual scenario is not the same as one in which the state has determined that regulation of the source category *is* necessary or appropriate to meet CAA requirements. Once the determination is made that the source category must or should be regulated, then the SIP provisions developed by the state to regulate the source must meet applicable requirements. These include that any limits on emissions must be consistent with CAA requirements, including the requirement that any emission limitation limit emissions on a continuous basis. The EPA agrees that a state can validly determine that regulation of a source category is not necessary, so long as this is consistent with CAA requirements. This is not the same as allowing impermissible exemptions for emissions from a source category that must be regulated.

Finally, the EPA does not agree with commenters' allegations that that the EPA's interpretation of section 110(a)(2)(A) eliminates the states' discretion to take local concerns into account when developing their SIP provisions. Rather, for reasons discussed in more detail in the EPA's response in section V.D.2 of this document regarding cooperative federalism, the EPA's interpretation is

²¹⁷ See, *e.g.*, H.R. 95–294, at 94 (noting that the provision was intended to overcome "objections" to such measures, not merely the measures themselves); *id.* at 92 (indicating that the problems arise from "temporary, periodic, or limited systems of control" generally, not merely dispersion techniques or tall stacks).

²¹⁸ See 78 FR 12459 at 12512 (citing S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14)).

²¹⁹ See, *e.g.*, Clean Air Act of 1970, Public Law 91–604, section 4(a), 84 Stat. 1676, 1680 (December 31, 1970).

²²⁰ Section 110(a)(2)(A).

²²¹ See 78 FR 12459 at 12512 (citing S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14)).

fully consistent with the principles of cooperative federalism codified in the CAA. As courts have concluded, although Congress provided states with “considerable latitude in fashioning SIPs, the CAA ‘nonetheless subjects the States to strict minimum compliance requirements’ and gives EPA the authority to determine a state’s compliance with the requirements.”²²² This interpretation is also consistent with congressional intent that the EPA exercise supervisory responsibility to ensure that, *inter alia*, SIPs satisfy the broad requirements that section 110(a)(2) mandates that SIPs “shall” satisfy.²²³ Where the EPA determines that a SIP provision does not satisfy legal requirements, the EPA is not substituting its judgment for that of the state but rather is determining whether the state’s judgment falls within the wide boundaries of the CAA.

m. Comments that a “general duty” provision—or comparable generic provisions that require sources to “exercise good engineering judgment,” to “minimize emissions” or to “not cause a violation of the NAAQS”—inoculate or make up for exemptions in specific emission limitations that apply to the source.

Comment: Numerous commenters argued that even if some of the SIP provisions with SSM exemptions identified in this SIP call are not themselves emission limitations, they are nevertheless *components* of valid emission limitations. According to these commenters, some SIPs contain separate “general duty” provisions that are not affected by SSM exemptions and thus have the effect of limiting emissions from sources during SSM events that are explicitly exempted from the emission limitations in the SIP. These general-duty provisions vary, but most of them: (1) Instruct sources to “minimize emissions” consistent with good air pollution control practices, (2) prohibit sources from emitting pollutants that cause a violation of the NAAQS, or (3) prohibit source operators from “improperly operating or maintaining” their facilities.

Commenters contended that these general-duty provisions are requirements that—either alone or in

combination with other requirements—have the effect of limiting emissions on a continuous basis. In other words, the commenter asserted that these general-duty provisions impose limits on emissions during SSM events, when the otherwise applicable controls no longer apply. According to these commenters, SSM exemptions that excuse noncompliance with typical controls do not interrupt the continuous application of an “emission limitation,” because these general-duty provisions elsewhere in the SIP or in a separate permit are part of the emission limitation and apply even during SSM events.

Some commenters further argued that some SSM exemptions themselves demonstrate that sources remain subject to general-duty provisions during SSM events. These SSM exemptions require sources seeking to qualify for the exemption to demonstrate that, *inter alia*, they were at the time complying with certain general duties. Accordingly, these commenters contended that the SSM exemption itself demonstrates that sources remain subject to requirements that limit their emissions during SSM events, even when the source is excused from complying with other components of the overarching emission limitation.

Finally, as evidence that these general-duty clauses must be permissible under the CAA, some commenters pointed to similar federal requirements established by the EPA under the NSPS and NESHAP programs.²²⁴ These commenters argued that the D.C. Circuit’s decision in *Sierra Club v. Johnson*²²⁵ was limited to circumstances unique to section 112 and does not support a *per se* prohibition on general-duty clauses operating as “emission limitations.”

Response: The EPA disagrees with these comments. As described elsewhere in this response to comments, all “emission limitations” must limit emissions of air pollutants on a continuous basis.²²⁶ The specific requirements of a SIP emission limitation must be discernible on the face of the provision, must meet the applicable substantive and stringency requirements of the CAA and must be legally and practically enforceable. The general-duty clauses identified by these commenters are not part of the putative emission limitations contained in these SIP provisions. To the contrary, these general-duty clauses are often located in different parts of the SIP and are often not cross-referenced or otherwise

identified as part of the putative continuously applicable emission limitation.

Furthermore, the fact that a SIP provision includes prerequisites to qualifying for an SSM exemption does not mean those prerequisites are themselves an “alternative emission limitation” applicable during SSM events. The text and context of the SIP provisions at issue in this SIP call action make clear that the conditions under which sources qualify for an SSM exemption are not themselves components of an overarching emission limitation—*i.e.*, a requirement that limits emissions of air pollutants from the affected source on a continuous basis. Rather, these provisions merely identify the circumstances when sources are exempt from emission limitations.

Reviewing an example of the SIP provisions cited by commenters is illustrative of this point. For example, several commenters pointed to provisions in Alabama’s SIP that excuse a source from complying with an otherwise applicable emission limitation only when the permittee “took all reasonable steps to minimize emissions” and the “permitted facility was at the time being properly operated.” According to commenters, the general duties in this provision—to take reasonable steps to minimize emissions, and to properly operate the facility—ensure that even during SSM events, the permittee remains subject to requirements limiting emissions.

However, a review of the provisions themselves in context—not selectively quoted—reveals that these general-duty provisions were included in the SIP not as components of an emission limitation but rather as components of an *exception* to that emission limitation. In order to qualify, the SIP requires the permittee to have taken “all reasonable steps to minimize levels of emissions that exceeded the emission standard”²²⁷—an acknowledgement that the emissions to be “minimize[d]” are those that “exceed[]” (*i.e.*, go beyond) the required limits of “the emission standard.” In case there were any doubt that the general-duty provisions identified are elements of an exemption from an emission limitation, rather than components of the emission limitation itself, the provisions apply during what the Alabama SIP calls “[e]xceedances of *emission limitations*”²²⁸ and are found within a

²²² *Michigan v. EPA*, 213 F.3d 663, 687 (D.C. Cir. 2000) (quoting *Union Elec. Co. v. EPA*, 427 U.S. 246, 256–57 (1976)).

²²³ With respect to section 110(a)(2)(A), this means that a SIP must at least contain legitimate, enforceable emission limitations to the extent they are necessary or appropriate “to meet the applicable requirements” of the Act. Likewise, SIPs cannot have enforcement discretion provisions or affirmative defense provisions that contravene the fundamental requirements concerning the enforcement of SIP provisions.

²²⁴ See, e.g., 40 CFR 63.6(e)(3).

²²⁵ 551 F.3d 1019, 1027–28 (D.C. Cir. 2008).

²²⁶ CAA section 302(k).

²²⁷ Ala. Admin. Code Rule 335–3–14–.03(h)(2)(ii)(III) (emphasis added).

²²⁸ *Id.* at 335–3–14–.03(h)(2)(ii) (emphasis added).

broader section addressing “Exceptions to violations of emission limitations.”²²⁹ By exempting sources from compliance with “the emission standard,” these exemptions render the SIP emission limitation noncontinuous, contrary to section 302(k).²³⁰

The consequences for failing to satisfy the preconditions for an exemption further bolster the conclusion that these preconditions are not themselves part of an emission limitation. Failure to meet the “general duty” preconditions for an SSM exemption means that the source remains subject to the otherwise applicable emission limitation during the SSM event and is thus liable for violating the emission limitation. If those general duties were independent parts of an emission limitation (rather than merely preconditions for an exemption), then one would expect that periods of time could exist when the source was liable for violating those general duties rather than the default emission limitation.

The general-duty provisions that apply as part of the SSM exemption are not alternative emission limitations; they merely define an unlawful exemption to an emission limitation. States have discretion to fix this issue in a number of ways, including by removing the exceptions entirely, by replacing these exceptions with alternative emission limitations including specific control technologies or work practices that do ensure continuous limits on emissions or by reformulating the entire emission limitation.

In addition to the EPA’s fundamental disagreement with commenters that these general-duty provisions are actually components of emission limitations, the EPA has additional concerns about whether many of these provisions could operate as stand-alone emission limitations even if they were properly identified as portions of the overall emissions limitations in the SIP.²³¹ Furthermore, some of these general-duty provisions do not meet the level of stringency required to be an “emission limitation” compliant with specific substantive provisions of the CAA applicable to SIP provisions.²³² Accordingly, while states are free to include general-duty provisions in their

SIPs as separate additional requirements, for example, to ensure that owners and operators act consistent with reasonable standards of care, the EPA does not recommend using these background standards to bridge unlawful interruptions in an emission limitation.²³³

The NSPS and NESHAP emission standards and limitations that the EPA has issued since *Sierra Club* demonstrate the distinct roles played by emission limitations and general-duty provisions. The emission limitations themselves are clear and legally and functionally enforceable, and they are composed of obviously integrated requirements that limit emissions on a continuous basis during all modes of source operation. Crucially, the general-duty provisions in these post-*Sierra Club* regulations merely supplement the integrated emission limitation; they do not supplant the emission limitation, which independently requires continuous limits on emissions. As discussed elsewhere in this document, the fact that the EPA is in the process of updating its own regulations to comply with CAA requirements does not alter the legal requirements applicable to SIPs.

n. Comments that EPA’s action on the petition is a “change of policy.”

Comment: A number of commenters claimed that the EPA’s action on the Petition is illegitimate because it is based upon a “change of policy.” Some commenters claimed that the EPA’s reliance on the definition of “emission limitation” in section 302(k) and the requirements for SIP provisions in section 110(a)(2) as barring automatic exemptions are “new.” These commenters claimed that the EPA has historically relied on the fact that NAAQS are ambient-standard-based and that the EPA has relied also on the fact that SSM exemptions had potential adverse air quality impacts as the basis for interpreting the CAA to preclude exemptions. The commenters argued that this basis for the SSM Policy is evidenced by the fact that EPA itself historically included SSM exemptions in NSPS and NESHAP rules, which establish emission limitations that should be governed by section 302(k) as well.

Other commenters claimed that the EPA is changing its SSM Policy by seeking to revoke “enforcement discretion” exercised on the part of states, which the EPA specifically recognized as an acceptable approach in the 1983 SSM Guidance. A commenter asserted that “fairness principles” mean that the EPA cannot require a state to modify its SIP without substantial justification. The commenter further contended that the EPA’s claim that it has a longstanding interpretation of the CAA that automatic exemptions are not allowed in SIP provisions is false; otherwise, the commenter argued, the EPA would not have approved some of the provisions at issue in the SIP call long after 1982. As evidence for this argument, the commenter pointed to the West Virginia regulations that provide an automatic exemption.

Finally, other commenters argued that the EPA’s changed interpretation of the CAA requires an acknowledgement that the SSM Policy is being changed and a rational explanation for such change. These commenters noted that the EPA previously argued in a brief for the type of exemption provisions that it is now claiming are deficient, citing *Sierra Club v. Johnson*, No. 02–1135 (D.C. Cir. March 14, 2008). The commenters claimed that the EPA has provided no rational basis for its change in interpretation of the CAA concerning exemptions for emissions during SSM events.

Response: The EPA’s longstanding position, at least since issuance of the 1982 SSM Guidance, is that SIP provisions providing an exemption from emission limitations for emissions during SSM events are prohibited by the CAA. The EPA’s guidance documents issued in 1982 and 1983 expressly recognized that in place of exemptions, states should exercise enforcement discretion in determining whether to pursue a violation of an emission limitation. In the 1983 SSM Guidance, the EPA made recommendations for states that elected to adopt specific SIP provisions affecting their own exercise of enforcement discretion, so long as those provisions do not apply to enforcement discretion of the EPA or other parties under the citizen suit provision of the CAA. More than 15 years ago, in the 1999 SSM Guidance, the EPA reiterated its longstanding position that it is inappropriate for SIPs to exempt SSM emissions from compliance with emission limitations and repeated that instead of incorporating exemptions, enforcement discretion could be an appropriate tool. In addition, EPA clarified at that time that a narrowly tailored affirmative

²²⁹ *Id.* at 335–3–14–.03(h) (emphasis added).

²³⁰ See CAA section 302(k) (defining “emission limitation” and “emission standard”).

²³¹ See *Sierra Club*, 551 F.3d at 1026 (discussing the EPA’s prior determinations that “compliance with the general duty on its own was insufficient to prevent the SSM exemption from becoming a ‘blanket’ exemption”).

²³² See, e.g., *Sierra Club v. Johnson*, 551 F.3d at 1027–28 (so holding with respect to section 112).

²³³ For example, the EPA has concerns the some of these general-duty provisions, if at any point relied upon as the sole requirement purportedly limiting emissions, could undermine the ability to ensure compliance with SIP emission limitations relied on to achieve the NAAQS and other relevant CAA requirements at all times. See section 110(a)(2)(A), (C); *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1161–62 (10th Cir. 2012).

defense might also be an appropriate tool for addressing excess emissions in a SIP provision. However, in response to recent court decisions, and as discussed in detail in section IV of this document, the EPA no longer interprets the CAA to permit affirmative defense provisions in SIPs.

Although the EPA did not expressly rely on the definition of “emission limitation” in section 302(k) as the basis for its SSM Policy in each of these guidance documents, it did rely on the purpose of the NAAQS program and the underlying statutory provisions (including section 110) governing that program. In the 1999 SSM Guidance, however, the EPA indicated that the definition of emission limitation in section 302(k) was part of the basis for its position concerning SIP provisions.²³⁴ After the EPA issued the 1999 SSM Guidance, the D.C. Circuit issued a decision holding that the definition of emission limitation in section 302(k) does not allow for periods when sources are not subject to emissions standards.²³⁵ While the court’s decision concerned the section 112 program addressing hazardous air pollutants, the EPA believes that the court’s ruling concerning section 302(k) applies equally in the context of SIP provisions because the definition of emission limitation also applies to SIP requirements. That court’s decision is consistent with and provides support for the EPA’s longstanding position in the SSM Policy that exemptions from compliance with SIP emission limitations are not appropriate under the CAA.

Commenters claimed that by interpreting the CAA to prohibit exemptions for emissions during SSM events the EPA is revoking “enforcement discretion” exercised by the state. This is not true. As part of state programs governing enforcement, states can include regulatory provisions or may adopt policies setting forth criteria for how they plan to exercise their own enforcement authority. Under section 110(a)(2), states must have adequate authority to enforce provisions adopted into the SIP, but states can establish criteria for how they plan to exercise that authority. Such enforcement discretion provisions cannot, however, impinge upon the enforcement authority of the EPA or of others pursuant to the citizen suit provision of the CAA. The EPA notes

that the requirement for adequate enforcement authority to enforce CAA requirements is likewise a bar to automatic exemptions from compliance during SSM events.

Commenters confused the EPA’s evolution in describing the basis for its longstanding SSM Policy as a change in the SSM Policy itself. The EPA’s interpretation of the CAA in the SSM Policy has not changed with respect to exemptions for emissions during SSM events. The EPA’s discussion of the basis for its longstanding interpretation has evolved and become more robust over time as the EPA has responded to comments in rulemakings and in response to court decisions. In support of its interpretation of the CAA that exemptions for periods of SSM are not acceptable in SIPs, the EPA has long relied on its view that NAAQS are health-based standards and that exemptions undermine the ability of SIPs to attain and maintain the NAAQS, to protect PSD increments, to improve visibility and to meet other CAA requirements. By contrast, the EPA historically took the position that SSM exemptions were acceptable for certain technology-based standards, such as NSPS and NESHAP standards, and argued that position in the *Sierra Club* case cited by commenters. However, in that case, the court explicitly ruled against the EPA’s interpretation, holding that exemptions for emissions during SSM events are precluded by the definition of “emission limitation” in CAA section 302(k). The *Sierra Club* court’s rationale thus provided additional support for the EPA’s longstanding position with respect to SSM exemptions in SIP provisions, and in more recent actions the EPA has relied on the reasoning from the court’s decision as further support for its current SSM Policy. Thus, even if the EPA were proceeding under a “change of policy” here as the commenters claimed, the EPA has adequately explained the basis for its current SSM Policy, including the basis for any actual “change” in that guidance (*e.g.*, the actual change in the SSM Policy with respect to affirmative defense provisions in SIPs). Courts have upheld an agency’s authority to revise its interpretation of a statute, so long as that change of interpretation is explained.²³⁶

o. Comments that the EPA’s proposed action on the petition is based on a “changed interpretation” of the definition of “emission limitation.”

Comment: Commenters claimed that the EPA’s action on the Petition is based on a changed interpretation of the term “emission limitation” and that the Agency cannot apply that changed interpretation “retroactively.” One commenter cited several cases for the proposition that retroactivity is disfavored and that the EPA is applying this new interpretation retroactively to existing SIP provisions. The commenter claimed that the EPA approved the existing SIP provisions with full knowledge of what those provisions were and “consistent with the provisions EPA itself adopted and courts required.” The commenter characterized the SIP provisions for which the EPA is issuing a SIP call as “enforcement discretion” provisions and “affirmative defense” provisions for startup and shutdown. The commenter contended that the EPA does not have authority to issue a SIP call on the premise that the CAA is less flexible than the Agency previously thought. The commenter concluded that “[t]he factors of repose, reasonable reliance, and settled expectations favor not imposing EPA’s new interpretations.”

Response: The EPA disagrees that this SIP call action has “retroactive” effect. As recognized by the commenter, this SIP call action does not automatically change the terms of the existing SIP or of any existing SIP provision, nor does it mean that affected sources could be held liable in an enforcement case for past emissions that occurred when the deficient SIP provisions still applied. Rather, the EPA is exercising its clear statutory authority to call for the affected states to revise specific deficient SIP provisions so that the SIP provisions will comply with the requirements of the CAA prospectively and so that affected sources will be required to comply with the revised SIP provisions prospectively.

To the extent that a SIP provision complied with previous EPA interpretations of the CAA that the Agency has since determined are flawed, or to the extent that the EPA erroneously approved a SIP provision that was inconsistent with the terms of the CAA, the EPA disagrees that it is precluded from requiring the state to modify its SIP now so that it is consistent with the Act. In fact, that is precisely the type of situation that the SIP call provision of the CAA is designed to address. Specifically, section 110(k)(5) begins, “[w]hensoever” the EPA determines that an applicable implementation plan is inadequate to attain or maintain the NAAQS, to mitigate adequately interstate pollutant transport, or “to otherwise comply with

²³⁴ See 1999 SSM Guidance at 2, footnote 1. The EPA included section 302(k) among the statutory provisions that formed the basis for its interpretations of the CAA in that document.

²³⁵ *Sierra Club*, 551 F.3d 1019 (D.C. Cir. 2008).

²³⁶ The EPA emphasized this important point in the SNPR. See 79 FR 55919 at 55931.

any requirement” of the Act, the EPA must call for the SIP to be revised. The commenter does not question that sections 110(a)(2) and 302(k) are requirements of the Act. Thus, the EPA has authority under section 110(k)(5) to call on states to revise their SIP provisions to be consistent with those requirements.

The EPA disagrees that the doctrines of “repose,” “reasonable reliance” and “settled expectations” preclude such an action. The CAA is clear that “whenever” the EPA determines that a SIP provision is inconsistent with the statute, “the Administrator shall” notify the state of the inadequacies and establish a schedule for correction. This language does not provide the Agency with discretion to consider the factors cited by the commenter in deciding whether to call for a SIP revision once it is determined to be flawed. Here, the EPA has determined that the SIP provisions at issue are flawed and thus the Agency was required to notify the states to correct the inadequacies.

p. Comments that the EPA should not encourage states to rely on enforcement discretion because this will inevitably lead to states’ creating emission limitations that some sources cannot meet.

Comment: Commenters claimed that it is not appropriate for the EPA to encourage states to exercise enforcement discretion rather than to encourage them either to define periods when numerical emission limitations do not apply or to develop alternative emission limitations or other control measures. The commenters contended that inclusion of an enforcement discretion provision in a SIP is superfluous. The commenter cited to *Portland Cement*, where the D.C. Circuit court stated that “an excessively broad theory of enforcement discretion might endanger securing compliance with promulgated standards.”²³⁷ The commenter also cited the *Marathon Oil* case in the Ninth Circuit in which the court rejected an approach that relied heavily on enforcement discretion. The commenter then asserted that sources are liable for violations and that “[s]ources should not be required to litigate remedy for violations they cannot avoid.”²³⁸ The commenter concluded that it is “unreasonable for EPA to subject itself to claims that it must exercise its federal enforcement authority in the event a state refuses to enforce unachievable standards, or for states to put source owners and operators in jeopardy of

criminal prosecution for starting up a source with knowledge that a numerical emission limitation might be exceeded. In summary, the commenter appeared to argue that the EPA should require states to establish alternative numerical emission limitations or other control requirements during SSM events, rather than merely eliminating SSM exemptions and relying on enforcement discretion to address SSM emissions.

Response: The EPA disagrees with the commenter’s suggestion that the EPA should discourage states from relying on enforcement discretion. Enforcement discretion is a valid state prerogative, long recognized by courts. However, the EPA agrees with the commenter that states should not adopt overly broad enforcement discretion provisions for inclusion in their SIPs. Section 110(a)(2) requires states to have adequate enforcement authority, and overly broad enforcement discretion provisions would run afoul of this requirement if they have the effect of precluding adequate state authority to enforce SIP requirements. The EPA also agrees that states may elect to include alternative emission limitations, whether expressed numerically or otherwise, for certain periods of normal operations, including startup and shutdown.

It is unclear precisely what the commenters are advocating when they suggest that sources should not be subject to litigating a remedy for violations they cannot avoid. The likely interpretation is that the commenters believe that excess emissions during unavoidable events should be automatically exempted (*i.e.*, not considered a violation). This approach was rejected by the court in *Sierra Club v. Johnson*, because it was not consistent with the definition of emission limitation in section 302(k).²³⁹ As previously explained in the February 2013 proposal and in this document, the EPA believes that definition, and thus the court’s holding in *Sierra Club*, is equally relevant for the SIP program.

With respect to a commenter’s concerns about criminal enforcement, the EPA disagrees that sources will be unable to start operations because they will automatically be subject to criminal prosecution if an emission limitation is exceeded during a malfunction. Under CAA section 113(c), criminal enforcement for violation of a SIP can occur when a person knowingly violates a requirement or prohibition of an implementation plan “during any period of federally assumed enforcement or more than 30 days after having been notified” under the

provisions governing notification that the person is violating that specific requirement of the SIP. The EPA is unaware of any jurisdictions where federally assumed enforcement is in force, and the EPA does not anticipate that this situation would arise often. Thus, in almost every case, criminal enforcement would not occur in the absence of a pending notification of a civil enforcement case and could then apply only for repeated violation of the activity at issue in that civil action. Moreover, the concern raised by the commenter is one that would exist if there is any requirement that applies during a period of malfunction beyond the owner’s control. The commenter’s preferred way to address this concern would be to exempt these periods from compliance with any requirements, an approach rejected by the *Sierra Club* court as inconsistent with the definition of “emission limitation” and an approach that the EPA’s longstanding SSM Policy has explained is inconsistent with the purpose of the NAAQS program, which is to ensure public health is protected through attainment and maintenance of the NAAQS, protection of PSD increments, improvement of visibility and compliance with other requirements of the CAA.

Finally, to the extent that the commenter was advocating that the EPA should require states to develop SIP provisions that impose alternative emission limitations during certain modes of source operation such as startup and shutdown to replace SSM exemptions, the EPA notes that to require states to do so would not be consistent with the principles of cooperative federalism and could be misconstrued as the Agency’s imposing a specific control requirement in contravention of the *Virginia* decision.²⁴⁰ As the commenter elsewhere itself argued, states have broad discretion in how to develop SIP provisions to meet the objectives of the CAA, so long as those provisions also meet the legal requirements of the CAA. To the extent that a state would prefer to have emission limitations that apply continuously, without higher numerical levels or specific technological controls or work practice standards applicable during modes of operation such as startup and shutdown, that is the prerogative of the state, so long as the revised SIP provision otherwise meets

²⁴⁰ See *Virginia v. EPA*, 108 F.3d 1397 (D.C. Cir. 1997) (SIP call remanded and vacated because, *inter alia*, the EPA had issued a SIP call that required states to adopt a particular control measure for mobile sources).

²³⁷ 486 F.2d at 399 n.91.

²³⁸ *Marathon Oil Co. v. Environmental Protection Agency*, 564 F.2d 1253 (9th Cir. 1977).

²³⁹ 551 F.3d 1019 (D.C. Cir. 2008).

CAA requirements. If a state determines that it is reasonable to require a source to meet a specific emission limitation on a continuous basis and also decides to rely on its own enforcement discretion to determine whether a violation of that emission limit should be subject to enforcement, then the EPA believes that to do so is within the discretion of the state.

q. Comments that the EPA's action on the Petition is inconsistent with the Credible Evidence Rule.

Comment: A number of commenters raised concerns based upon how the EPA's statements in the February 2013 proposal relate to the Credible Evidence Rule issued in 1997.²⁴¹ For example, one commenter argued that throughout the February 2013 proposal, when the EPA stated that excess emissions during SSM events should be treated as "violations" of the applicable SIP emission limitations, the Agency was contradicting the Credible Evidence Rule and other provisions of law. The commenter emphasized that the determination of whether excess emissions during an SSM event are in fact a "violation" of the applicable SIP provisions must be made using the appropriate reference test method. In addition, the commenter asserted that whether any other form of information may be used as "credible evidence" of a violation must be evaluated by the trier of fact in a specific enforcement action. Another commenter raised a different argument based on the Credible Evidence Rule, claiming that the EPA's statements in the preamble to that rulemaking contradict the EPA's statements in the February 2013 proposal and support the need for exemptions for emissions during SSM events. The implication of the commenter is that any such EPA statements in connection with the Credible Evidence Rule would negate the Agency's interpretation of the statutory requirements for SIP provisions as interpreted in the SSM Policy since at least 1982, the decision of the court in the *Sierra Club* case or any other actions such as the recent issuance of EPA regulations with no such SSM exemptions.

Response: The EPA agrees, in part, with the commenters who expressed concern that the Agency's statements in the February 2013 proposal could be misconstrued as a definitive determination that the excess emissions during any and all SSM events are automatically a violation of the applicable emission limitation, without

factual proof of that violation, and without the existence and scope of that violation being decided by the appropriate trier of fact. The EPA agrees that the alleged violation of the applicable SIP emission limitation, if not conceded by the source, must be established by the party bearing the burden of proof in a legal proceeding. The degree to which evidence of an alleged violation may derive from a specific reference method or any other credible evidence must be determined based upon the facts and circumstances of the exceedance of the emission limitations at issue.²⁴² This is a basic principle of enforcement actions under the CAA, but the EPA wishes to make this point clearly in this final action to avoid any unintended confusion between the legal standard creating the enforceable obligation and the evidentiary standard for proving a violation of that obligation.

The EPA's general statements in the February 2013 proposal, the SNPR and this final action about treatment of SSM emissions as a violation pertain to another basic principle, *i.e.*, that SIP provisions cannot treat emissions during SSM events as exempt, because this is inconsistent with CAA requirements. Thus, when the EPA explains that these emissions must be treated as "violations" in SIP provisions, this is meant in the sense that states with SSM exemptions need to remove them, replace them with alternative emission limitations that apply during startup and shutdown or eliminate them by revising the emission limitation as a whole. Once impermissible SSM exemptions are removed from the SIP, then any excess emissions during such events may be the subject of an enforcement action, in which the parties may use any appropriate evidence to prove or disprove the existence and scope of the alleged violation and the appropriate remedy for an established violation. To be clear, the fact that these emissions are currently exempt through inappropriate SIP provisions is a deficiency that the EPA is addressing in this action. Thus, the EPA disagrees with the commenters' suggestion that these emissions are never to be treated as violations simply because a deficient SIP provision currently includes an

²⁴² For example, the degree to which data from continuous opacity monitoring systems (COMS) is evidence of violations of SIP opacity or PM mass emission limitations is a factual question that must be resolved on the facts and circumstances in the context of an enforcement action. *See, e.g., Sierra Club v. Pub. Ser. v. Co. of Colorado, Inc.*, 894 F.Supp. 1455 (D. Colo. 1995) (allowing use of COMS data to prove opacity limit violations).

SSM exemption. Once the SIP provisions are corrected, the excess emissions may be addressed through the legal structure for establishing an enforceable violation, which then may be proven using appropriate evidence, including test method evidence or other credible evidence. This means that excess emissions that occur during an SSM event will be treated for enforcement purposes in exactly the same manner as excess emissions that occur outside of SSM events. The EPA acknowledges that the limitation that applies during a startup or shutdown event might ultimately be different (whether higher or lower) than the limitation that applies at other times, if the state elects to replace the SSM exemption with an appropriate alternative emission limitation in response to this SIP call action.

The EPA also disagrees with commenters who claimed that statements by the Agency in the Credible Evidence Rule final rule preamble support the inclusion of exemptions for SSM events in SIP provisions. The commenter is correct that at that time, the EPA held the view that emission limitations in its own NSPS could be considered "continuous," notwithstanding the fact that they contained "specifically excused periods of noncompliance" (*i.e.*, exemptions from emission limitations during SSM events).²⁴³ Similarly, at that time the EPA relied on a number of reported court decisions discussed in the preamble for the Credible Evidence Rule for determining at that time that NSPS could contain such exemptions in order to make the emission limitations "reasonable." However, after the court's decision in the *Sierra Club* case interpreting the definition of emission limitation in section 302(k), these EPA statements in the preamble for the Credible Evidence Rule are no longer correct and thus do not apply to the EPA's action in this document.

First, the EPA notes that these prior statements related to the Credible Evidence Rule specifically addressed not SIP provisions but rather the provisions of the Agency's own technologically based NSPS. The statements in the document make no reference to SIP provisions, which is unsurprising given that EPA's SSM Policy at the time indicated that no such SSM exemptions are appropriate in SIP provisions. Second, the EPA's justification for exemptions from emission limitations during SSM events in NSPS was made prior to the 2008

²⁴³ *Id.*, 62 FR 8314, 8323–24.

²⁴¹ *See* "Credible Evidence Revisions; Final rule," 62 FR 8314 (February 24, 1997).

decision of the court in the *Sierra Club* case. The EPA's interpretation of the statute and the case law to justify exemptions for emissions during SSM events in that 1997 document is no longer correct. Finally, the EPA in its own new NESHAP and NSPS regulations is now providing no exemptions for emissions during SSM events and is imposing specific numerical limitations or other control requirements on sources that apply to affected sources at all times, including during SSM events.²⁴⁴ Thus, the statements in the 1997 Credible Evidence Rule preamble relied upon by commenters do not render the EPA's interpretation of the CAA with respect to SSM exemptions in SIP provisions in this action incorrect.

For clarity, the EPA emphasizes that it is in no way reopening, revising or otherwise amending the Credible Evidence Rule in this action. The EPA is merely responding to commenters who characterized the relationship between Agency statements in that rulemaking action and this SIP call action. The EPA also emphasizes that no changes to the Credible Evidence Rule should be necessary as a result of this rulemaking.

r. Comments that exemptions in opacity standards should be permissible because opacity is not a NAAQS pollutant.

Comment: Many state and industry commenters argued that the EPA should interpret the CAA to allow SIP provisions that impose opacity emission limitations to contain exemptions for SSM events or for other modes of source operation. The reasons given by commenters ranged broadly, but they included assertions that opacity is not a criteria pollutant, that opacity limitations serve no purpose other than as a tool to monitor PM control device performance, that there is no reliable correlation between opacity and PM mass, that there are circumstances during which sources may not be capable of meeting the otherwise applicable SIP opacity standards and that opacity is not an "air pollutant." Commenters also argued that because SIP opacity standards were originally established when the NAAQS applied to "total suspended particles" (TSP), rather than the current PM₁₀ and PM_{2.5}, this alone should be a reason to allow SSM exemptions now that the NAAQS have been revised and the indicator

²⁴⁴ See, e.g., 40 CFR 60.42Da, where paragraph (e)(1) applies a numerical PM emission limitation at all times except during periods of startup and shutdown, and paragraph (e)(2) applies work practice standards during periods of startup and shutdown.

species changed. Some of the commenters acknowledged that their underlying concern is that requirements for COMS on certain sources have rendered it much easier to monitor exceedances of SIP opacity limits and to bring enforcement actions for alleged violations.

Response: The EPA agrees with many of the points made by commenters but not with the conclusion that the commenters drew from these points, i.e., that exemptions for SSM events are appropriate in SIP provisions that impose opacity emission limitations.

First, although the EPA agrees that opacity itself is not a criteria pollutant and that there is thus no NAAQS for opacity, this does not mean that SIP opacity limitations are not "emission limitations" subject to the requirements of section 110(a)(2)(A) and do not need to be continuous. As the commenters often conceded, opacity is a surrogate for PM emissions for which there are NAAQS, and opacity has served this purpose since the beginning of the SIP program in the 1970s. SIP provisions that impose opacity emission limitations often date back to the earliest phases of the SIP program. From the outset, such opacity limitations have provided an important regulatory tool for implementing the PM NAAQS and for limiting PM emissions from sources. To this day, states continue to use opacity limitations in SIP provisions and the EPA continues to use opacity limitations in its own NSPS and NESHAP regulations, as necessary, for specific source categories.²⁴⁵ EPA regulations applicable to SIPs explicitly define the term "emission limitation" to include opacity limits.²⁴⁶ It is also important to note that these SIP provisions impose opacity emission limitations that sources must meet independently; i.e., opacity limitations are independent "emission limitations" under section 110(a)(2)(A) that must, consistent with section 302(k), "limit[] the quantity, rate, or concentration of emissions of air pollutants on a continuous basis." These opacity emission limitations in SIP provisions are not stated conditionally as opacity limits that sources do not need to meet if they are otherwise in compliance with

²⁴⁵ See, e.g., 40 CFR 60.42Da(b). The EPA's revised NSPS for this category imposes an opacity limit of 20 percent at all times, except for one 6-minute period per hour when the opacity may rise to 27 percent. Notably, as an option, sources may elect to install PM CEMS and be subject only to the revised particulate matter emission limitation.

²⁴⁶ See 40 CFR 51.100(z) (defining the term "emission limitation" as limits on "the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity").

PM mass emission limitations or with any other CAA requirements. Thus, the fact that opacity is not itself a criteria pollutant is irrelevant.

Second, although the EPA agrees that SIP opacity limitations also provide an important means of monitoring control device performance and thus indirectly provide a means to monitor compliance with PM emission limitations as well, this does not mean that opacity limits do not need to meet the statutory requirements for SIP emission limitations. Historically, opacity limits have been an important tool for implementation of the PM NAAQS, and in particular for the implementation and enforcement of PM mass limitations on sources to help attain and maintain the PM NAAQS. The EPA agrees that opacity is a useful tool to indicate overall operation and maintenance of a source and its emission control devices, such as electrostatic precipitators or baghouses. SIP opacity limitations provided this tool even before modern instruments that measure PM emissions on a direct, continuous basis existed. At a minimum, elevated opacity indicates potential problems with source design, operation or maintenance, or potential problems with incorrect operation of pollution control devices, especially at the elevated levels of many existing opacity standards. Well-run sources should be in compliance with typical SIP opacity limits. Opacity exceeding the applicable limitations can be indicative of problems that justify further investigation by sources and regulators, such as conducting a stack test to determine compliance with PM mass emission limitations. Not all sources have or will have PM CEMS, or have PM CEMS at all emission points, to monitor PM emissions directly, nor do PM CEMS necessarily obviate the need for opacity standards to regulate condensables, and thus there is a continued need for opacity emission limitations in SIPs. The continued need for SIP opacity limitations for this and other purposes contradicts the commenters' arguments concerning the validity of SSM exemptions.

Third, the EPA agrees that the precise correlation between opacity and PM mass emissions is not always known for a specific source under all operating conditions, unless there is parallel testing and measurement of the opacity and the PM emissions to determine the correlation at that particular source. Similarly, parametric monitoring can be used to establish such a correlation. Nevertheless, there is commonly a positive correlation between PM and opacity and thus elevated opacity is often indicative of additional PM

emissions from a source. Even in those instances where a precise correlation is not available, however, the use of opacity as a means to assure the reduction of PM emissions and to monitor source compliance remains a valid approach to regulation of PM from sources. In any event, the absence of a precise correlation between opacity and PM does not justify the complete exemptions from SIP opacity limitations during SSM events that the commenters advocate and instead suggests that it may be appropriate to replace such exemptions with valid and enforceable alternative numerical limitations or other control requirements as a component of the SIP opacity emission limitation that applies during startup and shutdown. Opacity emission limitations in SIPs must meet the statutory requirements for emission limitations.

Fourth, the EPA agrees with commenters that for some sources some PM controls cannot operate, or operate at full effectiveness and ideal efficiency, during startup and shutdown. Accordingly, as the commenters implicitly recognized, the resulting increases in PM emissions can result in elevated opacity and thus exceedances of the applicable SIP opacity emission limitations. In those situations where it is true that no additional emissions controls are available or would function more effectively to reduce PM emissions, and hence to reduce opacity, it may be appropriate for states to consider imposing an alternative opacity emission limitation applicable during startup and shutdown. As discussed in section VII.B.2 of this document, the EPA provides recommendations to states concerning how to develop such alternative emission limitations. To the extent that sources believe that a SIP provision with a higher opacity level for startup and shutdown may be justified, they may seek these alternative limitations from the state and they can presumably advocate for opacity standards that are tailored to reflect the correlation between PM mass and opacity at a specific source. Significantly, however, even if it is appropriate to impose a somewhat higher opacity limitation for some sources during specifically defined modes of operation such as startup and shutdown, that does not justify the total exemptions from SIP opacity emission limitations during SSM events that the commenters advocated. To provide total exemptions from SIP opacity emission limitations during SSM events does not provide any incentive for sources to be better

designed, operated, maintained and controlled to reduce emissions, nor does it comply with the most basic requirement that SIP emission limitations be continuous in accordance with section 302(k). As explained in section X.B of this document, the SIP revisions in response to this SIP call action will need to be consistent with the requirements of sections 110(k)(3), 110(l) and 193 as well as any other applicable requirements.

Fifth, the EPA notes that few commenters seriously argued that SIP provisions for opacity do not fit within the plain language of section 110(a)(2)(A) or the definition of "emission limitation" in section 302(k) or in EPA regulations applicable to SIP provisions. Section 110(a)(2)(A) requires SIPs to contain such enforceable emission limitations "as may be necessary and appropriate to meet the applicable requirements of" the CAA. Opacity limitations in SIP provisions are necessary and appropriate for a variety of reasons already described, including as a means to reduce PM emissions, as a means to monitor source compliance and to provide for more effective enforcement. Opacity limitations in SIP provisions also easily fit within the concept of a limit on the "quantity, rate or concentration of air pollutants" that relates to the "operation or maintenance of a source to assure continuous emission reduction and any design, equipment, work practice or operational standard" under the CAA, as provided in section 302(k). The term "air pollutant" is defined broadly in section 302(g) to mean "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." Even if opacity is not itself an air pollutant, it is clearly a means of monitoring and limiting emissions of PM from sources and is thus encompassed within the definition of "emission limitation" in section 302(k).²⁴⁷ Significantly, existing EPA regulations applicable to SIP provisions already explicitly define the term "emission limitation" to include opacity limitations.²⁴⁸

Finally, the EPA does not agree with commenters who argued that because SIP opacity limitations were often originally imposed when the PM NAAQS was for TSP, it is legally acceptable to have exemptions for emissions during SSM events now that

²⁴⁷ See *Sierra Club v. TVA*, 430 F.3d 1337, 1340 (11th Cir. 2005).

²⁴⁸ See 40 CFR 51.100(z).

the PM NAAQS use PM₁₀ and PM_{2.5} as the indicator species. On a factual level, it is obvious that SIP provisions for opacity limitations are expressed in terms of percentage "opacity" unrelated to the size of the particles. Opacity represents the degree to which emissions reduce the transmission of light and obscures the view of an object in the background. In general, the more particles which scatter or absorb light that passes through an emissions point, the more light will be blocked, thus increasing the opacity percentage of the emissions plume. The EPA agrees that variables such as the size, number and composition of the particles in the emissions can result in variations in the percentage of opacity. Notwithstanding the changes in the NAAQS, however, both states and the EPA have continued to rely on opacity limitations because they serve the same purposes for the current PM₁₀ and PM_{2.5} NAAQS (and other purposes such as the regulation of HAPs under section 112) that they previously did for the TSP NAAQS. Indeed, as the PM NAAQS have been revised to provide better protection of public health, the need for such opacity limitations continues unless there is a better means to monitor source compliance, such as PM CEMS. As with other SIP emission limitations, the EPA interprets the CAA to preclude SSM exemptions in opacity standards.

s. Comments that exemptions from SIP opacity limitations for excess emissions during SSM events should be allowed because such emissions are difficult to monitor or to control.

Comment: Several commenters argued that the EPA's proposal of a SIP call for SIP opacity emission limitations that include an SSM exemption is arbitrary and capricious because it is difficult or impossible to monitor or measure opacity during SSM events. According to commenters, there is no compliance methodology to determine whether opacity limitations are met during SSM events and this is the reason that the EPA's own general provisions for NSPS and NESHAP exclude emissions during SSM events as "not representative" of source operation. In the absence of a specific methodology to demonstrate compliance, the commenters argued that expecting sources to comply with any opacity emission limitations during SSM events is arbitrary and capricious. The commenters asserted that in light of this, the EPA must interpret the CAA to allow exemptions for SSM events in SIP opacity provisions.

A number of commenters also argued that because emission controls for PM do not function, or do not function as effectively or efficiently, during certain

modes of source operation, the EPA should interpret the CAA to permit exemptions for SSM events in opacity emission limitations. Many commenters explained that certain types of emission controls at certain types of sources only operate at specific temperatures or under specific conditions. For example, many commenters stated that existing pollution control devices on certain categories of stationary sources do not operate, or do not operate as effectively or efficiently, during startup and shutdown. Based upon this assertion, the commenters argued that the EPA should interpret the CAA to allow total exemptions from SIP opacity emission limitations during such periods.

Commenters also characterized the EPA's February 2013 proposal as "particularly unreasonable" with respect to SSM exemptions in SIP opacity limitations, because those limitations should be allowed to exclude elevated opacity during periods when PM emissions controls devices are "not expected to operate correctly." According to commenters, treating the higher opacity during SSM events "as a violation simply because it is indicating something that is expected is ridiculous." As an example, the commenters specifically mentioned occurrences such as when a source's electrostatic precipitator (ESP) is not functioning or is not functioning properly as periods during which there should be an exemption from SIP opacity emission limitations.

Response: The EPA agrees with some of the points made by commenters but does not agree with the conclusions that the commenters drew from these points, *i.e.*, that alleged difficulties in monitoring, measuring or controlling opacity during some modes of source operation in general justify complete exemptions from opacity emission limitations during SSM events.

First, the EPA does not agree with the argument that there is no "compliance methodology" available for purposes of verifying compliance with SIP opacity limitations. Since the earliest phases of the SIP program, Reference Method 9 has been available as a means of verifying a source's compliance with applicable SIP opacity emission limitations. Whatever concerns the commenters may have with this test method, it is a valid method and it continues to be used as a means of verifying source compliance with opacity limitations and a source of evidence for determining whether there are violations of such emission

limitations.²⁴⁹ Sources routinely monitor and certify to their compliance with SIP opacity limitations based upon Method 9. In addition, COMS have been available, and in some cases are required, as another means of monitoring emissions and verifying compliance with opacity emission limitations. With respect to COMS, commenters expressed concerns that they are not always accurate, are not always properly calibrated or are not always the reference test method for SIP opacity emission limitations, and other similar arguments. In this rulemaking, the EPA is not addressing these allegations concerning COMS but merely noting that COMS are an available means of monitoring opacity from sources and in appropriate circumstances can provide data meeting the EPA's criteria as credible evidence to be used to determine compliance with emission limitations.

Second, the EPA does not agree that the fact that its regulations concerning performance tests in 40 CFR 63.7(e) for NESHAP and in 40 CFR 60.8(c) for NSPS exclude SSM emissions for purposes of evaluation of emissions under normal operating conditions provides a justification for SSM exemptions from opacity emission limitations in SIP provisions. The D.C. Circuit decision in *Sierra Club* has already indicated that such exemptions are not permissible in emission limitations and vacated the general provisions applicable to NESHAP. In the case of the exemption language in 40 CFR 60.8(c) relevant to NSPS, the EPA acknowledges that it has not yet taken action to revise the language to eliminate that exemption. However, in promulgating new NSPS regulations subsequent to the *Sierra Club* decision, the EPA is including emission limitations for newly constructed, reconstructed and modified sources that apply continuously and including provisions expressly stating that the SSM exemptions in the General Provisions do not apply. The EPA notes that the commenter is also in error because the performance tests are intended to be a means of evaluating

²⁴⁹ The EPA notes that one commenter characterized SIP opacity limits as "archaic" and suggested that the Agency should issue a SIP call requiring their removal from SIPs entirely. Unless and until regulators and sources have a better means of monitoring compliance with PM emission limitations on a continuous basis, such as through installation of PM CEMS, the EPA believes that opacity limits will continue to be a necessary part of emission limitations. There will continue to be sources of emissions for which it will not be cost-effective or technologically viable to require the installation of PM CEMS or for which opacity standards will be needed as a means of regulating condensables.

emissions from sources during periods that are representative of source operation.

Third, the EPA does not agree with the premise that because certain forms or types of emission controls do not work, or do not work as effectively or efficiently, during certain modes of operation at some sources, it necessarily follows that sources should be totally exempt from emission limitations during such periods. The EPA interprets the CAA to require that SIP emission limitations be continuous. As explained in section VII.A of this document, emission limitations do not necessarily need to be expressed numerically, can have higher numerical levels during certain modes of operation, and may be composed of a combination of numerical limitations, specific technological control requirements and/or work practice requirements during certain modes of operation, so long as these emission limitations meet applicable CAA stringency requirements and are legally and practically enforceable. If it is factually accurate that a given source category requires a higher opacity limit during periods such as startup and shutdown, then the state may elect to develop one consistent with other CAA requirements. The EPA has provided guidance to states with criteria to consider in revising their SIP provisions to replace exemptions with an appropriate alternative emission limitation for such purposes. The EPA emphasizes that even if it is the case that existing control measures cannot operate, or cannot operate as effectively or efficiently, during startup and shutdown at a particular source, this does not legally justify a complete exemption from SIP emission limitations and may merely indicate that additional emission controls or work practices are necessary when the existing control measures are insufficient to meet the applicable SIP emission limitation. The EPA is taking this approach with its own recent NSPS and NESHAP regulations, when appropriate, in order to ensure that its own emission limitations are consistent with CAA requirements.

Finally, the EPA also disagrees with the logic of commenters that argued in favor of exemptions from SIP opacity limitations during periods when a source is most likely to violate them, *e.g.*, when the source's control devices are not functioning. Even if exemptions from SIP opacity emission limitations were legally permissible under the CAA, which they are not, it would be illogical to excuse compliance with the standards during the precise periods when opacity standards are most

needed to monitor source compliance with SIP emission limitations and provide incentives to avoid and promptly correct malfunctions; *i.e.*, it would be illogical to require no legal restriction on emissions when the sources are most likely to be emitting the most air pollutants. Inclusion of exemptions for exceedances of SIP opacity limitations during such periods would remove incentives to design, maintain and operate the source correctly, and to promptly correct malfunctions, in order to assure that it meets the applicable SIP emission limitations. By exempting excess emissions during such events, the provision would undermine the enforcement structure of the CAA in section 113 and section 304, through which the air agency, the EPA and citizens are authorized to assure that sources meet their obligations. The EPA emphasizes that while exemptions from SIP limitations are not permissible in SIP provisions, states may elect to impose appropriate alternative emission limitations. They may include alternative numerical limitations, control technologies or work practices that apply during modes of operation such as startup and shutdown, so long as all components of the SIP emission limitation meet all applicable CAA requirements.

t. Comments that exemptions in SIP opacity limitations should be permissible for “maintenance,” “soot-blowing” or other normal modes of source operation.

Comment: A number of industry commenters argued that the EPA should interpret the CAA to allow exemptions from SIP opacity limitations for “maintenance.” The commenters stated that during maintenance, sources must shut down operations and control devices while the source is cleaned or repaired. During such periods, the commenters explained, a ventilation system operated to protect workers at the source could result in monitored exceedances of a SIP opacity limitation. Commenters specifically argued that although COMS data may suggest violations of opacity standards during such periods, the fact that the source is not combusting fuel during maintenance should mean that the opacity emission limitation does not apply at such times. According to commenters, opacity limitations are only intended to reflect the performance of pollution control equipment while the source is operating and thus have no relevance during periods of maintenance. Other commenters made comparable arguments with respect to soot-blowing, asserting that the high opacity levels

during this activity are “indicative of normal ESP operation, not poor performance.” In other words, the commenters argued that opacity limitations should contain complete exemptions for opacity emitted during soot-blowing on the theory that the elevated emissions during this mode of operation show that the control measure on a source is functioning properly. The commenters further argued that considering emissions during soot-blowing for purposes of PM limitations is appropriate, but not for purposes of opacity limitations, because of the way in which regulators developed the respective emission limitations.

Response: The EPA does not agree that exemptions from SIP opacity limitations are appropriate for any mode of source operation, whether during SSM events or during other normal, predictable modes of source operation. To the extent that there are legitimate technological reasons why sources are able to meet only a higher opacity limitation during certain modes of operation, it does not follow that this constraint justifies complete exemption from any standard or any alternative technological control or work practice in order to reduce opacity during such periods. Providing a complete exemption for opacity during these modes of source operation, and no specific alternative emission limitation during such periods, removes incentives for sources to be properly designed, maintained and operated to reduce emissions during such periods.

With respect to maintenance, the EPA does not agree with commenters that total exemptions from opacity emission limitations during such activities are consistent with CAA requirements for SIP provisions. As the EPA has stated repeatedly in its interpretation of the CAA in the SSM Policy, maintenance activities are predictable and planned activities during which sources should be expected to comply with applicable emission limitations.²⁵⁰ The premise of the commenters advocating for such exemptions for all emissions during maintenance is evidently that nothing can be done to limit PM emissions and thus limit opacity during maintenance activities, and the EPA disagrees with that general premise. To the extent appropriate, however, states may elect

²⁵⁰ See 1982 SSM Guidance at Attachment p. 2; 1983 SSM Guidance at Attachment p. 3. The EPA notes that it also did not interpret the CAA to permit affirmative defense provisions for planned events under its prior 1999 SSM Guidance on the grounds that sources should be expected to operate in accordance with applicable SIP emission limitations during maintenance. This interpretation was upheld in *Luminant Generation v. EPA*, 714 F.3d 841 (5th Cir. 2013).

to create alternative emission limitations applicable to opacity during maintenance periods, so long as they are consistent with CAA requirements. The EPA provides recommendations for alternative emission limitations in section VII.B.2 of this document.

With respect to soot-blowing, the EPA likewise does not agree that total exemptions from opacity limitations during such periods are consistent with CAA requirements. As with maintenance in general, soot-blowing is an intentional, predictable event within the control of the source. The commenters’ implication is that nothing whatsoever could be done to limit opacity during such activities, and the EPA believes that this is both inaccurate and not a justification for sources’ being subject to no standards whatsoever during soot-blowing. In addition, the EPA disagrees with the commenters’ claim that exemptions from opacity emission limitations during soot-blowing are legally permissible because this allegedly shows that the control devices for opacity and PM are in fact performing correctly. This argument incorrectly presupposes that the sole reason for SIP opacity emission limitations is as a means of better evaluating control measure performance. This is but one reason for SIP opacity limitations. Moreover, the EPA notes, excusing opacity during soot-blowing has the diametrically opposite effect of the actual purpose of the control devices and can result in much higher emissions as opposed to encouraging limiting these emission with other forms of controls.

Finally, the EPA notes, the commenters’ argument that whether opacity limitations should apply during soot-blowing depends upon whether the emissions were or were not accounted for in the applicable PM emissions is also based upon an incorrect premise. Even if the PM emission limitation applicable to a source was developed to include the emissions during soot-blowing specifically, it does not follow that sources should be completely exempted from opacity limitations during such periods. As the commenters themselves frequently acknowledged, when compared to other enforcement tools, SIP opacity provisions often provide a much more effective and continuous means of determining source compliance with SIP PM limitations and control measure performance. A typical SIP opacity provision imposes an emission limitation such as 20 percent opacity at all times, except for 6 minutes per hour when those emissions may rise to 40 percent opacity. Well-maintained and

well-operated sources should be able to meet such SIP opacity limitations. Given that properly designed, maintained and operated sources should typically have opacity substantially below these levels, elevated opacity at a source is a good indication that the source may not be in compliance with its applicable PM limitations.

u. Comments that elimination of exemptions from SIP opacity emission limitations during SSM events will compel states to alter the averaging period of opacity limitations so as to allow sources to have elevated emissions during SSM events.

Comment: Commenters argued that if exemptions for excess emissions during SSM events are not legally permissible in SIP opacity emission limitations, then states will have no option but to alter the existing opacity limitations. The commenters argued that if the SSM exemptions are removed, then the averaging time should be “greatly extended” and the numerical limits “should be significantly increased.”

Response: The EPA agrees that SIP provisions for opacity that contain exemptions for SSM events at issue in this action must be revised to eliminate the exemptions. States may elect to do this by merely removing the exemptions, by replacing the exemptions with appropriate alternative emission limitations that apply in place of the exemptions or, as the commenters evidently advocate, by a total overhaul of the emission limitation. The EPA disagrees, however, with the commenters’ contentions that removal of the SSM exemptions would necessarily result in extensions of the averaging time or increases of the numerical levels in the existing SIP opacity emission limitations. In some cases, extension of the averaging period and elevation of the numerical limitations may in fact be appropriate. In other cases, however, it may instead be appropriate to reduce the existing numerical opacity limitations, given improvements in control technology since the original imposition of the limits and the need for additional PM emission reductions from the affected sources due to more recent revisions to the PM NAAQS. Thus, the EPA notes, a total revision of some of the SIP opacity limitations at issue in this action may indeed be the proper course for states to consider. The implications of the commenters’ argument, however, are that existing opacity limitations will automatically need to be revised in order to allow sources to continue to emit as usual and that states and sources may ignore improvements that have been made in source design, operation,

maintenance or controls to reduce emissions. The EPA emphasizes that the removal of impermissible SSM exemptions should not be perceived as an opportunity to provide new *de facto* exemptions for these emissions by manipulation of the averaging time and the numerical level of existing opacity emission limitations.

In any event, the EPA is not in this final action deciding how states must revise SIP opacity emission limitations but is merely issuing a SIP call directing the affected states to eliminate existing automatic and discretionary exemptions for excess emissions during SSM events. The affected states will elect how best to respond to this SIP call, whether by simply removing the exemptions, by replacing the exemptions with appropriate alternative emission limitations applicable to startup and shutdown or other normal modes of operation or by a complete overhaul of the SIP provision in question. In particular, where the affected sources are located in designated nonattainment areas, there may be a need to evaluate additional controls that are needed for attainment planning purposes that were not necessary when the emission limitation was first adopted. Whichever approach a state determines to be most appropriate, the resulting SIP submission to revise the existing deficient provisions will be subject to review by the EPA pursuant to sections 110(k)(3), 110(l) and 193. Considerations relevant to this issue are discussed in section X.B of this document.

B. Alternative Emission Limitations During Periods of Startup and Shutdown

1. What the EPA Proposed

In the February 2013 proposal, the EPA reiterated its longstanding interpretation of the CAA that SIP provisions cannot include exemptions from emission limitations for emissions during SSM events but may include different requirements that apply to affected sources during startup and shutdown. Since the 1982 SSM Guidance, the EPA has clearly stated that startup and shutdown are part of the normal operation of a source and should be accounted for in the design and operation of the source. Thus, the EPA has long concluded that sources should be required to meet the applicable SIP emission limitations during normal modes of operation including startup and shutdown.²⁵¹ In

²⁵¹ Some commenters on the February 2013 proposal focused great attention on whether startup and shutdown are modes of “normal” source

the 1983 SSM Guidance, the EPA explained that it may be appropriate to exercise enforcement discretion for violations that occur during startup and shutdown under proper circumstances. In the 1999 SSM Guidance, the EPA further explained that it interprets the CAA to permit SIP emission limitations that include alternative emission limitations specifically applicable during startup and shutdown. In the context of making recommendations to states for how to address emissions during startup and shutdown, the EPA provided seven criteria for states to evaluate in establishing appropriate alternative emission limitations. The specific purpose for these recommendations was to take into account technological limitations that might prevent compliance with the otherwise applicable emission limitations. As explained in detail in the February 2013 proposal, the EPA did not intend these criteria to be the basis for the creation of exemptions from SIP emission limitations during startup and shutdown, because the Agency interprets the CAA to prohibit such exemptions.

In the February 2013 proposal, the EPA also repeated its guidance concerning establishment of alternative emission limitations that apply to sources during startup and shutdown, in those situations where the sources cannot meet the otherwise applicable SIP emission limitations. As explained in section VII.A of the February 2013 proposal, the EPA interprets the CAA to require that SIP emission limitations must be continuous and thus to prohibit exemptions for emissions during startup and shutdown. This does not, however, mean that every SIP emission limitation must be expressed as a numerical limitation or that it must impose the same limitations during all modes of source operation. The EPA’s interpretation of the CAA with respect to SIP provisions is that SIP emission limitations: (i) Do not need to be numerical in format; (ii) do not have to apply the same limitation (*e.g.*, numerical level) at all times; and (iii) may be composed of a combination of numerical limitations, specific technological control requirements and/

operation. The EPA assumes that every source is designed, maintained and operated with the expectation that the source will at least occasionally start up and shut down, and thus these modes of operation are “normal” in the sense that they are to be expected. The EPA used this term in the ordinary sense of the word to distinguish between such predictable modes of source operation and genuine “malfunctions,” which are by definition supposed to be unpredictable and unforeseen events that could not have been precluded by proper source design, maintenance and operation.

or work practice requirements, with each component of the emission limitation applicable during a defined mode of source operation. Regardless of how an air agency elects to express the emission limitation, however, the emission limitation must limit emissions from the affected sources on a continuous basis. Thus, if there are different numerical limitations or other control requirements that apply during startup and shutdown, those must be clearly stated components of the emission limitation, must meet the applicable level of control required for the type of SIP provision (e.g., be RACT for sources located in nonattainment areas) and must be legally and practicably enforceable.

2. What Is Being Finalized in This Action

The EPA is reiterating its interpretation of the CAA to allow SIP emission limitations to include components that apply during specific modes of source operation, such as startup and shutdown, so long as those components together create a continuously applicable emission limitation that meets the relevant substantive requirements and requisite level of stringency for the type of SIP provision at issue and is legally and practically enforceable. In addition, the EPA is updating the specific recommendations to states for developing such alternative emission limitations described in the February 2013 proposal, by providing in this document some additional explanation and revisions to the text of its recommended criteria regarding alternative emission limitations.

The EPA's longstanding position is that the CAA does not allow SIP provisions that include exemptions from emission limitations for excess emissions that occur during startup and shutdown. The EPA reiterates that exemptions from SIP emission limitations are also not permissible for excess emissions that occur during other periods of normal source operation. A number of SIP provisions identified in the Petition create automatic or discretionary exemptions from otherwise applicable emission limitations during periods such as "maintenance," "load change," "soot-blowing," "on-line operating changes" or other similar normal modes of operation. Like startup and shutdown, the EPA considers all of these to be modes of normal operation at a source, for which the source can be designed, operated and maintained in order to meet the applicable emission limitations and during which the source should be

expected to control and minimize emissions. Accordingly, exemptions for emissions during these periods of normal source operation are not consistent with CAA requirements. Excess emissions that occur during planned and predicted periods should be treated as violations of any applicable emission limitations.

However, the EPA interprets the CAA to allow SIPs to include alternative emission limitations for modes of operation during which an otherwise applicable emission limitation cannot be met, such as may be the case during startup or shutdown. The alternative emission limitation, whether a numerical limitation, technological control requirement or work practice requirement, would apply during a specific mode of operation as a component of the continuously applicable emission limitation. For example, an air agency might elect to create an emission limitation with different levels of control applicable during specifically defined periods of startup and shutdown than during other normal modes of operation. All components of the resulting emission limitation must meet the substantive requirements applicable to the type of SIP provision at issue, must meet the applicable level of stringency for that type of emission limitation and must be legally and practically enforceable. The EPA will evaluate a SIP submission that establishes a SIP emission limitation that includes alternative emission limitations applicable to sources during startup and shutdown consistent with its authority and responsibility pursuant to sections 110(k)(3), 110(l) and 193 and any other CAA provision substantively germane to the SIP revision. Absent a properly established alternative emission limitation for these modes of operation, a source should be required to comply with the otherwise applicable emission limitation.

In addition, the EPA is providing in this document some additional explanation and clarifications to its recommended criteria for developing alternative emission limitations applicable during startup and shutdown. The EPA continues to recommend that, in order to be approvable (i.e., meet CAA requirements), alternative requirements applicable to the source during startup and shutdown should be narrowly tailored and take into account considerations such as the technological limitations of the specific source category and the control technology that is feasible during startup and shutdown. Accordingly, the EPA continues to recommend the seven specific criteria

enumerated in section III.A of the Attachment to the 1999 SSM Guidance as appropriate considerations for SIP provisions that establish alternative emission limitations that apply to startup and shutdown. The EPA repeated those criteria in the February 2013 proposal as guidance to states for developing components of emission limitations that apply to sources during startup, shutdown or other specific modes of source operation to meet CAA requirements for SIP provisions.

Comments received on the February 2013 proposal suggested that the purpose of the recommended criteria may have been misunderstood by some commenters. The criteria were phrased in such a way that commenters may have misinterpreted them to be criteria to be applied by a state retrospectively (i.e., after the fact) to an individual instance of emissions from a source during an SSM period, in order to establish whether the source had exceeded the applicable emission limitation. This was not the intended purpose of the recommended criteria at the time of the 1999 SSM Guidance, nor is it the intended purpose now.

The EPA seeks to make clear in this document that the recommended criteria are intended as guidance to states developing SIP provisions that include emission limitations with alternative emission limitations applicable to specifically defined modes of source operation such as startup and shutdown. A state may choose to consider these criteria in developing such a SIP provision. The EPA will use these criteria when evaluating whether a particular alternative emission limitation component of an emission limitation meets CAA requirements for SIP provisions. Any SIP revision establishing an alternative emission limitation that applies during startup and shutdown would be subject to the same procedural and substantive review requirements as any other SIP submission.

Based on comment on the February 2013 proposal, the EPA is updating the criteria to make clear that they are recommendations relevant for development of appropriate alternative emission limitations in SIP provisions. Thus, in this document, the EPA is providing a restatement of its recommended criteria that reflects clarifying but not substantive changes to the text of those criteria. One clarifying change is removal of the word "must" from the criteria, to better convey that these are recommendations to states concerning how to develop an approvable SIP provision with alternative requirements applicable to

startup and shutdown and to make clear that other approaches might also be consistent with the CAA in particular circumstances.

The clarified criteria for developing and evaluating alternative emission limitations applicable during startup and shutdown are as follows:

(1) The revision is limited to specific, narrowly defined source categories using specific control strategies (*e.g.*, cogeneration facilities burning natural gas and using selective catalytic reduction);

(2) Use of the control strategy for this source category is technically infeasible during startup or shutdown periods;

(3) The alternative emission limitation requires that the frequency and duration of operation in startup or shutdown mode are minimized to the greatest extent practicable;

(4) As part of its justification of the SIP revision, the state analyzes the potential worst-case emissions that could occur during startup and shutdown based on the applicable alternative emission limitation;

(5) The alternative emission limitation requires that all possible steps are taken to minimize the impact of emissions during startup and shutdown on ambient air quality;

(6) The alternative emission limitation requires that, at all times, the facility is operated in a manner consistent with good practice for minimizing emissions and the source uses best efforts regarding planning, design, and operating procedures; and

(7) The alternative emission limitation requires that the owner or operator's actions during startup and shutdown periods are documented by properly signed, contemporaneous operating logs or other relevant evidence.

It may be appropriate for an air agency to establish alternative emission limitations that apply during modes of source operation other than during startup and shutdown, but any such alternative emission limitations should be developed using the same criteria that the EPA recommends for those applicable during startup and shutdown.

3. Response to Comments

The EPA received a number of comments, both supportive and adverse, concerning the issue of how air agencies may replace existing exemptions for emissions during SSM events with alternative emission limitations that apply during startup, shutdown or other normal modes of source operation. The majority of these comments were critical of the EPA's position but did not base this criticism on an interpretation of

specific CAA provisions. For clarity and ease of discussion, the EPA is responding to these comments, grouped by issue, in this section of this document.

a. Comments that as a technical matter sources cannot meet emission limitations (or cannot be accurately monitored) during startup and shutdown.

Comment: Several commenters claimed that as a technical matter, SIP emission limitations cannot be met or that monitoring to ensure compliance with emission limitations cannot occur during startup and shutdown. Commenters raised "practical concerns" with the EPA's proposal as it applies to emissions during SSM at electric generating units (EGUs). The commenters claimed that it is incorrect to treat periods of startup and shutdown as part of "normal source operation" and claimed that it is fundamentally incorrect to characterize all periods of startup and shutdown as planned events. The commenters claimed that many air pollution control devices (APCDs) are subject to technical, operational or safety constraints that prevent use or optimization during startup and shutdown periods. The commenters requested the EPA to continue the practice of allowing states to provide "protection" from enforcement for excess emissions during startup and shutdown. The commenters claimed that the EPA's premise for this action is that startup and shutdown events are planned and sources should be able to meet limits applicable during these normal operations. The commenters asserted that the proposal does not recognize technical and operational limits and that it conflicts with the EPA's own acknowledgement in the proposal that there are sometimes technical, operational and safety limits that may prevent compliance with emission limitations during startup and shutdown. The commenters also noted that the type of equipment that a control device is attached to may affect the time it takes for a control device to reach optimization. Further, the commenters identified control technologies that cannot achieve reductions until specific temperatures are reached and other technologies that cannot be used during startup and/or shutdown because of technical limitations or safety concerns. Finally, the commenters noted that the geographical location and/or weather can have an effect on the operation of a source and control devices during startup and shutdown.

Commenters raised specific concerns regarding pollution controls for EGUs. The commenters claimed that startup

and shutdown events are unavoidable at EGUs even though they may be planned. The commenters also attached appendices providing an explanation of why emissions are higher for startup and shutdown for certain types of EGUs. The commenters claimed that the "EPA's proposal to eliminate the States' SSM provisions, and prohibit them from adopting any provisions for startups and shutdowns, could force sources to comply with emission limitations during periods when they were never meant to apply, thus rendering those emissions limitations unachievable." The commenters also noted that the permits for their sources all require that the sources minimize the magnitude and duration of emissions during SSM. The implication of this latter comment is that a general duty to minimize emissions is sufficient to justify the exemption of all emissions during SSM events in the underlying SIP provisions.

Response: Although intended as criticism of the EPA's proposed action, these comments in fact support the Agency's position that states should consider startup and shutdown events as they promulgate standards for specific industries or even for specific sources. The commenters seem to suggest that because some equipment or sources cannot during startup and shutdown meet the emission limits that apply during "regular" operation, no limit or standards should apply during startup and shutdown. The EPA disagrees. As the court in *Sierra Club* held, emission limitations must apply at "all times." That is not to say that the emission limitation must impose the same numerical limitation or impose the same other control requirement at all times. As explained at length in section VII.A of this document, the EPA interprets the CAA to allow SIP emission limitations that may be a combination of numerical limitations, technological control measures and/or work practice requirements, so long as the resulting emission limitations are properly developed to meet CAA requirements and are legally and practically enforceable. As the commenters noted, the EPA does recognize that some control equipment cannot be operated at all or in the same manner during every mode of normal operations.

In its 1999 SSM Guidance, the EPA expressly recognized that an appropriate way for a state to address such technological limitations is to set alternative emission limitations that apply during periods of startup and shutdown as part of the SIP emission

limitation.²⁵² In these cases the state should consider how the control equipment works in determining what standards should apply during startup and shutdown. In addition, as noted by commenters, such standards may vary based on location (e.g., standards in a hot and humid area may differ from those adopted for a cool and dry area). Some equipment during startup and shutdown may be unable to meet the same emission limitation that applies during steady-state operations and so alternative limitations for startup and shutdown may be appropriate.²⁵³

However, for many sources, it should be feasible to meet the same emission limitation that applies during steady-state operations also during startup and shutdown.²⁵⁴ These are issues for the state to consider in developing specific regulations as they revise the deficient SIP provisions identified in this action. The EPA emphasizes that the state has discretion to determine the best means by which to revise a deficient provision to eliminate an automatic or discretionary SSM exemption, so long as that revision is consistent with CAA requirements. The EPA will work with the states as they consider possible revisions to deficient provisions.

The EPA recognizes that a malfunction may cause a source to shut down in a manner different than in a planned shutdown, and in that case, such a shutdown would typically be considered part of the malfunction event. However, as part of the normal operation of a facility, sources typically will also have periodic or otherwise scheduled startup and shutdown of equipment, and steps to limit emissions during this type of event are or can be planned for. The EPA disagrees with the suggestion of commenters that because some startup or shutdown events may be unplanned, all startup and shutdown events should be exempt from compliance with any requirements. For those events that are planned, the state

should be able to establish requirements to regulate emissions, such as a numerical limitation, technological control measure or work practice standard that will apply as a part of the revised emission limitation. When unplanned startup or shutdown events are part of a malfunction, they should be treated the same as a malfunction; however, as with malfunctions, startup and shutdown events cannot be exempted from compliance with SIP requirements. Questions of liability and remedy for violations that result from malfunctions are to be resolved in the context of an enforcement action, if such an action occurs.

b. Comments that it is impossible, unreasonable or impractical for states to develop emission limitations that apply during startup and shutdown to replace existing exemptions.

Comment: A number of commenters suggested that it will be difficult for states to develop emission limits that apply during startup and shutdown. One state commenter reasoned that alternative emission limits are applied to facilities in that state through individual permits on a case-by-case basis and claimed that there are 500 permitted facilities in the state. The commenter contended that “non-steady-state” limits would need to be set for startup and shutdown for all 500 permitted facilities and that such an effort would be “time, resource, and data intensive.” The state commenter further contended that it would be unreasonable to require the state to include such limits “for every source” in the SIP because “permit modifications would need to occur every time there is a new emission source, a source ceases to operate, or an emission-related regulation is changed.”

A local government commenter stated that to establish limits for startup and shutdown that also demonstrate compliance with the NSR regulations (including protection of the NAAQS and PSD increments and maintenance of BACT or LAER) would be a difficult, time-consuming task that was mostly impractical.

An industry commenter claimed that the EPA is encouraging states to adopt numerical alternative emission limitations in their SIP provisions that would apply during startup and shutdown. The commenter claimed that adequate and accurate emissions data are necessary to do so and that such information is not generally available for existing equipment or, in many cases, for new equipment. Furthermore, the commenter asserted, even if an emission limit could be established for startup and shutdown, there are no

current approved test measures to verify compliance during such modes of operation. Even where data are available, the commenter alleged, the data may not be representative of actual conditions because of limitations related to low-load conditions. If a state lacks information to conclude that a limit can be met, the commenter argued, the state should not be required to establish numerical limits but should instead be allowed “to specify that numerical standards do not apply to those conditions or that those conditions are exempt, or should be allowed to establish work practice standards.”

Response: The comments of the state commenter seem to be based on the premise that all sources will be unable to meet otherwise applicable SIP emission limitations during periods of startup and shutdown. The EPA anticipates that many types of sources should be able during startup and shutdown to meet the same emission limitation that applies during full operation. Additionally, even where a specific type of operation may not during startup and/or shutdown be able to meet an emission limitation that applies during full operation, the state should be able to develop appropriate limitations that would apply to those types of operations at all similar types of facilities. The EPA believes that there will be limited, if any, cases where it may be necessary to develop source-specific emission requirements for startup and/or shutdown. In any event, this is a question that is best addressed by each state in the context of the revisions to the SIP provisions at issue in this action. To the extent that there are appropriate reasons to establish an emission limitation with alternative numerical, technological control and/or work practice requirements during startup or shutdown for certain categories of sources, this SIP call action provides the state with the opportunity to do so.

As to the commenter’s concern that such alternative emission limitations should not be included in a state’s SIP, the EPA disagrees. The SIP needs to reflect the control obligations of sources, and any revision or modification of those obligations should not be occurring through a separate process, such as a permit process, which would not ensure that “alternative” compliance options do not weaken the SIP. The SIP is a combination of state statutes, regulations and other requirements that the EPA approves for demonstrating attainment and maintenance of the NAAQS, protection of PSD increments, improvement of visibility and compliance with other

²⁵² See 1999 SSM Guidance, Attachment at 4–5.

²⁵³ The EPA notes that it has taken this approach in its own recent actions establishing emission limitations for sources. See, e.g., “National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Final rule; notice of final action on reconsideration,” 78 FR 7137 (January 31, 2013) (example of work practice requirement for startup as a component of a continuous emission limitation).

²⁵⁴ The EPA notes that it has taken this approach in its own recent actions establishing emission limitations for sources. See, e.g., “National Emission Standards for Hazardous Air Pollutants Residual Risk and Technology Review for Flexible Polyurethane Foam Production; Final rule,” 79 FR 48073 (August 15, 2014) (example of NESHAP emission limitation that is continuous and does not include a different component for periods of startup or shutdown).

CAA requirements. As discussed in section X.B of this document, any revisions to obligations in the SIP need to occur through the SIP revision process and must comply with sections 110(k)(3), 110(l) and 193 and any other applicable substantive requirements of the CAA.

As to concerns that a SIP revision will be necessary every time a new source comes into existence, an existing source is permanently retired or a new regulation is promulgated, the EPA does not see these as significant concerns. Unless the startup or shutdown process for an individual source is truly unique to that source, then existing SIP provisions for sources within the same industrial category should be able to apply to any new source. Moreover, assuming any new source is subject to permitting obligations, then any applicable startup and shutdown issues should already be resolved in developing the permit for such source. The state could choose to incorporate that permit by reference into the SIP at the time it next modifies its SIP.

Further, assuming that there is a source-specific regulation for a source in the SIP (a circumstance that the EPA believes would occur only rarely), the state is not obligated to remove such provision when the source is retired. Rather, the state could leave the provision in its rules or remove such a provision in the next time it submits another SIP revision or when it chooses to do a "cleanup" of the SIP, an activity that numerous states have taken from time to time. Finally, whenever a new regulation is promulgated is precisely the time that a state should be considering the appropriate provisions that would apply during startup and shutdown, as that is the time when the state is considering what is necessary to comply with the CAA and what is necessary to meet attainment, maintenance or other requirements of the CAA.

The local government commenter contended that establishing limits for startup and shutdown that also demonstrate compliance with the NSR regulations (including protection of the NAAQS and PSD increments and imposition of BACT- or LAER-level controls) would be a difficult, time-consuming task that was impractical. The commenter did not provide an explanation of how this would be difficult. The implication of the comment is that a SIP provision that provides an exemption or an affirmative defense for emissions during startup and shutdown would be compliant with the statutory requirements and NSR regulations (including attainment of the

NAAQS and protecting PSD increments). That is incorrect because the EPA does not interpret the CAA to allow such exemptions or affirmative defenses for purposes of NSR regulations. The suggestion that a SIP provision that does not regulate emissions during startup and shutdown would be more likely to address NAAQS attainment and to protect PSD increments than would a SIP provision that does regulate such emissions is illogical. The EPA further notes that the Agency's interpretation of the CAA, explicitly set forth in a 1993 guidance document, has been that periods of startup and shutdown must be addressed in any new source permit.²⁵⁵ Moreover, the EPA explained in the February 2013 proposal, in the SNPR and in the background memorandum accompanying the February 2013 proposal concerning the legal basis for this action why exemptions and affirmative defenses applicable to emissions during SSM events are not consistent with CAA requirements for SIP provisions.

c. Comments that the EPA should "authorize" states to replace SSM exemptions with "work practice" standards developed by the EPA in its own recent NESHAP and NSPS rules.

Comment: Commenters suggested that the EPA should allow states to use work practice standards to address emissions during startup and shutdown. The NESHAP rules cited by commenters included the Industrial Boiler MACT rule²⁵⁶ and the MATS rule, and the NSPS rules cited by the commenters included the NSPS for Electric Utility Steam Generating Units (40 CFR part 60, subpart Da) and the gas turbine NSPS as examples of where the EPA itself has established work practice standards rather than numerical emission limitations for periods of startup and shutdown. The commenters suggested that where these work practice standards are already in place, states should be able to rely on the work practice standards rather than having to create new SIP provisions.

Response: The EPA agrees that states may adopt work practice standards to address periods of startup and shutdown as a component of a SIP emission limitation that applies continuously. Adoption of work practice standards from a NESHAP or NSPS as a component of an emission

limitation to satisfy SIP requirements is addressed in this document not as a requirement or even as a recommendation but rather as an approach that a state may use at its option. The EPA cannot foretell the extent to which this optional approach of adopting other existing standards to satisfy SIP requirements may benefit an individual state. For a state choosing to use this approach, such work practice standards must meet the otherwise applicable CAA requirements (e.g., be a RACT-level control for the source as part of an attainment plan requirement) and the necessary parameters to make it legally and practically enforceable (e.g., have adequate recordkeeping, reporting and/or monitoring requirements to assure compliance). However, it cannot automatically be assumed that emission limitation requirements in recent NESHAP and NSPS are appropriate for all sources regulated by SIPs. The universe of sources regulated under the federal NSPS and NESHAP programs is not identical to the universe of sources regulated by states for purposes of the NAAQS. Moreover, the pollutants regulated under the NESHAP (i.e., HAPs) are in many cases different than those that would be regulated for purposes of attaining and maintaining the NAAQS, protecting PSD increments, improving visibility and meeting other CAA requirements.²⁵⁷ Thus, the EPA cannot say as a matter of law that those federal regulations establish emission limitation requirements appropriate for all of the sources that states are regulating in their SIPs or for the purpose for which they are being regulated. The EPA believes, however, that those federal regulations and the technical materials in the public record for those rules may provide assistance for states as they develop and consider regulations for sources in their states and may be appropriate for adoption by the state in certain circumstances. In particular, the NSPS regulations should provide very relevant information for sources of the same type, size and control equipment type, even if the sources were not constructed or modified within a date range that would make them subject to the NSPS. The EPA therefore encourages states to explore these approaches, as well as any other relevant information available, in

²⁵⁵ See Memorandum from John B. Rasnic, EPA/OAQPS, January 28, 1993, in the rulemaking docket at EPA-HQ-OAR-2012-0322-0022.

²⁵⁶ The Industrial Boiler MACT rule regulates industrial, commercial and institutional boilers and process heaters at major sources under 40 CFR part 63, subpart DDDDD.

²⁵⁷ While some HAPs are also VOCs or particulate matter, many HAPs are not. Moreover, there are many VOCs and types of particulate matter that are not HAPs and thus are not regulated under the MACT standards. The MACT standards also do not address other criteria pollutants or pollutant precursors from sources that may be relevant for SIP purposes.

determining what is appropriate for revised SIP provisions.

d. Comments that if states remove existing SSM exemptions and replace them with alternative emission limitations that apply during startup and shutdown events, this would automatically be consistent with the requirements of CAA section 193.

Comment: Commenters stated that section 193 was included in the CAA to prohibit states from modifying regulations in place prior to November 15, 1990, unless the modification ensures equivalent or greater reductions of the pollutant. The commenters asserted that to the extent a state replaces “general excess emissions exclusions and/or affirmative defense provisions” such amendments would *per se* be more stringent than the provisions they replace. The commenters also contended that any replacement SIP provision that spells out more clearly how a source will operate ensures equivalent or greater emission reductions. The commenters urged the EPA to clarify that any revisions pursuant to a final SIP call would not be considered “backsliding.”

Response: The EPA agrees with the commenters that any SIP submission made by a state in response to this SIP call action will need to comply with the requirements of section 193 of the CAA, if that section applies to the SIP provision at issue. In addition, such SIP provision will also need to comply with section 110(l), which requires that SIP revisions do not interfere with attainment, reasonable progress or any other applicable requirement of the CAA. However, it is premature to draw the conclusion that any SIP revision made by a state in response to this SIP call will automatically meet the requirements of section 110(l) and section 193. Such a conclusion could only be made in the context of reviewing the actual SIP revision. The EPA will address this issue, for each SIP revision in response to this SIP call action, at the time that it proposes and finalizes action on the SIP revision, and any comments on this issue can be raised during those individual rulemaking actions. The EPA provides additional guidance to states on the analysis needed to comply with section 110(l) and section 193 in section X.B of this document.

C. Director's Discretion Provisions Pertaining to SSM Events

1. What the EPA Proposed

In the February 2013 proposal, the EPA stated and explained in detail the reasons for its belief that the CAA

prohibits unbounded director's discretion provisions in SIPs, including those provisions that purport to authorize unilateral revisions to, or exemptions from, SIP emission limitations for emissions during SSM events.²⁵⁸

2. What Is Being Finalized in This Action

The EPA is reiterating its interpretation of the CAA with respect to unbounded director's discretion provisions applicable to emissions during SSM events, which is that SIP provisions cannot contain director's discretion to alter SIP requirements, including those that allow for variances or outright exemptions for emissions during SSM events. This interpretation has been clear with respect to emissions during SSM events in the SSM Policy since at least 1999. In the 1999 SSM Guidance, the EPA stated that it would not approve SIP revisions “that would enable a State director's decision to bar EPA's or citizens' ability to enforce applicable requirements.”²⁵⁹ Director's discretion provisions operate to allow air agency personnel to make just such unilateral decisions on an *ad hoc* basis, up to and including the granting of complete exemptions for emissions during SSM events, thereby negating any possibility of enforcement for what would be violations of the otherwise applicable emission limitation. Given that the EPA interprets the CAA to bar exemptions from SIP emission limitations for emissions during SSM events in the first instance, the fact that director's discretion provisions operate to authorize these exemptions on an *ad hoc* basis compounds the problem. The EPA acknowledges, however, that both states and the Agency have, in some instances, failed to adhere to the requirements of the CAA with respect to this issue consistently in the past, and thus the need for this SIP call to correct existing deficiencies in SIPs.²⁶⁰ In order to be clear about its interpretation of the CAA with respect to this point on a going-forward basis, the EPA is reiterating in this action that SIP provisions cannot contain unbounded director's discretion provisions, including those that operate to allow for variances or outright exemptions from

SIP emission limitations for excess emissions during SSM events.

Many commenters on the February 2013 proposal opposed the EPA's interpretation of the CAA with respect to director's discretion provisions simply on the grounds that states are *per se* entitled to have unfettered discretion with respect to the content of their SIP provisions. Other commenters argued that any director's discretion provision is merely a manifestation of an air agency's general “enforcement discretion.” Some commenters simply asserted that recent court decisions by the Fifth Circuit definitively establish that the CAA does not prohibit SIP provisions that include director's discretion, regardless of whether those provisions contain any limitations whatsoever on the exercise of that discretion.²⁶¹ The commenters did not, however, address the specific statutory interpretations that the EPA set forth in the February 2013 proposal to explain why SIP provisions that authorize unlimited director's discretion are prohibited by CAA provisions applicable to SIP revisions.

As explained in detail in the February 2013 proposal and in section VII.C of this document, the EPA interprets the CAA to prohibit SIP provisions that include unlimited director's discretion to alter the SIP emission limitations applicable to sources, including those that operate to allow exemptions for emissions from sources during SSM events. The EPA believes that such provisions that operate to authorize total exemptions from emission limitations on an *ad hoc* basis are especially problematic. Given that the EPA interprets section 110(a)(2)(A) and section 302(k) to preclude exemptions for emissions during SSM events in emission limitations in the first instance, it is also impermissible for states to have SIP provisions that authorize such exemptions on an *ad hoc* basis. These provisions functionally allow the air agency to impose its own enforcement discretion decisions on the EPA and other parties by granting exemptions for emissions that should be treated as violations of the applicable SIP emission limitations. Provisions that functionally allow such exemptions are also inconsistent with requirements of the CAA related to enforcement

²⁵⁸ See February 2013 proposal, 78 FR 12459 at 12485–86.

²⁵⁹ See 1999 SSM Guidance at 3.

²⁶⁰ In this action, the EPA is addressing the specific SIP provisions with director's discretion provisions that the Petitioner listed in the Petition. In the event that there are other such impermissible director's discretion provisions in existing SIPs, the EPA will address those provisions in a later action.

²⁶¹ For example, commenters on the February 2013 proposal cited two decisions of the Fifth Circuit within which the court cited a prior EPA approval of a SIP revision in Georgia that contained director's discretion provisions supposedly comparable to those at issue in the Fifth Circuit cases. These provisions were not included in the Petition and the EPA is not reexamining those provisions as part of this action.

including: (i) The general requirements of section 110(a)(1) that SIPs provide for enforcement; (ii) the section 110(a)(2)(A) requirement that the specific emission limitations and other contents of SIPs be enforceable; and (iii) the section 110(a)(2)(C) requirement that SIPs contain a program to provide for enforcement. Moreover, these provisions operate to interfere with the enforcement structure of the CAA provided in section 113 and section 304, through which the EPA and other parties have authority to seek enforcement for violations of CAA requirements, including SIP emission limitations.

There are two ways in which such a provision can be consistent with CAA requirements: (1) When the exercise of director's discretion by the state agency to alter or eliminate the SIP emission limitation can have no effect for purposes of federal law unless and until the EPA ratifies that state action with a SIP revision; or (2) when the director's discretion authority is adequately bounded such that the EPA can ascertain in advance, at the time of approving the SIP provision, how the exercise of that discretion to alter the SIP emission limitations for a source could affect compliance with other CAA requirements. If the provision includes director's discretion that could result in violation of any other CAA requirement for SIPs, then the EPA cannot approve the provision consistent with the requirements of section 110(k)(3) and section 110(l). For example, a director's discretion provision that authorizes state personnel to excuse source compliance with SIP emission limitations during SSM events could not be approved because the provision would run afoul of the requirement that sources be subject to emission limitations that apply continuously, consistent with section 302(k).

3. Response to Comments

The EPA received a number of comments, both supportive and adverse, concerning the issue of director's discretion provisions in SIPs. The majority of these comments were critical of the EPA's position but did not base this criticism on an interpretation of specific CAA provisions. For clarity and ease of discussion, the EPA is responding to these comments, grouped by issue, in this section of this document.

a. Comments that broad state discretion in how to develop SIP provisions includes the authority to create provisions that include director's discretion variances or exemptions for excess emission during SSM events.

Comment: A number of state and industry commenters argued that because states have great discretion when developing SIP provisions in general, this necessarily includes the ability to create director's discretion provisions in SIPs that authorize state personnel to grant unilateral variances or exemptions for emissions during SSM events. According to commenters, the overarching principle of "cooperative federalism" and court decisions concerning the division of regulatory responsibilities between the states and the EPA support their view that states can create SIP provisions that provide authority to alter the SIP emission limitations or other requirements via director's discretion provisions without restriction.

Response: The EPA disagrees with the commenters' view that director's discretion provisions in SIPs are *per se* permissible because of the principles of cooperative federalism. As explained in more detail in section V.D.2 of this document, states and the EPA each have authorities and responsibilities under the CAA. With respect to SIPs, under section 107(a) the states have primary responsibility for assuring attainment of the NAAQS within their borders. Under section 110(a) the states have a statutory duty to develop and submit a SIP that provides for the attainment, maintenance and enforcement of the NAAQS, as well as meeting many other CAA requirements and objectives. The specific procedural and substantive requirements that states must meet for SIPs are set forth in section 110(a)(1) and section 110(a)(2) and in other more specific requirements throughout the CAA (*e.g.*, the attainment plan requirements for each of the NAAQS as specified in part D). By contrast, the EPA has its own statutory authorities and responsibilities, including the obligation to review new SIP submissions for compliance with CAA procedural and substantive requirements pursuant to sections 110(k)(3), 110(l) and 193. In addition, the EPA has authority to assure that previously approved SIP provisions continue to meet CAA requirements, whether through the SIP call authority of section 110(k)(5) or the error correction authority of section 110(k)(6).

As the EPA explained in detail in the February 2013 proposal, SIP provisions that include unbounded director's discretion to alter the otherwise applicable emission limitations are inconsistent with CAA requirements. Such provisions purport to authorize air agency personnel unilaterally to change or to eliminate the applicable SIP emission limitations for a source

without meeting the requirements for a SIP revision. Pursuant to the EPA's own responsibilities under sections 110(k)(3), 110(l) and 193 and any other CAA provision substantively germane to the specific SIP provision at issue, it would be inappropriate for the Agency to approve a SIP provision that automatically preauthorized the state unilaterally to revise the SIP emission limitation without meeting the applicable procedural and substantive statutory requirements for a SIP revision. Section 110(i) prohibits modification of SIP requirements for stationary sources by either the state or the EPA, except through specified processes. The EPA's implementing regulations applicable to SIP provisions likewise impose requirements for a specific process for the approval of SIP revisions.²⁶² In addition, section 116 explicitly prohibits a state from adopting or enforcing regulations for sources that are less stringent than what is required by the emission limitations in its SIP, *i.e.*, the emission limitation previously approved by the EPA as meeting the requirements of the CAA applicable to that specific SIP provision. It is a fundamental tenet of the CAA that states cannot unilaterally change SIP provisions, including the emission limitations within SIP provisions, without the EPA's approval of the change through the appropriate process. This core principle has been recognized by multiple courts.²⁶³

b. Comments that director's discretion provisions are an exercise of "enforcement discretion."

Comment: Several state and industry commenters asserted that the EPA was wrong to interpret the CAA to preclude director's discretion provisions, because such provisions are merely an exercise of a state's traditional "enforcement discretion."

Response: The EPA disagrees that a director's discretion provision in a SIP is a valid exercise of enforcement discretion. Normally, the concept of enforcement discretion is understood to mean that a regulator has discretion to determine whether a specific violation

²⁶² See, *e.g.*, 40 CFR 51.104(d) and 40 CFR 51.105.

²⁶³ See, *e.g.*, *Sierra Club v. TVA*, 430 F.3d 1337, 1346 (11th Cir. 2005) ("If a state wants to add, delete, or otherwise modify a SIP provision, it must submit the proposed change to EPA for approval"); *Duquesne Light Co. v. EPA*, 698 F.2d 456, 468 n.12 (D.C. Cir. 1983) ("with certain enumerated exceptions, states do not have the power to take any action modifying any requirement of their SIPs, without approval from EPA"); *Train v. NRD*, 421 U.S. 60, 92 (1975) ("[A] polluter is subject to existing requirements until such time as he obtains a variance, and variances are not available under the revision authority until they have been approved by both the State and the Agency").

of the law by a source warrants enforcement and to determine the nature of the remedy to seek for any such violation. The EPA of course agrees that states have enforcement discretion of this type and that the states may exercise such enforcement discretion as they see fit, as does the Agency itself. However, the EPA does not agree that air agencies may create SIP provisions that operate to eliminate the ability of the EPA or citizens to enforce the emission limitations of the SIP. The EPA stated clearly in the 1999 SSM Guidance that it would not approve SIP provisions that “would enable a State director’s decision to bar EPA’s or citizens’ ability to enforce applicable requirements.”²⁶⁴ The Agency explained at that time that such an approach is inconsistent with the requirements of the CAA applicable to the enforcement of SIPs.

The commenters’ argument was that states may create SIP provisions through which they may unilaterally decide that the emissions from a source during an SSM event should be exempted, such that the emissions cannot be treated as a violation by anyone. A common formulation of such a provision provides only that the source needs to notify the state regulatory agency that an exceedance of the emission limitations occurred and to report that the emissions were the result of an SSM event. If those minimal steps occur, then such provisions commonly authorize state personnel to make an administrative decision that the emissions in question were not a “violation” of the applicable emission limitation. It may be entirely appropriate for the state agency to elect not to bring an enforcement action based on the facts and circumstances of a given SSM event, as a legitimate exercise of its own enforcement discretion. However, by creating a SIP provision that in effect authorizes the state agency to alter or suspend the otherwise applicable SIP emission limitations unilaterally through the granting of exemptions, the state agency would functionally be revising the SIP with respect to the emission limitations on the source. This revision of the applicable emission limitation would have occurred without satisfying the requirements of the CAA for a SIP revision. As a result of this *ad hoc* revision of the SIP emission limitation, the EPA and other parties would be denied the ability to exercise their own enforcement discretion. This is contrary to the fundamental enforcement structure of the CAA, as provided in

section 113 and section 304, through which the EPA and other parties are authorized to bring enforcement actions for violations of SIP emission limitations. The state’s decision not to exercise its own enforcement discretion cannot be a basis on which to eliminate the legal rights of the EPA and other parties to seek to enforce.

The commenters also suggested that the director’s discretion provisions authorizing exemptions for SSM events are nonsegregable parts of the emission limitations, *i.e.*, that states have established the numerical limitations at overly stringent levels specifically in reliance on the existence of exemptions for any emissions during SSM events. Although commenters did not provide facts to support the claims that states set more stringent emission limitations in reliance on SSM exemptions, in general or with respect to any specific emission limitation, the EPA acknowledges that this could possibly have been the case in some instances. Even if a state had taken this approach, however, it does not follow that SIP provisions containing exemptions for SSM events are legally permissible. Emission limitations in SIPs must be continuous. When a state takes action in response to this SIP call to eliminate the director’s discretion provisions or otherwise to revise them, the state may elect to overhaul the emission limitation entirely in order to address this concern. So long as the resulting revised SIP emission limitation is continuous and meets the requirements of sections 110(k)(3), 110(l) and 193 and any other sections that are germane to the type of SIP provision at issue, the state has discretion to revise the provision as it determines best.

c. Comments that the EPA’s having previously approved a SIP provision that authorizes the granting of variances or exemptions for SSM events through the exercise of director’s discretion renders the provision consistent with CAA requirements.

Comment: Several state and industry commenters argued that the EPA’s past approval of a SIP provision with a director’s discretion feature automatically means that the exercise of that authority (whether to revise the applicable SIP emission limitations unilaterally or to grant *ad hoc* exemptions from SIP emission limitations) is valid under the CAA. One commenter asserted that because the EPA has previously approved such a provision, “that discretion is itself part of the SIP, and the exercise of discretion in no way modifies SIP requirements.” Another commenter argued that director’s discretion provisions in SIPs

are *per se* valid because “[a]ll of the SIP provisions went through a public procedure at the time of their initial SIP approval.”

Response: First, the EPA disagrees with the theory that a SIP provision that includes director’s discretion authority for state personnel to modify or grant exemptions from SIP emission limitations unilaterally is valid merely by virtue of the fact that the Agency previously approved it. By definition, when the EPA makes a finding of substantial inadequacy and issues a SIP call, that signifies that the Agency previously approved a SIP provision that does not meet CAA requirements, whether that deficiency existed at the time of the original approval or arose later. The EPA has explicit authority under section 110(k)(5) to require that a state eliminate or revise a SIP provision that the Agency previously approved, whenever the EPA finds an existing SIP provision to be substantially inadequate to meet CAA requirements. The fact that the EPA previously approved it does not mean that a deficient provision may remain in the SIP forever once the Agency determines that it is deficient.

Second, the EPA disagrees that the fact that a SIP provision underwent public process at the time of its original creation by the state, or at the time of its approval by EPA as part of the SIP, means *per se* that the provision is consistent with CAA requirements. If an existing SIP provision is deficient because it in effect allows a state to revise existing SIP emission limitations without meeting the many explicit statutory requirements for a SIP revision, the fact that the revision that created the impermissible provision itself met the proper procedural requirements for a SIP revision is irrelevant. Even perfect compliance with the procedural requirements for a SIP revision at the time of its development by the state or its approval by the EPA does not override a substantive deficiency in the provision, nor does it preclude the later issuance of a SIP call to correct a substantive deficiency.

Third, the EPA disagrees with the circular logic that because a deficient provision with director’s discretion currently exists in a SIP, it means that exercise of the director’s discretion to grant variances or outright exemptions to sources for emissions during SSM events is therefore consistent with CAA requirements for SIPs. An unbounded director’s discretion provision that authorizes an air agency to alter or eliminate the otherwise applicable SIP emission limitation functionally allows the state to revise the SIP emission

²⁶⁴ 1999 SSM Guidance at 3.

limitation without meeting the requirements for a SIP revision. In particular, when such provisions authorize state personnel to grant outright exemptions from the SIP emission limitations, this is tantamount to a revision of the SIP emission limitation without complying with the procedural and substantive requirements of the CAA applicable to SIP revisions, including section 110(l), section 193 and any other substantive requirements applicable to the particular SIP emission limitation in question.

d. Comments that director's discretion provisions in SIPs are not prohibited by the CAA, based on recent judicial decisions.

Comment: A number of state and industry commenters argued that nothing in the CAA explicitly prohibits states from having SIP provisions that include director's discretion authorization for state personnel to modify or eliminate existing SIP provisions unilaterally, with or without any process or within any limiting parameters. In support of this proposition, the commenters cited recent decisions of the Fifth Circuit in two cases concerning the EPA's disapproval of SIP submissions from the state of Texas. Commenters argued that the EPA's interpretation of the CAA to prohibit director's discretion provisions in SIPs is incorrect in light of the decision of the court in *Texas v. EPA*.²⁶⁵ According to commenters, the court's decision establishes that no provision of the CAA bars such provisions. To support this contention, one commenter quoted the court's decision extensively, highlighting the statement, ". . . the EPA has invoked the term 'director discretion' as if that term were an independent and authoritative standard, and has not linked the term to the language of the CAA." Similarly, the commenters cited another decision of that court in the *Luminant* director's discretion case.²⁶⁶ From that decision, commenters quoted the court's statement that the "EPA had no legal basis to demand 'replicable' limitations on the Director's discretion" and the succeeding sentence, "[n]ot once in its proposed or final disapproval, or in its argument before this court, has the EPA pointed to any applicable provision of the Act or its regulations that includes a 'replicability' standard." These

commenters did not, however, address the specific statutory provisions identified by the EPA in the February 2013 proposal and the explanation that the Agency provided with respect to this issue.

Response: The EPA disagrees that either decision cited by commenters stands for the definitive proposition they assert, *i.e.*, that director's discretion provisions in SIPs are not precluded by the CAA. In *Luminant Generation Co. v. EPA* (the *Luminant* director's discretion case), the court evaluated the EPA's disapproval of a SIP submission from the state of Texas that created SIP provisions to implement minor source permitting requirements. The EPA disapproved the SIP submission for several reasons, one of which was based on the director's discretion provision prohibiting use of the standard permit for a pollution control project that the director determines raises health concerns or threatens the NAAQS. The EPA was concerned that this provision gave the director of the state agency discretion to make case-by-case decisions about what the specific permit terms would be for each source, without sufficient parameters or limitations on the exercise of that authority. Thus, the EPA reasoned that without any boundaries on the exercise of this authority for director's discretion, it would be impossible for the Agency to know in advance (*i.e.*, at the time of acting on the SIP submission) whether the state agency would only use that discretion in a way that would result in permits with terms consistent with meeting CAA requirements.²⁶⁷ As the EPA explained in the rulemaking at issue in the *Luminant* director's discretion case, "[t]here are no replicable conditions in the PCP Standard Permit that specify how the [TCEQ] Director's discretion is to be implemented" for the individual case-by-case determinations.²⁶⁸ In other

²⁶⁷ The EPA notes that the court in the *Luminant* director's discretion case focused on the fact that the director's discretion provision included the discretion to require more of sources, if there "are health effects concerns or the potential to exceed the [NAAQS]," and the court expressed that it did not understand why that requirement was not alone adequate to allay the Agency's concerns. *Luminant Generation Co. v. EPA*, 675 F.3d 917, 929 n.11. The EPA's primary concern, although not clearly articulated in the rulemaking record, was that at the time of acting on the SIP submission, there was no way for the Agency to know in advance what the state would require of any source in the first instance, let alone what additional things the state might require in situations where it unilaterally decided that more might be necessary in any given permit.

²⁶⁸ See "Approval and Promulgation of Implementation Plans; Texas; Revisions to the New Source Review (NSR) State Implementation Plan (SIP); Prevention of Significant Deterioration (PSD),

words, the EPA was being asked to approve a SIP provision without knowing how the SIP provision would actually be implemented and thus without knowing whether the results would be consistent with applicable CAA requirements.

As the commenters stated, the court in the *Luminant* director's discretion case vacated the EPA's disapproval of the SIP submission for several reasons, including the rejection of the Agency's argument that it could not approve the SIP submission due to the director's discretion feature of the SIP provisions and the resulting lack of "replicability."²⁶⁹ The court found that the EPA "failed to identify a single provision of the Act that Texas's program violated, let alone explain its reasons for reaching its conclusion."²⁷⁰ With respect to the director's discretion issue, phrased in terms of "replicability," the court found that "[n]ot once in its proposed or final disapproval, or in its argument before this court, has the EPA pointed to any applicable provision of the Act or its regulations that include a 'replicability' standard."

The EPA believes that the court's decision in the *Luminant* director's discretion case is distinguishable on several important grounds. Most importantly, the court rejected the EPA's disapproval of the SIP submission because the Agency had not provided an adequate explanation of why the director's discretion provision at issue was inconsistent with the requirements of the CAA for SIP provisions. The court emphasized the absence of any explanation in the administrative record for the proposed or final actions that

Nonattainment NSR (NNSR) for the 1997 8-Hour Ozone Standard, NSR Reform, and a Standard Permit; Proposed rule," 74 FR 48467 at 48476 (September 23, 2009).

²⁶⁹ The term "replicable" was taken from EPA guidance concerning SIP provisions for attainment plans. As a "fundamental principle" for SIP provisions and permits, the EPA explained that the requirements imposed upon sources should be "replicable"; *i.e.*, if they contain "procedures for changing the rule, interpreting the rule, or determining compliance with the rule, the procedures are sufficiently specific and nonsubjective so that two independent entities applying the same procedures would obtain the same result." See General Preamble, 57 FR 13498 at 13568 (April 16, 1992). The EPA's intent in using this term, although not clearly expressed in the rulemaking record, has been to indicate that a properly constructed SIP provision with an appropriate degree of discretion and flexibility would contain sufficient specifications and limits on the exercise of that discretion such that the Agency could adequately evaluate the provision at the time of its submission. Absent sufficient limits on the discretion, the EPA could not properly evaluate how exercise of the discretion could affect compliance with CAA requirements.

²⁷⁰ 675 F.3d 917, 924 (5th Cir. 2012).

²⁶⁵ 690 F.3d 670 (5th Cir. 2012).

²⁶⁶ *Luminant Generation Co. v. EPA*, 675 F.3d 917 (5th Cir. 2012). Throughout this document, the EPA refers to this as the *Luminant* director's discretion case, to distinguish it from another *Luminant* case cited in this document, *Luminant Generation v. EPA*, 714 F.3d 841 (5th Cir. 2013).

explained which specific provisions of the CAA preclude such a provision and why. In the February 2013 proposal and in this document, the EPA has identified and explained the specific CAA provisions that operate to preclude unbounded director's discretion provisions in SIPs.

Second, the court in the *Luminant* director's discretion case based its decision in part on the view that the specific director's discretion provision at issue in that case would always result in more stringent regulation of affected sources and always entail exercise of the discretion in a way that would protect the NAAQS.²⁷¹ Although its view was not articulated clearly in the record, the EPA did not agree with that assessment because it was not possible to evaluate in advance how the director's discretion authority would in fact be exercised. By contrast, the SIP provisions at issue in this action are not structured in such a way as to allow the exercise of discretion only to make the emission limitations *more stringent*. To the contrary, the director's discretion provisions at issue in this action authorize the state agencies to excuse sources from compliance with the otherwise applicable SIP emission limitation during SSM events. Were the sources seeking these discretionary exemptions meeting the applicable SIP emission limitations, they would not need an exemption. It logically follows that sources are seeking these exemptions because their emissions during such events are higher than the otherwise applicable emission limitation allows. Unlike the specific director's discretion provision at issue in the *Luminant* director's discretion case, which the court said "can only serve to protect the NAAQS," the exercise of the director's discretion authority in the SIP provisions at issue in this action can operate to make the emission limitations less stringent and can thereby undermine attainment and maintenance of the NAAQS, protection of PSD increments, improvement of visibility and achievement of other CAA objectives.

In the *Texas* decision, the court evaluated the EPA's disapproval of another SIP submission from the state of Texas that pertained to requirements for the permitting program for minor sources. The EPA had disapproved the submission for several different reasons,

including that the Agency believed the specific provisions at issue provided the state agency with too much director's discretion authority to decide what, if any, monitoring, recordkeeping and reporting requirements should be imposed on any individual affected source in its permit. The EPA concluded that if at the time it was evaluating the SIP provision for approval it could not reasonably anticipate how the state agency would exercise the discretion authorized in the provision, this made the submission unapprovable "for being too vague and not replicable."²⁷² The *Texas* court disagreed. The court concluded that the "degree of discretion conferred on the TCEQ director cannot sustain the EPA's rejection of the MRR requirements" and that the EPA insisted on "some undefined limit on a director's discretion . . . based on a standard that the CAA does not empower the EPA to enforce."²⁷³

The EPA believes that the decision of the court in *Texas v. EPA* is also distinguishable with respect to the issue of whether director's discretion provisions are consistent with CAA requirements. First, the *Texas* court based its decision primarily on the conclusion that the EPA had failed to identify and explain the provisions of the CAA that (i) preclude approval of SIP provisions that include unbounded director's discretion or (ii) impose a requirement for "replicability" in the exercise of director's discretion. The *Texas* court emphasized that although the EPA disapproved the SIP submission for failure to meet CAA requirements, the court found that the EPA "is yet to explain why."²⁷⁴ The court further reasoned that "the EPA has invoked the term 'director discretion' as if that term were an independent and authoritative standard, and has not linked the term to language of the CAA."²⁷⁵ Later in the opinion the court explicitly emphasized that because it was reviewing the EPA's decisionmaking process in the disapproval action, the court could not consider any basis for the disapproval that was not articulated by the EPA in the rulemaking record.²⁷⁶ The EPA is explaining its interpretation of the relevant CAA provisions in this action.

Second, the *Texas* court also asserted its own conclusion that there is nothing in the CAA that pertains to director's discretion in SIP provisions or to any

limitations on the exercise of such discretion. As the court stated it:

There is, in fact, no independent and authoritative standard in the CAA or its implementing regulations requiring that a state director's discretion be cabined in the way that the EPA suggests. Therefore, the EPA's insistence on some undefined limit on a director's discretion is . . . based on a standard that the CAA does not empower the EPA to enforce.

However, the court reached this conclusion based upon the administrative record before it and reiterated that it could not consider any basis for the disapproval not articulated by the EPA in the rulemaking record: "We are reviewing an agency's decisionmaking process, so the agency's action must be upheld, if at all, on the basis articulated by the agency itself."²⁷⁷ Given the court's conclusion that the EPA had failed to provide any explanation as to why the CAA precludes director's discretion provisions in the challenged rulemaking, the EPA believes that the court did not have the opportunity to consider the Agency's rationale that is provided in this action. In the February 2013 proposal and in this document, the EPA is heeding the court's admonishment to explain in the rulemaking record the statutory basis for the Agency's interpretation of the CAA to prohibit director's discretion provisions that are inadequately bounded. As explained in this action, SIP provisions that functionally authorize a state agency to amend existing SIP emission limitations applicable to a source unilaterally without a SIP revision are contrary to multiple specific provisions of the CAA that pertain to SIP revisions.

Third, the *Texas* court emphasized that, notwithstanding the apparent flexibility that the director's discretion provision provided to the state agency with respect to deciding on the level of monitoring, recordkeeping and reporting to be imposed on each source by permit, the state's regulations explicitly prohibited relaxations of the level of control. The court gave weight to the explicit wording of the specific provision at issue in the case which provided that "[t]he existing level of control may not be lessened for any facility."²⁷⁸ The EPA does not agree that the specific requirements for monitoring, recordkeeping and reporting for a given source are unrelated to the level of control. In any event, the director's discretion provisions of the type at issue in this

²⁷¹ *Luminant Generation Co. v. EPA*, 675 F.3d 917, 929 n.11 ("The provision at issues states: "This standard permit must not be used [if] the executive director determines there are health effects concerns or the potential to exceed a [NAAQS] . . . until those concerns are addressed to the satisfaction of the executive director.").

²⁷² *Id.*, 690 F.3d 670, 680.

²⁷³ *Id.*, 690 F.3d 670, 682.

²⁷⁴ *Id.*, 690 F.3d 670, 681.

²⁷⁵ *Id.*

²⁷⁶ *Id.*, 690 F.3d 670, 682.

²⁷⁷ *Id.*, 690 F.3d 670, 682.

²⁷⁸ *Id.*, 690 F.3d 670, 681.

action are not limited to those that would not “lessen” the level of control. To the contrary, the provisions at issue in this SIP call action authorize state agency personnel to grant outright exemptions from otherwise applicable SIP emission limitations during SSM events. Thus, the EPA concludes that this portion of the reasoning of the *Texas* decision would not apply to the current action.

Finally, the *Texas* court viewed the fact that the EPA had previously approved similar director’s discretion provisions in Texas and in Georgia as evidence that such provisions must be consistent with CAA requirements. The EPA acknowledges that it has, from time to time, approved SIP submissions that it should not have, whether through failure to recognize an issue, through a misunderstanding of the facts, through a mistaken interpretation of the law or as a result of other such circumstances. Congress itself clearly recognized that the EPA may occasionally take incorrect action on SIP submissions, whether incorrect at the time of the action or as a result of later events. Section 110(k)(5) and section 110(k)(6) both provide the EPA with explicit authority to address past approvals of SIP submissions that turn out to have been mistakes, whether at the time of the original approval or as a result of later developments. The fact that the EPA has explicit authority to issue a SIP call establishes that Congress anticipated that the Agency may at some point approve a SIP provision that it should not have approved because the provision is substantially inadequate to meet CAA requirements. The EPA does not agree, however, that its approval of a comparable SIP provision at some time in the past negates the Agency’s authority to disapprove a current SIP submission that fails to meet applicable procedural or substantive requirements. A challenger of the disapproval can always argue that the inconsistency between the prior approval and the later disapproval is evidence that the EPA is being arbitrary and capricious in its interpretation of the statute—but at bottom the correct question is whether the Agency is correctly interpreting the CAA in the disapproval action currently being challenged. The fact that the EPA may have approved another SIP submission with a comparable defect in the past does not override the requirements of the CAA.

Significantly, the commenters apparently make the same mistake as the EPA did in the rulemakings at issue in the cited court decisions, by not adequately addressing the relevant statutory provisions that apply to SIP provisions in general and apply to

revisions of existing EPA-approved SIP provisions in particular. The commenters failed to consider the core problem with unbounded director’s discretion provisions (*i.e.*, that such provisions allow for unilateral revision, relaxation or exemption from SIP emission limitations, without adequate evaluation by the EPA and the public). As a result, the commenters do not address the proper application of CAA provisions that govern SIP revisions and the rationale for requiring that such SIP revisions be reviewed by the EPA in accordance with the explicit requirements of sections 110(k)(3), 110(l) and 193 and the other requirements germane to the SIP provision at issue (*e.g.*, RACT-level controls for sources located in nonattainment areas). Indeed, the commenters did not acknowledge the inherent problem with director’s discretion provisions, which is that such provisions have the potential to undermine SIP emission limitations dramatically through *ad hoc* exemptions for excess emissions during SSM events. By allowing for exemptions for emissions during SSM events, these provisions also remove the incentives for sources to be properly designed, maintained and operated so that they will comply continuously with SIP emission limitations during all modes of source operation.

The EPA notes that the commenters did not acknowledge or address the specific explanation that the Agency provided in the February 2013 proposal, including the EPA’s identification of the specific statutory provisions applicable to the revision of SIP provisions. Because these commenters did not address the EPA’s explanation of the CAA provisions that it interprets to preclude director’s discretion provisions in SIPs, the commenters have not provided substantive comment concerning the EPA’s interpretation of the CAA on this issue. The commenters did not dispute the EPA’s interpretation of the CAA on this particular point on statutory grounds. Rather, the commenters argued based on their own policy preferences for an approach to director’s discretion provisions that would allow sources to receive *ad hoc* exemptions for excess emissions during SSM events without the need for imposition of an appropriate alternative SIP emission limitation, for adequate public process for development of such an alternative SIP emission limitation or for oversight by the EPA of any revision to the applicable SIP emission limitations as required by the CAA.

e. Comments opposed to the EPA’s approach on the premise that there is no

“director’s discretion” concern if the SIP provision creates a permit program through which state officials grant sources variances or exemptions from otherwise applicable SIP provisions.

Comment: State commenters argued that they have imposed sufficient boundaries on the exercise of director’s discretion provisions in their SIPs, by virtue of the fact that they grant sources variances or exemptions from SIP emission limitations through a permitting program. Commenters stated that their permitting program provides a more structured process and an opportunity for public input into the decisions concerning variances or exemptions. Moreover, they argued that state law does provide preconditions to the granting of variances or exemptions and thus these are not granted automatically. Based upon these procedural requirements, the commenters contended that their exercise of director’s discretion is not “unbounded” as the EPA suggested in the February 2013 proposal.

Response: The EPA acknowledges that a permitting program can provide a more structured and consistent process than may be provided in a SIP for granting variances and exemptions from SIP emission limitations and related requirements and may provide more opportunity for public participation in those decisions. However, to the extent that the end result of this permitting process is that a given source is given a less stringent emission limitation than the otherwise applicable SIP emission limitation or is given an outright exemption from the SIP emission limitation, this result still functionally constitutes a revision of the SIP emission limitation without meeting the statutory requirements for a SIP revision. The EPA is not authorized to approve a program that in essence allows a SIP revision without compliance with the applicable statutory requirements in sections 110(k)(3), 110(l) and 193 and any other provision that is germane to the particular SIP emission limitation at issue.

The EPA emphasizes that air agencies always retain the ability to regulate sources more stringently than required by the provisions in its SIP. Section 116 explicitly provides, with certain limited exceptions, that states retain the authority to regulate emissions from sources. Unless preempted from controlling a particular source, nothing precludes states from regulating sources more stringently than otherwise required to meet CAA requirements, so long as they meet CAA requirements. However, if there is an applicable

emission limitation in a SIP provision (or an EPA regulation promulgated pursuant to sections 111 or 112), section 116 explicitly stipulates, “such State or political subdivision may not adopt or enforce any emission standard or emission limitation which is less stringent than the standard or limitation under such plan or limitation.” Thus, a state could elect to regulate a source more stringently than required by a specific SIP emission limitation (e.g., by imposing a more stringent numerical emission limitation on a particular source or by imposing additional recordkeeping, reporting and monitoring requirements in addition to those of the SIP provision), but the state cannot weaken or eliminate the SIP emission limitation (e.g., by granting exemptions from applicable SIP emission limitations for emissions during SSM events). If a state elects to alter an emission limitation in a SIP provision, the state must do so in accordance with the statutory provisions applicable to SIP revisions.

Finally, the EPA notes, if a state elects to use a permitting process as a source-by-source means of imposing more stringent emission limitations or additional requirements on sources, doing so can be an acceptable approach. So long as the underlying SIP provisions are adequate to provide the requisite level of control or requirements to assure enforceability, a state is free to use a permitting program to impose additional requirements above and beyond those provided in the SIP.

D. Enforcement Discretion Provisions Pertaining to SSM Events

1. What the EPA Proposed

In the February 2013 proposal, the EPA explained in detail that it believes that the CAA allows states to adopt SIP provisions that impose reasonable limits upon the exercise of enforcement discretion by air agency personnel, so long as those provisions do not apply to the EPA or other parties. The EPA believes that its interpretation of the CAA with respect to enforcement discretion provisions applicable to emissions during SSM events has been clear in the SSM Policy. In the 1982 SSM Guidance and the 1983 SSM Guidance, the EPA indicated that states could elect to adopt SIP provisions that include criteria that apply to the exercise of enforcement discretion by state personnel. In the 1999 SSM Guidance, the EPA emphasized that it would not approve such provisions if they would operate to impose the state’s enforcement discretion decisions upon the EPA or other parties because this

would be inconsistent with requirements of title I of the CAA.²⁷⁹ The EPA acknowledged, however, that both the states and the Agency have failed to adhere to the CAA with respect to this issue in the past, and thus the need for this SIP call action to correct the existing deficiencies in SIPs.

2. What Is Being Finalized in This Action

In order to be clear about this important point on a going-forward basis, the EPA is reiterating that SIP provisions cannot contain enforcement discretion provisions that would bar enforcement by the EPA or citizens for any violation of SIP requirements if the state elects not to enforce.

The EPA has previously issued a SIP call to a state specifically for purposes of clarifying an existing SIP provision to assure that regulated entities, regulators and courts will not misunderstand the correct interpretation of the provision.²⁸⁰ As the EPA stated in that action:

... SIP provisions that give exclusive authority to a state to determine whether an enforcement action can be pursued for an exceedance of an emission limit are inconsistent with the CAA’s regulatory scheme. EPA and citizens, and any court in which they seek to file an enforcement claim, must retain the authority to independently evaluate whether a source’s exceedance of an emission limit warrants enforcement action.²⁸¹

The EPA has explained in previous iterations of its SSM Policy that a fundamental principle of the CAA with respect to SIP provisions is that the provisions must be enforceable not only by the state but also by the EPA and others pursuant to the citizen suit authority of section 304. Accordingly, the EPA has long stated that SIP provisions cannot be structured such that a decision by the state not to enforce may bar enforcement by the EPA or other parties.

3. Response to Comments

The EPA received a small number of comments concerning the issue of ambiguous enforcement discretion provisions in SIPs. For clarity and ease of discussion, the EPA is responding to these comments, grouped by issue, in this section of this document.

²⁷⁹ See 1999 SSM Guidance at 3.

²⁸⁰ See “Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision,” 75 FR 70888 at 70892–93 (November 19, 2010) (proposed SIP call, *inter alia*, to rectify an enforcement discretion provision that in fact appeared to bar enforcement by the EPA or citizens if the state decided not to enforce).

²⁸¹ See *id.*

a. Comments that supported the clarification of ambiguous enforcement discretion provisions in general but opposed the EPA’s views with respect to specific SIP provisions.

Comment: Environmental group commenters disagreed with the EPA’s proposed denial of the Petition with respect to specific enforcement discretion provisions in the SIPs of several states. The commenters contended that the SIP provisions are too ambiguous for courts to recognize that the exercise of enforcement discretion by state personnel did not preclude enforcement by the EPA or others.

Response: The EPA disagrees with these comments. In the February 2013 proposal, the EPA explained how it reads the specific enforcement discretion provisions in the SIPs of each of these states. The EPA explained its evaluation of these provisions in detail. In comments submitted on the February 2013 proposal, the states in question agreed with the EPA’s reading of the provisions. Each state agreed that these provisions only applied to air agency personnel and not to the EPA or any other party. Thus, the EPA believes that there should be no dispute about the proper interpretation of these SIP provisions in any potential future enforcement action.

b. Comments that opposed the EPA’s issuing SIP calls to obtain state agency clarification of ambiguous enforcement discretion provisions in SIPs.

Comment: One commenter asserted that requiring states to correct an ambiguous “enforcement discretion” provision in its SIP in order to eliminate “perceived ambiguity” is a “waste of resources.” Although agreeing that a state’s exercise of enforcement discretion cannot affect enforcement by the EPA or other parties under the citizen suit provision, the commenter believed that the existence of ambiguous provisions that could be misconstrued by a court to bar enforcement by the EPA or others if the state elects not to enforce is not a significant concern.

Response: The EPA agrees with the commenter that a state’s legitimate exercise of enforcement discretion not to enforce in the event of violations of SIP provisions should have no bearing whatsoever on whether the EPA or others may seek to enforce for the same violations. However, the Agency disagrees with the commenter concerning whether some SIP provisions need to be clarified in order to assure that this principle is adhered to in practice in enforcement actions. For example, if on the face of an approved SIP provision the state

appears to have the unilateral authority to decide that a specific event is not a “violation” or if it otherwise appears that if the state elects not to pursue enforcement for such violation then no other party may do so, then that SIP provision fails to meet fundamental legal requirements for enforcement under the CAA. If the SIP provision appears to provide that the decision of the state not to enforce for an exceedance of the SIP emission limit bars the EPA or others from bringing an enforcement action, then that is an impermissible imposition of the state’s enforcement discretion decisions on other parties. The EPA has previously issued a SIP call to resolve just such an ambiguity, and its authority to do so has been upheld.²⁸² Given that the commenter agrees with the underlying principle that a state’s exercise of enforcement discretion should have no bearing on the exercise of enforcement authority of the EPA or citizens, the Agency presumes that the commenter would not in fact oppose a SIP revision to clarify that point. Moreover, the commenter would not be harmed by such a SIP revision and would have no basis upon which to challenge it. As the clarification of the ambiguous SIP provision should be in the interest of all involved, including the regulated entities, the regulators and the public, the EPA does not believe that resources used to eliminate such ambiguities would be wasted.

E. Affirmative Defense Provisions in SIPs During Any Period of Operation

As explained in detail in the SNPR, the EPA believes that the CAA prohibits affirmative defense provisions in SIPs. The EPA acknowledges that since the 1999 SSM Guidance, the Agency had interpreted the CAA to allow narrowly tailored affirmative defense provisions. However, the EPA’s interpretation of the statute was based on arguments that have since been rejected by the DC Circuit in the *NRDC v. EPA* decision. The EPA received a substantial number of comments, both supportive and adverse, concerning the issue of affirmative defense provisions in SIPs. These comments and the EPA’s responses to them are discussed in section IV.D of this document.

F. Relationship Between SIP Provisions and Title V Regulations

As the EPA explained in the February 2013 proposal, the SIP provisions

identified in the Petition highlighted an area of potential ambiguity or conflict between the SSM Policy applicable to SIP provisions and the EPA’s regulations applicable to CAA title V operating permit provisions. The EPA has promulgated regulations in 40 CFR part 70 applicable to state operating permit programs and in 40 CFR part 71 applicable to federal operating permit programs.²⁸³ Under each set of regulations, the EPA has provided that permits may contain, at the permitting authority’s discretion, an “emergency provision.”²⁸⁴

The regulatory parameters applicable to such emergency provisions in operating permits are the same for state operating permit program regulations and the federal operating permit program regulations. The definition of emergency is identical in the regulations for each program.²⁸⁵

Thus, if there is an emergency event meeting the regulatory definition, then the EPA’s regulations for operating permit programs provide for an “affirmative defense” to enforcement for noncompliance with technology-based standards during the emergency event, provided the source can demonstrate through specified forms of evidence that the event and the permittee’s actions during and after the event met a number of specific requirements.²⁸⁶

The Petitioner did not directly request that the EPA evaluate the existing regulatory provisions applicable to operating permits in 40 CFR part 70 and 40 CFR part 71, and the EPA is not revising those provisions in this action. In its February 2013 proposal, the EPA explained that while it was proposing to allow narrowly drawn affirmative defense provisions for malfunctions in SIPs, SIP provisions that were modeled after the regulations in 40 CFR part 70 and 40 CFR part 71 were still in conflict with the EPA’s interpretation of the CAA for SIP provisions and thus could not be allowed.²⁸⁷ However, as explained in the SNPR, the reasoning in the subsequent *NRDC v. EPA* court decision is that even narrowly defined affirmative defense provisions in SIPs are no longer consistent with the

CAA.²⁸⁸ Accordingly, regardless of whether affirmative defense provisions in SIPs were defined more narrowly than were the provisions applicable to operating permits under 40 CFR part 70 and 40 CFR part 71, they cannot be included in SIPs. For these reasons, the EPA has evaluated the specific SIP provisions identified in the Petition and is taking final action to find substantial inadequacy and to issue a SIP call for those SIP provisions that include features that are inappropriate for SIPs, regardless of whether those provisions contain terms found in other regulations.

Additionally, we are not taking action in this rulemaking to alter the emergency provisions found in 40 CFR part 70 and 40 CFR part 71. Those regulations, which are applicable to title V operating permits, may only be changed through appropriate rulemaking to revise parts 70 and 71. Further, any existing permits that contain such emergency provisions may only be changed through established permitting procedures. The EPA is considering whether to make changes to 40 CFR part 70 and 40 CFR part 71, and if so, how best to make those changes. In any such action, EPA would also intend to address the timing of any changes to existing title V operating permits. Until that time, as part of normal permitting process, the EPA encourages permitting authorities to consider the discretionary nature of the emergency provisions when determining whether to continue to include permit terms modeled on those provisions in operating permits that the permitting authorities are issuing in the first instance or renewing.

G. Intended Effect of the EPA’s Action on the Petition

As in the 2001 SSM Guidance, the EPA is endeavoring to be particularly clear about the intended effect of its final action on the Petition, of its clarifications and revisions to the SSM Policy and of its application of the updated SSM Policy to the specific existing SIP provisions discussed in section IX of this document.

First, the EPA only intends its actions on the larger policy or legal issues raised by the Petitioner to inform the public of the EPA’s current views on the requirements of the CAA with respect to SIP provisions related to SSM events. Thus, for example, the EPA’s proposed grant of the Petitioner’s request that the EPA interpret the CAA to disallow all affirmative defense provisions is intended to convey that the EPA has

²⁸³ See 40 CFR 70.1–70.12; 40 CFR 71.1–71.27.

²⁸⁴ See 40 CFR 70.6(g); 40 CFR 71.6(g). The EPA also notes that states are not required to adopt the “emergency provision” contained in 40 CFR 70.6(g) into their state operating permit programs, and many states have chosen not to do so. See, e.g., “Clean Air Act Full Approval of Partial Operating Permit Program; Allegheny County; Pennsylvania; Direct final rule,” 66 FR 55112 at 55113 (November 1, 2001).

²⁸⁵ See 40 CFR 70.6(g)(1); 40 CFR 71.6(g)(1).

²⁸⁶ 40 CFR 70.6(g)(3); 40 CFR 71.6(g)(3).

²⁸⁷ See February 2013 proposal, 78 FR 12459 at 12481–82.

²⁸⁸ See SNPR, 79 FR 55919 at 55929–30.

²⁸² See “Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision; Proposed rule,” 76 FR 21639 (April 18, 2011).

changed its views about such provisions and that its prior views expressed in the 1999 SSM Guidance and related rulemakings on SIP submissions were incorrect. In this fashion, the EPA's action on the Petition provides updated guidance relevant to future SIP actions.

Second, the EPA only intends its actions on the specific existing SIP provisions identified in the Petition to be applicable to those provisions. The EPA does not intend its action on those specific provisions to alter the current status of any other existing SIP provisions relating to SSM events. The EPA must take later rulemaking actions, if necessary, in order to evaluate any comparable deficiencies in other existing SIP provisions that may be inconsistent with the requirements of the CAA. Again, however, the EPA's actions on the Petition provide updated guidance on the types of SIP provisions that it believes would be consistent with CAA requirements in future rulemaking actions.

Third, the EPA does not intend its action on the Petition to affect immediately any existing permit terms or conditions regarding excess emissions during SSM events that reflect previously approved SIP provisions. The EPA's finding of substantial inadequacy and a SIP call for a given state provides the state time to revise its SIP in response to the SIP call through the necessary state and federal administrative process. Thereafter, any needed revisions to existing permits will be accomplished in the ordinary course as the state issues new permits or reviews and revises existing permits. The EPA does not intend the issuance of a SIP call to have automatic impacts on the terms of any existing permit.

Fourth, the EPA does not intend its action on the Petition to alter the emergency defense provisions at 40 CFR 70.6(g) and 40 CFR 71.6(g), *i.e.*, the title V regulations pertaining to "emergency provisions" permissible in title V operating permits. The EPA's regulations applicable to title V operating permits may only be changed through appropriate rulemaking procedures and existing permit terms may only be changed through established permitting processes.

Fifth, the EPA does not intend its interpretations of the requirements of the CAA in this action on the Petition to be legally dispositive with respect to any particular current enforcement proceedings in which a violation of SIP emission limitations is alleged to have occurred. The EPA handles enforcement matters by assessing each situation, on a case-by-case basis, to determine the appropriate response and resolution.

For purposes of alleged violations of SIP provisions, however, the terms of the applicable SIP provision will continue to govern until that provision is revised following the appropriate process for SIP revisions, as required by the CAA.

Finally, the EPA does intend this final action, developed through notice and comment, to be the statement of its most current SSM Policy, reflecting the EPA's interpretation of CAA requirements applicable to SIP provisions related to excess emissions during SSM events. In this regard, the EPA is adding to and clarifying its prior statements in the 1999 SSM Guidance and making the specific changes to that guidance as discussed in this action. Thus, this final notice for this action will constitute the EPA's SSM Policy on a going-forward basis.

VIII. Legal Authority, Process and Timing for SIP Calls

A. SIP Call Authority Under Section 110(k)(5)

1. General Statutory Authority

The CAA provides a mechanism for the correction of flawed SIPs, under CAA section 110(k)(5), which provides that "[w]henver the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant national ambient air quality standards, to mitigate adequately the interstate pollutant transport described in section [176A] of this title or section [184] of this title, or to otherwise comply with any requirement of [the Act], the Administrator shall require the State to revise the plan as necessary to correct such inadequacies. The Administrator shall notify the State of the inadequacies and may establish reasonable deadlines (not to exceed 18 months after the date of such notice) for the submission of such plan revisions."

By its explicit terms, this provision authorizes the EPA to find that a state's existing SIP is "substantially inadequate" to meet CAA requirements and, based on that finding, to "require the State to revise the [SIP] as necessary to correct such inadequacies." This type of action is commonly referred to as a "SIP call."²⁸⁹

²⁸⁹ The EPA also has other discretionary authority to address incorrect SIP provisions, such as the authority in CAA section 110(k)(6) for the EPA to correct errors in prior SIP approvals. The authority in CAA section 110(k)(5) and CAA section 110(k)(6) can sometimes overlap and offer alternative mechanisms to address problematic SIP provisions. In this instance, the EPA believes that the mechanism provided by CAA section 110(k)(5) is the better approach, because using the mechanism of the CAA section 110(k)(6) error correction would

Significantly, CAA section 110(k)(5) explicitly authorizes the EPA to issue a SIP call "whenever" the EPA makes a finding that the existing SIP is substantially inadequate, thus providing authority for the EPA to take action to correct existing inadequate SIP provisions even long after their initial approval, or even if the provisions only become inadequate due to subsequent events.²⁹⁰ The statutory provision is worded in the present tense, giving the EPA authority to rectify any deficiency in a SIP that currently exists, regardless of the fact that the EPA previously approved that particular provision in the SIP and regardless of when that approval occurred.

It is also important to emphasize that CAA section 110(k)(5) expressly directs the EPA to take action if the SIP provision is substantially inadequate, not just for purposes of attainment or maintenance of the NAAQS but also for purposes of "any requirement" of the CAA. The EPA interprets this reference to "any requirement" of the CAA on its face to authorize reevaluation of an existing SIP provision for compliance with those statutory and regulatory requirements that are germane to the SIP provision at issue. Thus, for example, a SIP provision that is intended to be an "emission limitation" for purposes of a nonattainment plan for purposes of the 1997 PM_{2.5} NAAQS must meet various applicable statutory and regulatory requirements, including requirements of CAA section 110(a)(2)(A) such as enforceability, the definition of the term "emission limitation" in CAA section 302(k), the level of emissions control

eliminate the affected emission limitations from the SIP potentially leaving no emission limitation in place, whereas the mechanism of the CAA section 110(k)(5) SIP call will keep the provisions in place during the pendency of the state's revision of the SIP and the EPA's action on that revision. In the case of provisions that include impermissible automatic exemptions or discretionary exemptions, the EPA believes that retention of the existing SIP provision is preferable to the absence of the provision in the interim.

²⁹⁰ See, e.g., *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000) (upholding the "NO_x SIP Call" to states requiring revisions to previously approved SIPs with respect to ozone transport and section 110(a)(2)(D)(i)(I)); "Action to Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call; Final rule," 75 FR 77698 (December 13, 2010) (the EPA issued a SIP call to 13 states because the endangerment finding for GHGs meant that these previously approved SIPs were substantially inadequate because they did not provide for the regulation of GHGs in the PSD permitting programs of these states as required by CAA section 110(a)(2)(C) and section 110(a)(2)(I)); "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 74 FR 21639 (April 18, 2011) (the EPA issued a SIP call to rectify SIP provisions dating back to 1980).

required to constitute a “reasonably available control measure” in CAA section 172(c)(1) and the other applicable statutory requirements for the implementation of the 1997 PM_{2.5} NAAQS. Failure to meet any of those applicable requirements could constitute a substantial inadequacy suitable for a SIP call, depending upon the facts and circumstances. By contrast, that same SIP provision should not be expected to meet specifications of the CAA that are completely irrelevant for its intended purpose, such as the unrelated requirement of CAA section 110(a)(2)(G) that the state have general legal authority comparable to CAA section 303 for emergencies.

Use of the term “any requirement” in CAA section 110(k)(5) also reflects the fact that SIP provisions could be substantially inadequate for widely differing reasons. One provision might be substantially inadequate because it fails to prohibit emissions that contribute to violations of the NAAQS in downwind areas many states away. Another provision, or even the same provision, could be substantially inadequate because it also infringes on the legal right of members of the public who live adjacent to the source to enforce the SIP. Thus, the EPA has previously interpreted CAA section 110(k)(5) to authorize a SIP call to rectify SIP inadequacies of various kinds, both broad and narrow in terms of the scope of the SIP revisions required.²⁹¹ On its face, CAA section 110(k)(5) authorizes the EPA to take action with respect to SIP provisions that are substantially inadequate to meet any CAA requirements, including requirements relevant to the proper treatment of excess emissions during SSM events.

An important baseline question is whether a given deficiency renders the SIP provision “substantially inadequate.” The EPA notes that the term “substantially inadequate” is not defined in the CAA. Moreover, CAA section 110(k)(5) does not specify a particular form of analysis or methodology that the EPA must use to evaluate SIP provisions for substantial inadequacy. Thus, under *Chevron* step

2, the EPA is authorized to interpret this provision reasonably, consistent with the provisions of the CAA. In addition, the EPA is authorized to exercise its discretion in applying this provision to determine whether a given SIP provision is substantially inadequate. To the extent that the term “substantially inadequate” is ambiguous, the EPA believes that it is reasonable to interpret the term in light of the specific purposes for which the SIP provision at issue is required, and thus whether the provision meets the fundamental CAA requirements applicable to such a provision.

The EPA does not interpret CAA section 110(k)(5) to require a showing that the effect of a SIP provision that is facially inconsistent with CAA requirements is causally connected to a particular adverse impact. For example, the plain language of CAA section 110(k)(5) does not require direct causal evidence that excess emissions have occurred during a specific malfunction at a specific source and have literally caused a violation of the NAAQS in order to conclude that the SIP provision is substantially inadequate.²⁹² A SIP provision that purports to exempt a source from compliance with applicable emission limitations during SSM events, contrary to the requirements of the CAA for continuous emission limitations, does not become legally permissible merely because there is not definitive evidence that any excess emissions have resulted from the exemption and have literally caused a specific NAAQS violation.²⁹³

Similarly, the EPA does not interpret CAA section 110(k)(5) to require direct causal evidence that a SIP provision that improperly undermines enforceability of the SIP has resulted in a specific failed enforcement attempt by any party. A SIP provision that has the practical effect of barring enforcement by the EPA or through a citizen suit, either because it would bar enforcement if an air agency elects to grant a discretionary exemption or to exercise its own enforcement discretion, is inconsistent

with fundamental requirements of the CAA.²⁹⁴ Such a provision also does not become legally permissible merely because there is not definitive evidence that the state’s action literally undermined a specific attempted enforcement action by other parties. Indeed, the EPA notes that these impediments to effective enforcement likely have a chilling effect on potential enforcement in general. The possibility for effective enforcement of emission limitations in SIPs is itself an important principle of the CAA, as embodied in CAA sections 113 and 304.

The EPA’s interpretation of CAA section 110(k)(5) is that the fundamental integrity of the CAA’s SIP process and structure are undermined if emission limitations relied upon to meet CAA requirements related to protection of public health and the environment can be violated without potential recourse. For example, the EPA does not believe that it is authorized to issue a SIP call to rectify an impermissible automatic exemption provision only after a violation of the NAAQS has occurred, or only if that NAAQS violation can be directly linked to the excess emissions that resulted from the impermissible automatic exemption by a particular source on a particular day. If the SIP contains a provision that is inconsistent with fundamental requirements of the CAA, that renders the SIP provision substantially inadequate.

The EPA notes that CAA section 110(k)(5) can also be an appropriate tool to address ambiguous SIP provisions that could be read by a court in a way that would violate the requirements of the CAA. For example, if an existing SIP provision concerning the state’s exercise of enforcement discretion is sufficiently ambiguous that it could be construed to preclude enforcement by the EPA or through a citizen suit if the state elects to deem a given SSM event not a violation, then that could render the provision substantially inadequate by interfering with the enforcement structure of the CAA.²⁹⁵ If a court could

²⁹¹ See, e.g., “Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone,” 63 FR 57356 (October 27, 1998) (the EPA issued a SIP call to 23 states requiring them to rectify the failure to address interstate transport of pollutants as required by section 110(a)(2)(D); “Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision,” 74 FR 21639 (April 18, 2011) (the EPA issued a SIP call to one state requiring it to rectify several very specific SIP provisions).

²⁹² See *US Magnesium, LLC v. EPA*, 690 F.3d 1157 (10th Cir. 2012) (upholding the EPA’s interpretation of section 110(k)(5) to authorize a SIP call when the SIP provisions are inconsistent with CAA requirements).

²⁹³ The EPA notes that the GHG SIP call did not require “proof” that the failure of a state to address GHGs in a given PSD permit “caused” particularized environmental impacts; it was sufficient that the state’s SIP failed to meet the current fundamental legal requirements for regulation of GHGs in accordance with the CAA. See “Action to Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call; Final rule,” 75 FR 77698 (December 13, 2010).

²⁹⁴ See “Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision,” 74 FR 21639 at 21641 (April 18, 2011); see also *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1168 (10th Cir. 2012) (upholding the EPA’s interpretation of section 110(k)(5) to authorize a SIP call when the state’s SIP provision worded so that state decisions whether a given excess emissions event constituted a violation interfered with enforcement by the EPA or citizens for such event).

²⁹⁵ Courts have on occasion interpreted SIP provisions to limit the EPA’s enforcement authority as a result of ambiguous SIP provisions. See, e.g., *U.S. v. Ford Motor Co.*, 736 F.Supp. 1539 (W.D. Mo. 1990) and *U.S. v. General Motors Corp.*, 702 F.Supp. 133 (N.D. Texas 1988) (the EPA could not pursue enforcement of SIP emission limitations

construe the ambiguous SIP provision to bar enforcement, then the EPA believes that it may be appropriate to take action to eliminate that uncertainty by requiring the state to revise the ambiguous SIP provision. Under such circumstances, it may be appropriate for the EPA to issue a SIP call to assure that the SIP provisions are sufficiently clear and consistent with CAA requirements on their face.²⁹⁶

In this instance, the Petition raised questions concerning the adequacy of existing SIP provisions that pertain to the treatment of excess emissions during SSM events. The SIP provisions identified by the Petitioner generally fall into four major categories: (i) Automatic exemptions; (ii) exemptions as a result of director's discretion; (iii) provisions that appear to bar enforcement by the EPA or through a citizen suit if the state decides not to enforce through exercise of enforcement discretion; and (iv) affirmative defense provisions that purport to limit or eliminate a court's jurisdiction to assess liability and impose remedies for exceedances of SIP emission limitations. The EPA believes that each of these types of SIP deficiency potentially justifies a SIP call pursuant to CAA section 110(k)(5), if the Agency determines that a SIP call is the proper means to rectify an existing deficiency in a SIP.

2. Substantial Inadequacy of Automatic Exemptions

The EPA believes that SIP provisions that provide an automatic exemption from otherwise applicable emission limitations are substantially inadequate to meet CAA requirements. A typical SIP provision that includes an impermissible automatic exemption would provide that a source has to meet a specific emission limitation, except during startup, shutdown and malfunction, and by definition any excess emissions during such events would not be violations and thus there could be no enforcement based on those excess emissions. The EPA's interpretation of CAA requirements for

where states had approved alternative emission limitations under procedures the EPA had approved in the SIP); *Florida Power & Light Co. v. Costle*, 650 F.2d 579, 588 (5th Cir. 1981) (the EPA to be accorded no discretion in interpreting state law). The EPA does not agree with the holdings of these cases, but they illustrate why it is reasonable to eliminate any uncertainty about enforcement authority by requiring a state to remove or revise a SIP provision that could be read in a way inconsistent with the requirements of the CAA.

²⁹⁶ See *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1170 (10th Cir. 2012) (upholding the EPA's use of SIP call authority in order to clarify language in the SIP that could be read to violate the CAA, even if a court has not yet interpreted the language in that way).

SIP provisions has been reiterated multiple times through the SSM Policy and actions on SIP submissions that pertain to this issue. The EPA's longstanding view is that SIP provisions that include automatic exemptions for excess emissions during SSM events, such that the excess emissions during those events are not considered violations of the applicable emission limitations, do not meet CAA requirements. Such exemptions undermine the attainment and maintenance of the NAAQS, protection of PSD increments and improvement of visibility, and SIP provisions that include such exemptions fail to meet these and other fundamental requirements of the CAA.

The EPA interprets CAA sections 110(a)(2)(A) and 110(a)(2)(C) to require that SIPs contain "emission limitations" to meet CAA requirements. Pursuant to CAA section 302(k), those emission limitations must be "continuous." Automatic exemptions from otherwise applicable emission limitations thus render those limits less than continuous as required by CAA sections 302(k), 110(a)(2)(A) and 110(a)(2)(C), thereby inconsistent with a fundamental requirement of the CAA and thus substantially inadequate as contemplated in CAA section 110(k)(5).

This inadequacy has far-reaching impacts. For example, air agencies rely on emission limitations in SIPs in order to provide for attainment and maintenance of the NAAQS. These emission limitations are often used by air agencies to meet various requirements including: (i) In the estimates of emissions for emissions inventories; (ii) in the determination of what level of emissions meets various statutory requirements such as "reasonably available control measures" in nonattainment SIPs or "best available retrofit technology" in regional haze SIPs; and (iii) in critical modeling exercises such as attainment demonstration modeling for nonattainment areas or increment use for PSD permitting purposes.

Because the NAAQS are not directly enforceable against individual sources, air agencies rely on the adoption and enforcement of these generic and specific emission limitations in SIPs in order to provide for attainment and maintenance of the NAAQS, protection of PSD increments and improvement of visibility, and to meet other CAA requirements. Automatic exemption provisions for excess emissions eliminate the possibility of enforcement for what would otherwise be clear violations of the relied-upon emission limitations and thus eliminate any

opportunity to obtain injunctive relief that may be needed to protect the NAAQS or meet other CAA requirements. Likewise, the elimination of any possibility for penalties for what would otherwise be clear violations of the emission limitations, regardless of the conduct of the source, eliminates any opportunity for penalties to encourage appropriate design, operation and maintenance of sources and to encourage efforts by source operators to prevent and to minimize excess emissions in order to protect the NAAQS or to meet other CAA requirements. Removal of this monetary incentive to comply with the SIP reduces a source's incentive to design, operate, and maintain its facility to meet emission limitations at all times.

3. Substantial Inadequacy of Director's Discretion Exemptions

The EPA believes that SIP provisions that allow discretionary exemptions from otherwise applicable emission limitations are substantially inadequate to meet CAA requirements for the same reasons as automatic exemptions, but for additional reasons as well. A typical SIP provision that includes an impermissible "director's discretion" component would purport to authorize air agency personnel to modify existing SIP requirements under certain conditions, e.g., to grant a variance from an otherwise applicable emission limitation if the source could not meet the requirement in certain circumstances.²⁹⁷ If such provisions are sufficiently specific, provide for sufficient public process and are sufficiently bounded, so that it is possible to anticipate at the time of the EPA's approval of the SIP provision how that provision will actually be applied and the potential adverse impacts thereof, then such a provision might meet basic CAA requirements. In essence, if it is possible to anticipate and evaluate in advance how the exercise of enforcement discretion could impact compliance with other CAA requirements, then it may be possible to determine in advance that the preauthorized exercise of director's discretion will not interfere with other CAA requirements, such as providing for attainment and maintenance of the

²⁹⁷ The EPA notes that problematic "director's discretion" provisions are not limited only to those that purport to authorize alternative emission limitations from those required in a SIP. Other problematic director's discretion provisions could include those that purport to provide for discretionary changes to other substantive requirements of the SIP, such as applicability, operating requirements, recordkeeping requirements, monitoring requirements, test methods, and alternative compliance methods.

NAAQS. Most director's discretion-type provisions cannot meet this basic test.

Unless it is possible at the time of the approval of the SIP provision to anticipate and analyze the impacts of the potential exercise of the director's discretion, such provisions functionally could allow *de facto* revisions of the approved emission limitations required by the SIP without complying with the process for SIP revisions required by the CAA. Sections 110(a)(1) and (2) of the CAA impose procedural requirements on states that seek to amend SIP provisions. The elements of CAA section 110(a)(2) and other sections of the CAA, depending upon the subject of the SIP provision at issue, impose substantive requirements that states must meet in a SIP revision. Section 110(i) of the CAA prohibits modification of SIP requirements for stationary sources by either the state or the EPA, except through specified processes.²⁹⁸ Section 110(k) of the CAA imposes procedural and substantive requirements on the EPA for action upon any SIP revision. Sections 110(l) and 193 of the CAA both impose additional procedural and substantive requirements on the state and the EPA in the event of a SIP revision. Chief among these many requirements for a SIP revision would be the necessary demonstration that the SIP revision in question would not interfere with any requirement concerning attainment and reasonable further progress or "any other applicable requirement of" the CAA to meet the requirements of CAA section 110(l).

²⁹⁸ Section 110(i) of the Act states that "no order, suspension, plan revision or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State or by the Administrator" except in compliance with the CAA's requirements for promulgation or revision of a plan, with limited exceptions. *See, e.g.*, "Approval and Disapproval and Promulgation of Air Quality Implementation Plans; Colorado; Revisions to Regulation 1; Notice of proposed rulemaking," 75 FR 42342 at 42344 (July 21, 2010) (proposing to disapprove "director discretion" provisions as inconsistent with CAA requirements and noting that "[s]ection 110(i) specifically prohibits States, except in certain limited circumstances, from taking any action to modify any requirement of a SIP with respect to any stationary source, except through a SIP revision"), finalized as proposed at 76 FR 4540 (January 26, 2011); "Corrections to the California State Implementation Plan," 69 FR 67062 at 67063 (November 16, 2004) (noting that "a state-issued variance, though binding as a matter of State law, does not prevent EPA from enforcing the underlying SIP provisions unless and until EPA approves that variance as a SIP revision"); *Industrial Environmental Association v. Browner*, No. 97-71117 at n.2 (9th Cir. May 26, 2000) (noting that the EPA has consistently treated individual variances granted under state variance provisions as "modifications of the SIP requiring independent EPA approval").

Congress presumably imposed these many explicit requirements in order to assure that there is adequate public process at both the air agency and federal level for any SIP revision and to assure that any SIP revision meets the applicable substantive requirements of the CAA. Although no provision of the CAA explicitly addresses whether a "director's discretion" provision by that term is acceptable, the EPA interprets the statute to prohibit such provisions unless they would be consistent with the statutory and regulatory requirements that apply to SIP revisions.²⁹⁹ A SIP provision that purports to give broad and unbounded director's discretion to alter the existing legal requirements of the SIP with respect to meeting emission limitations would be tantamount to allowing a revision of the SIP without meeting the applicable procedural and substantive requirements for such a SIP revision. The EPA's approval of a SIP provision that purported to allow unilateral revisions of the emission limitations in the SIP by the state, without complying with the statutory requirements for a SIP revision, would itself be contrary to fundamental procedural and substantive requirements of the CAA.

For this reason, the EPA has long discouraged the creation of new SIP provisions containing an impermissible director's discretion feature and has also taken actions to remove existing SIP provisions that it had previously approved in error.³⁰⁰ In recent years, the EPA has also recommended that if an air agency elects to have SIP provisions that contain a director's discretion feature, then to be consistent with CAA

²⁹⁹ *See, e.g.*, EPA's implementing regulations at 40 CFR 51.104(d) ("In order for a variance to be considered for approval as a revision to the [SIP], the State must submit it in accordance with the requirements of this section") and 51.105 ("Revisions of a plan, or any portion thereof, will not be considered part of an applicable plan until such revisions have been approved by the Administrator in accordance with this part.").

³⁰⁰ *See, e.g.*, "Approval and Disapproval and Promulgation of Air Quality Implementation Plans; Colorado; Revisions to Regulation 1," 76 FR 4540 (January 26, 2011) (partial disapproval of SIP submission based on inclusion of impermissible director's discretion provisions); "Correction of Implementation Plans; American Samoa, Arizona, California, Hawaii, and Nevada State Implementation Plans; Notice of proposed rulemaking," 61 FR 38664 (July 25, 1996) (proposed SIP correction to remove, pursuant to CAA section 110(k)(6), several variance provisions from American Samoa, Arizona, California, Hawaii, and Nevada SIPs), finalized at 62 FR 34641 (June 27, 1997); "Approval and Promulgation of Implementation Plans; Corrections to the Arizona and Nevada State Implementation Plans; Direct final rule," 74 FR 57051 (November 3, 2009) (rulemaking to remove, pursuant to CAA section 110(k)(6), variance provisions from Arizona and Nevada SIPs).

requirements the provisions must be structured so that any resulting variances or other deviations from the emission limitation or other SIP requirements have no federal law validity, unless and until the EPA specifically approves that exercise of the director's discretion as a SIP revision. Barring such a later ratification by the EPA through a SIP revision, the exercise of director's discretion is only valid for state (or tribal) law purposes and would have no bearing in the event of an action to enforce the provision of the SIP as it was originally approved by the EPA.

The EPA's evaluation of the specific SIP provisions of this type identified in the Petition indicates that none of them provides sufficient process or sufficient bounds on the exercise of director's discretion to be permissible. Most on their face would allow potentially limitless exemptions from SIP requirements with potentially dramatic adverse impacts inconsistent with the objectives of the CAA. More importantly, however, each of the identified SIP provisions goes far beyond the limits of what might theoretically be a permissible director's discretion provision, by authorizing state personnel to create case-by-case exemptions from the applicable emission limitations or other requirements of the SIP for excess emissions during SSM events. Given that the EPA interprets the CAA not to allow exemptions from SIP emission limitations for excess emissions during SSM events in the first instance, it follows that providing such exemptions through the *ad hoc* mechanism of a director's discretion provision is also not permissible and compounds the problem.

As with automatic exemptions for excess emissions during SSM events, a provision that allows discretionary exemptions would not meet the statutory requirements of CAA sections 110(a)(2)(A) and 110(a)(2)(C) that require SIPs to contain "emission limitations" to meet CAA requirements. Pursuant to CAA section 302(k), those emission limitations must be "continuous." Discretionary exemptions from otherwise applicable emission limitations render those limits less than continuous, as is required by CAA sections 110(a)(2)(A) and 110(a)(2)(C), and thereby inconsistent with a fundamental requirement of the CAA and thus substantially inadequate as contemplated in section CAA 110(k)(5). Such exemptions undermine the objectives of the CAA such as protection of the NAAQS and PSD increments, and they fail to meet other fundamental requirements of the CAA.

In addition, discretionary exemptions undermine effective enforcement of the SIP by the EPA or through a citizen suit, because often there may have been little or no public process concerning the exercise of director's discretion to grant the exemptions, or easily accessible documentation of those exemptions, and thus even ascertaining the possible existence of such *ad hoc* exemptions will further burden parties who seek to evaluate whether a given source is in compliance or to pursue enforcement if it appears that the source is not. Where there is little or no public process concerning such *ad hoc* exemptions, or there is inadequate access to relevant documentation of those exemptions, enforcement by the EPA or through a citizen suit may be severely compromised. As explained in the 1999 SSM Guidance, the EPA does not interpret the CAA to allow SIP provisions that would allow the exercise of director's discretion concerning violations to bar enforcement by the EPA or through a citizen suit. The exercise of director's discretion to exempt conduct that would otherwise constitute a violation of the SIP would interfere with effective enforcement of the SIP. Such provisions are inconsistent with and undermine the enforcement structure of the CAA provided in CAA sections 113 and 304, which provide independent authority to the EPA and citizens to enforce SIP provisions, including emission limitations. Thus, SIP provisions that allow discretionary exemptions from applicable SIP emission limitations through the exercise of director's discretion are substantially inadequate to comply with CAA requirements as contemplated in CAA section 110(k)(5).

4. Substantial Inadequacy of Improper Enforcement Discretion Provisions

The EPA believes that SIP provisions that pertain to enforcement discretion but could be construed to bar enforcement by the EPA or through a citizen suit if the air agency declines to enforce are substantially inadequate to meet CAA requirements. A typical SIP provision that includes an impermissible enforcement discretion provision specifies certain parameters for when air agency personnel should pursue enforcement action, but is worded in such a way that the air director's decision defines what constitutes a "violation" of the emission limitation for purposes of the SIP, *i.e.*, by defining what constitutes a violation, the air agency's own enforcement

discretion decisions are imposed on the EPA or citizens.³⁰¹

The EPA's longstanding view is that SIP provisions cannot enable an air agency's decision concerning whether or not to pursue enforcement to bar the ability of the EPA or the public to enforce applicable requirements.³⁰² Such enforcement discretion provisions in a SIP would be inconsistent with the enforcement structure provided in the CAA. Specifically, the statute provides explicit independent enforcement authority to the EPA under CAA section 113 and to citizens under CAA section 304. Thus, the CAA contemplates that the EPA and citizens have authority to pursue enforcement for a violation even if the air agency elects not to do so. The EPA and citizens, and any court in which they seek to pursue an enforcement claim for violation of SIP requirements, must retain the authority to evaluate independently whether a source's violation of an emission limitation warrants enforcement action. Potential for enforcement by the EPA or through a citizen suit provides an important safeguard in the event that the air agency lacks resources or ability to enforce violations and provides additional deterrence. Accordingly, a SIP provision that operates at the air agency's election to eliminate the authority of the EPA or the public to pursue enforcement actions would undermine the enforcement structure of the CAA and would thus be substantially inadequate to meet fundamental requirements in CAA sections 113 and 304.

5. Substantial Inadequacy of Affirmative Defense Provisions

The EPA believes that SIP provisions that provide an affirmative defense for excess emissions during SSM events are substantially inadequate to meet CAA requirements. A typical SIP provision that includes an impermissible affirmative defense operates to limit or eliminate the jurisdiction of federal courts to assess liability or to impose remedies in an enforcement proceeding for exceedances of SIP emission limitations. Some affirmative defense provisions apply broadly, whereas others are components of specific

³⁰¹ See, e.g., "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 75 FR 70888 at 70892 (November 19, 2010). The SIP provision at issue provided that information concerning a malfunction "shall be used by the executive secretary in determining whether a violation has occurred and/or the need of further enforcement action." This SIP language appeared to give the state official exclusive authority to determine whether excess emissions constitute a violation.

³⁰² See 1999 SSM Guidance at 3.

emission limitations. Some provisions use the explicit term "affirmative defense," whereas others are structured as such provisions but do not use this specific terminology. All of these provisions, however, share the same legal deficiency in that they purport to alter the statutory jurisdiction of federal courts under section 113 and section 304 to determine liability and to impose remedies for violations of CAA requirements, including SIP emission limitations. Accordingly, an affirmative defense provision that operates to limit or to eliminate the jurisdiction of the federal courts would undermine the enforcement structure of the CAA and would thus be substantially inadequate to meet fundamental requirements in CAA sections 113 and 304. By undermining enforcement, such provisions also are inconsistent with fundamental CAA requirements such as attainment and maintenance of the NAAQS, protection of PSD increments and improvement of visibility.

B. SIP Call Process Under Section 110(k)(5)

Section 110(k)(5) of the CAA provides the EPA with authority to determine whether a SIP is substantially inadequate to attain or maintain the NAAQS or otherwise comply with any requirement of the CAA. Where the EPA makes such a determination, the EPA then has a duty to issue a SIP call.

In addition to providing general authority for a SIP call, CAA section 110(k)(5) sets forth the process and timing for such an action. First, the statute requires the EPA to notify the state of the final finding of substantial inadequacy. The EPA typically provides notice to states by a letter from the Assistant Administrator for the Office of Air and Radiation to the appropriate state officials in addition to publication of the final action in the **Federal Register**.

Second, the statute requires the EPA to establish "reasonable deadlines (not to exceed 18 months after the date of such notice)" for states to submit corrective SIP submissions to eliminate the inadequacy in response to the SIP call. The EPA proposes and takes comment on the schedule for the submission of corrective SIP revisions in order to ascertain the appropriate timeframe, depending on the nature of the SIP inadequacy.

Third, the statute requires that any finding of substantial inadequacy and notice to the state be made public. By undertaking a notice-and-comment rulemaking, the EPA assures that the air agencies, affected sources and members of the public all are adequately

informed and afforded the opportunity to participate in the process. Through the February 2013 proposal, the SNPR and this final notice, the EPA is providing a full evaluation of the issues raised by the Petition and has used this process as a means of giving clear and up-to-date guidance concerning SIP provisions relevant to the treatment of excess emissions during SSM events that is consistent with CAA requirements.

If the state fails to submit the corrective SIP revision by the deadline established in this final notice, CAA section 110(c) authorizes the EPA to “find[] that [the] State has failed to make a required submission.”³⁰³ Once the EPA makes such a finding of failure to submit, CAA section 110(c)(1) requires the EPA to “promulgate a Federal implementation plan at any time within 2 years after the [finding] . . . unless the State corrects the deficiency, and [the EPA] approves the plan or plan revision, before [the EPA] promulgates such [FIP].” Thus, if the EPA finds that the air agency failed to submit a complete SIP revision that responds to this SIP call, or if the EPA disapproves such SIP revision, then the EPA will have an obligation under CAA section 110(c)(1) to promulgate a FIP no later than 2 years from the date of the finding or the disapproval, if the deficiency has not been corrected before that time.³⁰⁴

The finding of failure to submit a revision in response to a SIP call or the EPA’s disapproval of that corrective SIP revision can also trigger sanctions under CAA section 179. If a state fails to submit a complete SIP revision that responds to a SIP call, CAA section 179(a) provides for the EPA to issue a finding of state failure. Such a finding starts mandatory 18-month and 24-month sanctions clocks. The two sanctions that apply under CAA section 179(b) are the 2-to-1 emission offset requirement for all new and modified major sources subject to the nonattainment NSR program and restrictions on highway funding. However, section 179 leaves it to the EPA to decide the order in which these sanctions apply. The EPA issued an order of sanctions rule in 1994 but did not specify the order of sanctions where a state fails to submit or submits a deficient SIP revision in response to a SIP call.³⁰⁵ In the February 2013

proposal, as the EPA has done in other SIP calls, the EPA proposed that the 2-to-1 emission offset requirement will apply for all new sources subject to the nonattainment NSR program beginning 18 months following such finding or disapproval unless the state corrects the deficiency before that date. The EPA proposed that the highway funding restrictions sanction will also apply beginning 24 months following such finding or disapproval unless the state corrects the deficiency before that date. Finally, the EPA proposed that the provisions in 40 CFR 52.31 regarding staying the sanctions clock and deferring the imposition of sanctions would also apply. In this action, the EPA is finalizing the order of sanctions as proposed in the February 2013 proposal and finalizing its decision concerning the application of 40 CFR 52.31.

Mandatory sanctions under CAA section 179 generally apply only in nonattainment areas. By its definition, the emission offset sanction applies only in areas required to have a part D NSR program, *i.e.*, areas designated nonattainment. Section 179(b)(1) expressly limits the highway funding restriction to nonattainment areas. Additionally, the EPA interprets the section 179 sanctions to apply only in the area or areas of the state that are subject to or required to have in place the deficient SIP and for the pollutant or pollutants that the specific SIP element addresses. For example, if the deficient provision applies statewide and applies for all NAAQS pollutants, then the mandatory sanctions would apply in all areas designated nonattainment for any NAAQS within the state. In this case, the EPA will evaluate the geographic scope of potential sanctions at the time it makes a determination that the air agency has failed to make a complete SIP submission in response to this SIP call, or at the time it disapproves such a SIP submission. The appropriate geographic scope for sanctions may vary depending upon the SIP provisions at issue.

C. SIP Call Timing Under Section 110(k)(5)

When the EPA finalizes a finding of substantial inadequacy and a SIP call for any state, CAA section 110(k)(5) requires the EPA to establish a SIP submission deadline by which the state must make a SIP submission to rectify the identified deficiency. Pursuant to CAA section 110(k)(5), the EPA has authority to set a SIP submission

deadline that is up to 18 months from the date of the final finding of inadequacy.

The EPA proposed to establish a date 18 months from the date of promulgation of the final finding for the state to respond to the SIP call. After further evaluation of this issue and consideration of comments on the proposed SIP call, the EPA has decided to finalize the proposed schedule. Thus, the SIP submission deadline for each of the states subject to this SIP call will be November 22, 2016. Thereafter, the EPA will review the adequacy of that new SIP submission in accordance with the CAA requirements of sections 110(a), 110(k), 110(l) and 193, including the EPA’s interpretation of the CAA reflected in the SSM Policy as clarified and updated through this rulemaking.

The EPA is providing the maximum time permissible under the CAA for a state to respond to a SIP call. The EPA believes that it is appropriate to provide states with the full 18 months authorized under CAA section 110(k)(5) in order to allow states sufficient time to make SIP revisions following their own SIP development process. During this time, the EPA recognizes, an affected state will need to revise its state regulations, provide for public input, process the SIP revision through the state’s own procedures and submit the SIP revision to the EPA. Such a schedule will allow for the necessary SIP development process to correct the deficiencies, yet still achieve the necessary SIP improvements as expeditiously as practicable. There may be exceptions, particularly in states that have adopted especially time-consuming procedures for adoption and submission of SIP revisions. The EPA acknowledges that the longstanding existence of many of the provisions at issue, such as automatic exemptions for SSM events, may have resulted in undue reliance on them as a compliance mechanism by some sources. As a result, development of appropriate SIP revisions may entail reexamination of the applicable emission limitations themselves, and this process may require the maximum time allowed by the CAA. For example, if circumstances do not allow the state to develop alternative emission limitations within that time, the state may find it necessary to remove the automatic exemptions in an initial responsive SIP revision and establish alternative emission limitations in a later SIP revision. Nevertheless, the EPA encourages the affected states to make the necessary revisions in as timely a fashion as possible and encourages the states to work with the respective EPA Regional

³⁰³ CAA section 110(c)(1)(A).

³⁰⁴ The 2-year deadline does not necessarily apply to FIPs following disapproval of a tribal implementation plan.

³⁰⁵ See “Selection of Sequence of Mandatory Sanctions for Findings Made Pursuant to Section

179 of the Clean Air Act.” 59 FR 39832 (August 4, 1994), codified at 40 CFR 52.31.

Office as they develop the SIP revisions. The EPA intends to review and act upon the SIP submissions as promptly as resources will allow, in order to correct these deficiencies in as timely a manner as possible. Recent experience with several states that elected to correct the deficiencies identified in the February 2013 proposal in advance of this final action suggests that these SIP revisions can be addressed efficiently through cooperation between the air agencies and the EPA.

The EPA notes that the SIP call for affected states finalized in this action is narrow and applies only to the specific SIP provisions determined to be inconsistent with the requirements of the CAA. To the extent that a state is concerned that elimination of a particular aspect of an existing emission limitation, such as an impermissible exemption, will render that emission limitation more stringent than the state originally intended and more stringent than needed to meet the CAA requirements it was intended to address, the EPA anticipates that the state will revise the emission limitation accordingly, but without the impermissible exemption or other feature that necessitated the SIP call. With adequate justification, this SIP revision might, *e.g.*, replace a numerical emission limitation with an alternative control method (design, equipment, work practice or operational standard) as a component of the emission limitation applicable during startup and/or shutdown periods.

The EPA emphasizes that its authority under CAA section 110(k)(5) does not extend to requiring a state to adopt a particular control measure in its SIP revision in response to the SIP call. Under principles of cooperative federalism, the CAA vests air agencies with substantial discretion in how to develop SIP provisions, so long as the provisions meet the legal requirements and objectives of the CAA.³⁰⁶ Thus, the inclusion of a SIP call to a state in this action should not be misconstrued as a directive to the state to adopt a particular control measure. The EPA is merely requiring that affected states make SIP revisions to remove or revise existing SIP provisions that fail to comply with fundamental requirements of the CAA. The states retain discretion to remove or revise those provisions as they determine best, so long as they bring their SIPs into compliance with

the requirements of the CAA.³⁰⁷ Through this rulemaking action, the EPA is reiterating, clarifying and updating its interpretations of the CAA with respect to SIP provisions that apply to emissions from sources during SSM events in order to provide states with comprehensive guidance concerning such provisions.

Finally, the EPA notes that under section 553 of the Administrative Procedure Act, 5 U.S.C. 553(d), an agency rule should not be “effective” less than 30 days after its publication, unless certain exceptions apply including an exception for “good cause.” In this action, the EPA is simultaneously taking final action on the Petition, issuing its revised SSM Policy guidance to states for SIP provisions applicable to emissions during SSM events and issuing a SIP call to 36 states for specific existing SIP provisions that it has determined to be substantially inadequate to meet CAA requirements. Section 110(k)(5) provides that the EPA must notify states affected by a SIP call and must establish a deadline for SIP submissions by affected states in response to a SIP call not to exceed 18 months after the date of such notification. The EPA is notifying affected states of this final SIP call action on May 22, 2015. Thus, regardless of the effective date of this action, the deadline for submission of SIP revisions to address the specific SIP provisions that the EPA has identified as substantially inadequate will be November 22, 2016. In addition, the EPA concludes that there is good cause for this final action to be effective on May 22, 2015, the day upon which the EPA provided notice to the states, because any delayed effective date would be unnecessary given that CAA section 110(k)(5) explicitly provides that the deadline for submission of the required SIP revisions runs from the date of notification to the affected states, not from some other date, and shall not exceed 18 months.

D. Response to Comments Concerning SIP Call Authority, Process and Timing

The EPA received a wide range of comments on the February 2013 proposal and the SNPR questioning the scope of the Agency’s authority to issue this SIP call action under section

110(k)(5), the process followed by EPA for this SIP call action, or the timing that the EPA provided for response to this SIP call action. Although there were numerous comments on these general topics, the majority of the comments raised the same questions and made similar arguments (*e.g.*, that the EPA has an obligation under section 110(k)(5) to “prove” not only that an exemption for SSM events in a SIP emission limitation is contrary to the explicit legal requirements of the CAA but also that this illegal exemption “caused” a specific violation of the NAAQS at a particular monitor on a particular day). For clarity and ease of discussion, the EPA is responding to these overarching comments, grouped by topic, in this section of this document.

1. Comments that section 110(k)(5) requires the EPA to “prove causation” to have authority to issue a SIP call.

Comment: Numerous state and industry commenters argued that the EPA has no authority to issue a SIP call with respect to a given SIP provision unless and until the Agency first proves definitively that the provision has caused a specific harm, such as a specific violation of the NAAQS in a specific area. These commenters generally focused upon the “attainment and maintenance” clause of section 110(k)(5) and did not address the “comply with any requirement of” the CAA clause.

For example, many industry commenters opposed the EPA’s interpretation of section 110(k)(5) on the grounds that the Agency had failed to provide a specific technical analysis “proving” how the SIP provisions failed to provide for attainment or maintenance of the NAAQS. For areas attaining the NAAQS, commenters asserted that there should be a presumption that existing SIP provisions are adequate if they have resulted in attainment of the NAAQS. For areas violating the NAAQS, commenters claimed that the EPA is required to conduct a technical analysis to determine if there is a “nexus between the provisions that are the subject of its SSM SIP Call Proposal and the specific pollutants for which attainment has not been achieved.” Other industry commenters argued that in order to have authority to issue a SIP call, the EPA must prove through a technical analysis that a given SIP provision “is” substantially inadequate, not that it “may be.” These commenters claimed that the EPA has not shown how any of the SIP provisions at issue in this action “threatens the NAAQS, fails to sufficiently mitigate interstate transport, or comply with any other

³⁰⁶ See *Virginia v. EPA*, 108 F.3d 1397 (D.C. Cir. 1997) (SIP call remanded and vacated because, *inter alia*, the EPA had issued a SIP call that required states to adopt a particular control measure for mobile sources).

³⁰⁷ Notwithstanding the latitude states have in developing SIP provisions, the EPA is required to assure that states meet the basic legal criteria for SIPs. See *Michigan v. EPA*, 213 F.3d 663, 686 (D.C. Cir. 2000) (upholding NO_x SIP call because, *inter alia*, the EPA was requiring states to meet basic legal requirement that SIPs comply with section 110(a)(2)(D), not dictating the adoption of a particular control measure).

CAA requirement.” Many industry commenters questioned whether exempt emissions during SSM events pose any attainment-related concerns, making assertions such as: “[i]nfrequent malfunction, startup and shutdown events at a limited number of stationary sources are likely to have no effect on attainment.”

Many state commenters made similar arguments, based on the specific attainment or nonattainment status of areas in their respective states. For example, one state commenter claimed that the EPA failed to make required technical findings that the specific provisions the Agency identified as legally deficient “are so substantially inadequate that the State cannot attain or maintain the NAAQS or otherwise comply with the CAA.” The commenter claimed that the EPA should have evaluated all of the state’s emission limitations, emission inventories and attainment and maintenance demonstrations for the NAAQS, rather than focusing on these individual SIP provisions. In order to demonstrate substantial inadequacy under section 110(k)(5), the state claimed, the EPA “must point to facts” that show “the State cannot attain or maintain the NAAQS or comply with the CAA” if the provisions remain in the SIP. Other states made comparable arguments with respect to the SIP provisions at issue in their SIPs and claimed that the EPA is required to establish how the provisions caused or contributed to a specific violation of a NAAQS in those states.

By contrast, many environmental group commenters and individual commenters took the opposite position concerning what is necessary to support a finding of substantial inadequacy under section 110(k)(5). These commenters argued that that the EPA may issue a SIP call not only where it determines that a SIP is substantially inadequate to attain or maintain a NAAQS with a technical analysis but also where the Agency determines that the SIP is substantially inadequate “to comply with any requirement of the Act.” The commenters noted that the EPA identified specific statutory provisions of the CAA with which the SIP provisions at issue in this action do not comply. For example, these commenters agreed with the EPA’s view that SIP provisions with automatic or discretionary exemptions for emissions during SSM events do not meet the fundamental requirements that SIP emission limitations must apply to limit emissions from sources on a continuous basis, in accordance with sections 110(a)(2)(A), 110(a)(2)(C) and 302(k). In addition to arguing that failure to meet

legal requirements of the CAA is a sufficient basis for a SIP call, some commenters provided additional support to illustrate how SIP provisions with deficiencies such as automatic or discretionary exemptions for emissions during SSM events result in large amounts of excess emissions that would otherwise be violations of the applicable emission limitations.

Response: The EPA disagrees with the argument that it has no authority to issue a SIP call under section 110(k)(5) unless the Agency provides a factual or technical analysis to demonstrate that the SIP provision at issue caused a specific environmental harm or undermined a specific enforcement case. As explained in the February 2013 proposal, in the SNPR and in this final action, the EPA interprets its authority under section 110(k)(5) to authorize a SIP call for not only provisions that are substantially inadequate for purposes of attainment or maintenance of the NAAQS but also those provisions that are substantially inadequate for purposes of “any requirement” of the CAA.³⁰⁸ To be clear, the EPA can also issue a SIP call whenever it determines that a SIP as a whole, or a specific SIP provision, is deficient because the SIP did not prevent specific violations of a NAAQS, at a specific monitor, on a specific date. However, that is not the extent of the EPA’s authority under section 110(k)(5).

On its face, section 110(k)(5) does not impose any explicit requirements with respect to what specific form of factual or analytical basis is necessary for issuance of a SIP call. Because the statute does not prescribe the basis on which the EPA is to make a finding of substantial inadequacy, the Agency interprets section 110(k)(5) to provide discretion concerning what is necessary to support such a finding. The Agency believes that the nature of the factual or analytical basis necessary to make a finding is dependent upon the specific nature of the substantial inadequacy in a given SIP provision.

For example, when the EPA issued the NO_x SIP Call to multiple states because their SIPs failed to address interstate transport adequately in accordance with section 110(a)(2)(D)(i)(I), the Agency did base that SIP call on a detailed factual analysis including ambient air impacts.³⁰⁹ In that situation, the specific

³⁰⁸ See February 2013 proposal, 78 FR 12459 at 12483–89 (February 22, 2013); SNPR, 79 FR 55919 at 55935.

³⁰⁹ See “Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of

requirement of the CAA at issue was the statutory obligation of each state to have a SIP that contains adequate provisions to prohibit emissions from sources “in amounts” that “contribute significantly to nonattainment in, or interfere with maintenance by, any other State” with respect to the NAAQS. Because of the phrase “in amounts,” the EPA considered it appropriate to evaluate whether each state’s SIP was substantially inadequate to comply with section 110(a)(2)(D)(i)(I) through a detailed analysis of the emissions from the state and their impacts on other states. Moreover, given the use of ambiguous terms in section 110(a)(2)(D)(i)(I) such as “contribute significantly,” the EPA concluded that it was appropriate to conduct a detailed analysis to quantify the amount of emissions that each of the affected states needed to eliminate in order to comply with section 110(a)(2)(D)(i)(I) for the specific NAAQS in question. However, the EPA’s decision to determine these facts and to conduct these analyses as a basis for that particular SIP call action was due to the nature of the SIP deficiency at issue and the wording of section 110(a)(2)(D)(i)(I). The EPA has similarly issued other SIP calls for which the Agency determined that a specific factual or technical analysis was appropriate to support the finding of substantial inadequacy.³¹⁰

Not all situations, however, require the same type of detailed factual analysis to support the finding of substantial inadequacy. For example, when the EPA issued the PSD GHG SIP call to 13 states for failure to have a PSD permitting program that properly addresses GHG emissions, the Agency did not need to base that SIP call action on a detailed factual analysis of ambient air impacts.³¹¹ In that situation, the statutory requirement of the CAA in question was the obligation of each state SIP under section 110(a)(2)(C) to

Reducing Regional Transport of Ozone,” 63 FR 57356 (October 27, 1998).

³¹⁰ See, e.g., “Finding of Substantial Inadequacy of Implementation Plan; Call for Iowa State Implementation Plan Revision,” 76 FR 41424 (July 14, 2011) (SIP call to Iowa due to PM_{2.5} NAAQS violations in Muscatine area); “Approval and Promulgation of State Implementation Plans; Call for Sulfur Dioxide SIP Revisions for Billings/Laurel, MT [Montana],” 58 FR 41430 (August 4, 1993) (SIP call to Montana due to modeled violations of the SO₂ NAAQS).

³¹¹ See “Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions; Finding of Substantial Inadequacy and SIP Call,” 75 FR 77698 (December 13, 2010). The EPA notes that a number of petitioners challenged this SIP call on various grounds, but the court ultimately determined that they did not have standing. *Texas v. EPA*, 726 F.3d 180 (D.C. Cir. 2013).

include a PSD permitting program that addresses all federally regulated air pollutants, including GHGs. In that action, the EPA made a finding that the SIPs of 13 states were substantially inadequate to “comply with any requirement” of the CAA because the PSD permitting programs in their EPA-approved SIPs did not apply to GHG emissions from new and modified sources. Accordingly, the EPA issued a SIP call to the 13 states because their SIPs failed to comply with specific legal requirements of the CAA. This failure to meet an explicit CAA legal requirement to address GHG emissions in permits for sources as required by statute did not require the EPA to provide a technical analysis of the specific environmental impacts that this substantial inadequacy would cause. For this type of SIP deficiency, it was sufficient for the EPA to make a factual finding that the affected states had SIPs that failed to meet this fundamental legal requirement.³¹² The EPA has issued other SIP calls for which the Agency made a finding that a state’s failure to meet specific legal requirement of the CAA for SIPs was a substantial inadequacy without the need to provide a technical air quality analysis relating to NAAQS violations.³¹³

The EPA believes that the most relevant precedent for what is necessary to support a finding of substantial inadequacy in this action is the SIP call that the Agency previously issued to the state of Utah for deficient SIP provisions related to the treatment of excess emissions during SSM events.³¹⁴ In that SIP call action, the EPA made a finding that two specific provisions in the state’s SIP were substantially inadequate because they were inconsistent with legal requirements of the CAA. For one of the provisions that included an exemption for emissions during “upsets” (*i.e.*, malfunctions), the EPA explained:

Contrary to CAA section 302(k)’s definition of emission limitation, the exemption [in the provision] renders emission limitations in

the Utah SIP less than continuous and, contrary to the requirements of CAA sections 110(a)(2)(A) and (C), undermines the ability to ensure compliance with SIP emissions limitations relied on to achieve the NAAQS and other relevant CAA requirements at all times. Therefore, the [provision] renders the Utah SIP substantially inadequate to attain or maintain the NAAQS or to comply with other CAA requirements such as CAA sections 110(a)(2)(A) and (C) and 302(k), CAA provisions related to prevention of significant deterioration (PSD) and nonattainment NSR permits (sections 165 and 173), and provisions related to protection of visibility (section 169A).³¹⁵

For a second provision, the EPA made a finding of substantial inadequacy because the provision interfered with the enforcement structure of the CAA. The EPA explained:

This provision appears to give the executive secretary exclusive authority to determine whether excess emissions constitute a violation and thus to preclude independent enforcement action by EPA and citizens when the executive secretary makes a non-violation determination. This is inconsistent with the enforcement structure under the CAA, which provides enforcement authority not only to the States, but also to EPA and citizens. . . . Because it undermines the envisioned enforcement structure, it also undermines the ability of the State to attain and maintain the NAAQS and to comply with other CAA requirements related to PSD, visibility, NSPS, and NESHAPS.³¹⁶

In the Utah SIP call rulemaking, the EPA received similar adverse comments arguing that the Agency has no authority under section 110(k)(5) to issue a SIP call without a factual analysis that proves that the deficient SIP provisions caused a specific environmental harm, such as a NAAQS violation. Commenters in that rulemaking likewise argued that the EPA was required to prove a causal connection between the excess emissions that occurred during a specific exempt malfunction and a specific violation of the NAAQS. In response to those comments, the EPA explained:

[W]e need not show a direct causal link between any specific unavoidable breakdown excess emissions and violations of the NAAQS to conclude that the SIP is substantially inadequate. It is our interpretation that the fundamental integrity of the CAA’s SIP process and structure is undermined if emission limits relied on to

³¹⁵ *Id.*, 76 FR 21639 at 21641. The EPA also found the first provision substantially inadequate because it operated to create an additional exemption for emissions during malfunctions that modified the existing emission limitations in some federal NSPS and NESHAP that the state had incorporated by reference into its SIP. The EPA’s 1999 SSM Guidance had indicated that state SIP provisions could not validly alter NSPS or NESHAP.

³¹⁶ *Id.*

meet CAA requirements can be exceeded without potential recourse by any entity granted enforcement authority by the CAA. We are not restricted to issuing SIP calls only after a violation of the NAAQS has occurred or only where a specific violation can be linked to a specific excess emissions event.³¹⁷

The EPA’s interpretation of section 110(k)(5) in the Utah action was directly challenged in *US Magnesium, LLC v. EPA*.³¹⁸ Among other claims, the petitioners argued that the EPA did not have authority for the SIP call because the Agency had not “set out facts showing that the [SIP provision] has prevented Utah from attaining or maintaining the NAAQS or otherwise complying with the CAA.” Thus, the same arguments raised by commenters in this action have previously been advanced and rejected by the EPA and the courts. The court expressly upheld the EPA’s interpretation of section 110(k)(5), concluding:

Certainly, a SIP could be deemed substantially inadequate because air-quality records showed that actions permitted under the SIP resulted in NAAQS violations, but the statute can likewise apply to a situation like this, where the EPA determines that a SIP is no longer consistent with the EPA’s understanding of the CAA. In such a case, the CAA permits the EPA to find that a SIP is substantially inadequate to comply with the CAA, which would allow the EPA to issue a SIP call under CAA section 110(k)(5).³¹⁹

Finally, the EPA disagrees with the commenters on this specific point because it is not a logical construction of section 110(k)(5). The implication of the commenters’ argument is that if a given area is in attainment, then the question of whether the SIP provisions meet applicable legal requirements is irrelevant. If a given area is not in attainment, then the implication of the commenter’s argument is that the EPA must prove that the legally deficient SIP provision factually caused the violation of the NAAQS or else the legal deficiency is irrelevant. In the latter case, the logical extension of the commenter’s argument is that no matter how deficient a SIP provision is to meet applicable legal requirements, the EPA is foreclosed from directing the state to correct that deficiency unless and until there is proof of a specific environmental harm caused, or specific enforcement case thwarted, by that deficiency. Such a reading is inconsistent with both the letter and the intent of section 110(k)(5).

2. Comments that the EPA must make specific factual findings to meet the

³¹⁷ *Id.*, 76 FR 21639 at 21643.

³¹⁸ 690 F.3d 1157 (10th Cir. 2012).

³¹⁹ *Id.* 690 F.3d at 1168.

³¹² *Id.*, 75 FR 77698 at 77705–07.

³¹³ See, e.g., “Finding of Substantial Inadequacy of Implementation Plan; Call for California State Implementation Plan Revision,” 68 FR 37746 (June 25, 2003) (SIP call to California for failure to meet legal requirements of section 110(a)(2)(C), section 110(a)(2)(I), and section 110(a)(2)(E) because of exemptions for agricultural sources from NNSR and PSD permitting requirements); “Credible Evidence Revisions,” 62 FR 8314 at 8327 (February 24, 1997) (discussing SIP calls requiring states to revise their SIPs to meet CAA requirements with respect to the use of any credible evidence in enforcement actions for SIP violations).

³¹⁴ See “Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision; Proposed rule,” 76 FR 21639 (April 18, 2011).

requirements of section 110(a)(2)(H)(ii) to have authority to issue a SIP call.

Comment: A number of commenters argued that even if section 110(k)(5) does not require the EPA to provide a technical analysis to support a finding of substantial inadequacy, section 110(a)(2)(H)(ii) does impose this obligation. The commenters noted that section 110(a)(2)(H)(ii) requires states to revise their SIPs “whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate.” The commenters claimed that this statutory language imposes a requirement for the EPA to “find” the SIP inadequate and “clearly indicates that a SIP Call must be justified by factual findings supported by record evidence.”

One commenter argued that the use of the word “finds” should be read in light of the dictionary definition of “find”—“to discover by study or experiment.” The commenter noted that courts commonly hold that agencies must draw a link between the facts and a challenged agency decision. To support this basic principle of administrative law, the commenter cited a litany of cases including: *Motor Vehicle Mfrs Ass’n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983); *Appalachian Power Co. v. EPA*, 251 F.3d 1026, 1034 (D.C. Cir. 2001); *Tex Tin Corp. v. EPA*, 992 F.2d 353, 356 (D.C. Cir. 1993); *Nat’l Gypsum v. EPA*, 968 F.2d 40, 43–44 (D.C. Cir. 1992); *Michigan v. EPA*, 213 F.3d 663, 681 (D.C. Cir. 2000). Thus, the commenter suggested that the statutory language of section 110(a)(2)(H)(ii) requires a specific factual or technical demonstration concerning the ambient air impacts of an inadequate SIP provision, even if the language of section 110(k)(5) does not.

Another commenter argued that the phrase “on the basis of information available to the Administrator” in section 110(a)(2)(H)(ii) means that the EPA must not only consider the specific terms of the SIP provisions relative to the legal requirements of the statute but must also consider other information that is “available,” including how the provisions have been affecting air quality or enforcement since approval. In support of this proposition, the commenter cited 1970 legislative history for section 110(a)(2)(H):

Whenever the Secretary or his representative finds from new information developed after the plan is approved that the plan is not or will not be adequate to achieve promulgated ambient air quality standards he must notify the appropriate States and give

them an opportunity to respond to the new information.³²⁰

Thus, the commenter concluded that the EPA must not only find that the SIP is facially inconsistent with the legal requirements of the CAA but also find it “substantially inadequate” to achieve the goals of the requirements as a factual matter before issuing a SIP call. The implication of the commenter’s argument is that section 110(a)(2)(H)(ii) imposes additional limitations upon the EPA’s authority to issue a SIP call.

Response: The EPA disagrees that it has not made the findings necessary to support the present SIP call action. The thrust of the commenters’ argument is that the facts that the EPA “finds” or the “information” upon which the EPA bases such a finding can *only* be technical or scientific facts proving that a given SIP provision resulted in emissions that caused a specific violation of the NAAQS. As with section 110(k)(5), however, nothing in section 110(a)(2)(H)(ii) compels such a narrow reading. The plain language of section 110(a)(2)(H)(ii) does not support the commenters’ arguments. To the extent that section 110(a)(2)(H)(ii) is ambiguous, however, the EPA does not interpret it to require the types of technical findings claimed by the commenters in the case of SIP provisions that do not meet legal requirements of the CAA. To the contrary, the EPA interprets the statutory language to leave to the Agency’s discretion what facts or information are necessary to find that a given SIP provision is substantially inadequate. In short, the EPA’s “finding” may be a finding that a SIP provision does not meet applicable legal requirements without definitive proof that this legal deficiency caused a specific outcome, such as a specific impact on the NAAQS or a specific enforcement action.

First, section 110(a)(2)(H)(ii) does not on its face directly address the scope of the EPA’s authority, unlike section 110(k)(5). Section 110(a)(2)(H)(ii) appears in section 110(a)(2), which contains a listing of specific structural or program requirements that each state’s SIP must include. In the case of section 110(a)(2)(H)(ii), the CAA requires each state to have provisions in its SIP that “provide for revision of such plan” in the event that the EPA issues a SIP call. Given that section 110(k)(5) is the provision that directly addresses the EPA’s authority to issue a SIP call, section 110(a)(2)(H)(ii) should not be interpreted in a way that contradicts or curtails the broad authority provided in

section 110(k)(5). The EPA does not interpret section 110(k)(5) to require proof that a given SIP provision caused a specific environmental harm or undermined a specific enforcement action in order to find the provision substantially inadequate. If the provision fails to meet fundamental legal requirements of the CAA for SIP provisions, that alone is sufficient.

Second, even if read in isolation, section 110(a)(2)(H)(ii) does not specify what type of finding the EPA is required to make or specify the way in which the Agency should make such a finding. The EPA agrees that this section of the CAA describes findings that the EPA makes “on the basis of information available to the Administrator that the plan is substantially inadequate to attain” the NAAQS. This section does not, however, expressly state that the “information” in question must be a particular form of information, nor does it expressly require any specified form of technical analysis such as modeling that demonstrates that a particular SIP deficiency caused a violation of the NAAQS. Because the term “information” is not limited in this way, the EPA interprets it to mean whatever form of information is relevant to the finding in question. For certain types of deficiencies, the EPA may determine that such a technical analysis is appropriate, but that does not mean that it is required as a basis for all findings of substantial inadequacy.³²¹

Third, section 110(a)(2)(H)(ii), like section 110(k)(5), is not limited to findings related exclusively to attainment of the NAAQS. Section 110(a)(2)(H)(ii) also expressly refers to findings by the EPA that a SIP is substantially inadequate “to otherwise comply with any additional requirements established under” the CAA. The EPA interprets this explicit reference to “any additional requirements” to include any legal requirements applicable to SIP provisions, such as the requirement that emission limitations must apply continuously. The commenters misconstrue section 110(a)(2)(H)(ii) to

³²¹ See, e.g., “Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone; Final rule,” 63 FR 57355 (October 27, 1998) (EPA found that the SIPs of multiple states did not adequately control emissions that resulted in significant contribution to nonattainment in other states); “Action To Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call; Final rule,” 75 FR 77697 (December 13, 2010) (EPA found that the SIPs of multiple states did not meet the legal requirements for PSD permitting for GHG emissions).

³²⁰ See S. Rep No. 91–1196 at 55–56 (1970).

refer exclusively to provisions that are literally found to cause a specific violation of the NAAQS. The EPA acknowledges that the legislative history quoted by the commenters discusses findings related to a failure of a SIP to attain the NAAQS, but the passage quoted does not explain the meaning of “new information” any more specifically than the statute, nor does the passage explain why the actual statutory text of section 110(a)(2)(H)(ii) now refers to findings related to failures to meet “any additional requirements” of the CAA.³²² Moreover, the commenters did not address the changes to the CAA in 1977 that added to the statutory language to refer to other requirements, nor did they address the changes to the CAA in 1990 that added section 110(k)(5), which refers to all other requirements of the CAA. The EPA believes that the more recent changes to the statute in fact support its view that section 110(a)(2)(H)(ii) entails compliance with the legal requirements of the CAA, not the narrow reading advocated by the commenters.

Fourth, the EPA disagrees with the commenters’ arguments that it did not make factual “findings” to support this SIP call. To the contrary, the EPA has made numerous factual determinations with regard to the specific SIP provisions at issue. For example, for those SIP provisions that include automatic exemptions for emissions during SSM events, the EPA has found that the provisions are inconsistent with the definition of “emission limitation” in section 302(k) and that SIP provisions that allow sources to exceed otherwise applicable emission limitations during SSM events may interfere with attainment and maintenance of the NAAQS. The EPA has also made the factual determination that other SIP provisions that authorize director’s discretion exemptions during SSM events are inconsistent with the statutory provisions applicable to the approval and revision of SIP provisions. The EPA has found that overbroad enforcement discretion provisions are inconsistent with the enforcement structure of the CAA in that they could be interpreted to allow the state to make the final decision whether such emissions are violations, thus impeding the ability of the EPA and citizens to enforce the emission limitations of the

SIP. Similarly, the EPA has found, consistent with the court’s decision in *NRDC v. EPA*, that affirmative defenses in SIP provisions are inconsistent with CAA requirements because they operate to alter or eliminate the jurisdiction of the courts to determine liability and impose penalties. In short, the EPA has made the factual findings that specific provisions are substantially inadequate to meet requirements of the CAA, as contemplated in both section 110(a)(2)(H)(ii) and section 110(k)(5).

Finally, the EPA notes that the cases cited by the commenters to support their contentions concerning the factual basis for agency decisions are not relevant to the specific question at hand. The correct question is whether section 110(a)(2)(H)(ii) requires the type of factual or technical analysis that they claim. None of the cases they cited address this specific issue. By contrast, the decision of the Tenth Circuit in *US Magnesium, LLC v. EPA* is much more relevant. In that decision, the court concluded that the EPA’s authority under section 110(k)(5) is not restricted to situations where a deficient SIP provision caused a specific violation of the NAAQS and the exercise of that authority does not require specific factual findings that the provision caused such impacts.³²³

3. Comments that the EPA lacks authority to issue a SIP call because it is interpreting the term “substantial inadequacy” incorrectly.

Comment: Some commenters claimed that although the term “substantially inadequate” is not defined in the statute, the EPA made no effort to interpret the term. Citing *Qwest Corp. v. FCC*, 258 F.3d 1191, 1201–02 (10th Cir. 2001), the commenters argued that the EPA is not entitled to any deference to its interpretation of the term “substantial inadequacy.”

Other commenters acknowledged that the EPA took the position that the term “substantially inadequate” is not defined in the CAA and that the Agency can establish an interpretation of that provision under *Chevron* step 2. However, these commenters disagreed that the EPA’s interpretation of the term in the February 2013 proposal was reasonable. In particular, the commenters disagreed with the EPA’s view that once a SIP provision is found to be “facially inconsistent” with a specific legal requirement of the CAA, nothing more is required to find the provision “substantially inadequate” to “comply with” that requirement. Commenters claimed that the EPA’s interpretation conflicts with the statute

because it ignores the statutory requirement that a SIP call be based on inadequacies that are “substantial” and that the interpretation does not meet the “high bar” Congress established before states could be required to undertake the difficult task of revising a SIP.

State commenters claimed that the requirement that the EPA must determine that the SIP is “substantially” inadequate establishes a heavy burden for the EPA. The commenters relied on a dictionary definition of “substantially” as meaning “considerable in importance, value, degree, amount, or extent.” The commenters argued that when modifying the word “inadequate,” the use of the modifier “substantially” in section 110(k)(5) enhances the degree of proof required. Thus, the commenters argued that the EPA cannot just assume that the provisions may prevent attainment of the NAAQS.

Other industry commenters disagreed that the term “substantially inadequate” is ambiguous but claimed that even if it were, the EPA’s own interpretation is vague and ambiguous. The commenters asserted that the EPA’s statement that it must evaluate the adequacy of specific SIP provision “in light of the specific purposes for which the SIP provision at issue is required” and with respect to whether the provision meets “fundamental legal requirements applicable to such a provision” is not a reasonable interpretation of the statutory language. Furthermore, the commenters argued, the EPA’s interpretation of section 110(k)(5) to authorize a SIP call in the absence of any causal evidence that the SIP provision at issue causes a particular environmental impact reads out of the statute “the explicit requirement that a SIP call related to NAAQS be made only where the state plan is substantially inadequate to attain or maintain the relevant standard.”

Response: The EPA disagrees with commenters who claimed that the Agency did not explain its interpretation of section 110(k)(5) in general, or the term “substantially inadequate” in particular, in the February 2013 proposal. To the contrary, the EPA provided an explanation of why it considers section 110(k)(5) to be ambiguous and provided a detailed explanation of how the Agency is interpreting and applying that statutory language to the specific SIP provisions at issue in this action.³²⁴ Moreover, the EPA explained why it believes that the four major types of

³²² The EPA notes that the significance of this 1970 legislative history was raised in *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1166 (10th Cir. 2012). That court found the legislative history “inapposite” simply because it did not pertain to section 110(k)(5) which Congress added to the CAA in 1990. This legislative history passage is of limited significance in this action as well.

³²³ *Id.*, 690 F.3d 1157, 1166.

³²⁴ See February 2013 proposal, 78 FR 12459 at 12483–88.

provisions at issue are inconsistent with applicable legal requirements of the CAA and thus substantially inadequate. In the SNPR, the EPA reiterated its interpretation of section 110(k)(5) with respect to affirmative defense provisions in SIPs but updated that interpretation in response to the logic of the more recent court decision in *NRDC v. EPA*. Thus, the commenters' reliance on the *Qwest* decision is not appropriate, because the EPA did explain its interpretation of the statute and it is not one that is contrary to the statute. A more appropriate precedent is the decision in *US Magnesium, LLC v. EPA*, in which the same court upheld the EPA's interpretation of its authority under section 110(k)(5). In short, the EPA believes that section 110(k)(5) provides the EPA with discretion to determine what constitutes a substantial inadequacy and to determine the appropriate basis for such a finding in light of the relevant CAA requirements at issue. Thus, the commenters are in error that the EPA did not articulate its interpretation of section 110(k)(5).

The EPA also disagrees with those commenters who argued that the Agency has ignored or misinterpreted the term "substantial" in this action. As many commenters acknowledged, this term is not defined in the statute. Their reliance on a dictionary definition, however, is based on the incorrect premise that a failure to comply with the legal requirements of the CAA for SIP provisions is not "considerable in importance, value, degree, amount, or extent."

First, the commenters' argument ignores the full statutory language of section 110(k)(5) in which the EPA is authorized to issue a SIP call whenever it determines that a given SIP provision is inadequate, not only because of impacts on attainment of the NAAQS but also upon a failure to meet "any other requirement" of the CAA. As explained in the February 2013 proposal and in the SNPR, the EPA interprets its authority under section 110(k)(5) to encompass any type of deficiency, including failure to meet specific legal requirements of the CAA for SIP provisions. Failure to comply with these legal requirements can have the effect of interfering with attainment and maintenance of the NAAQS (e.g., by allowing unlimited emissions from sources during SSM events), but the failure to comply with the legal requirements is in and of itself a basis for a SIP call.

Second, the commenters' argument implies that failure of a SIP provision to meet a legal requirement of the CAA is not a "substantial" inadequacy. The

EPA strongly disagrees with the view that complying with applicable legal requirements is not an important consideration in general, and not important with respect to the specific legal defects at issue here. For example, the EPA considers a SIP provision that does not apply continuously because it contains SSM exemptions to be substantially inadequate because it fails to meet legal requirements of sections 110(a)(2)(A), 110(a)(2)(C) and 302(k). In particular, failure to meet the legal requirements for an emission limitation as contemplated in section 302(k) is a "substantial" inadequacy. The EPA is not alone in this view; the D.C. Circuit in the *Sierra Club v. Johnson* case held that emission limitations must be continuous and cannot contain SSM exemptions. If inclusion of SSM exemptions in emission limitations were not a "substantial" deficiency from the court's perspective, presumably the court would have ruled differently. As another example, the EPA considers the inclusion of affirmative defenses in SIP provisions that operate to alter the jurisdiction of the courts to be a substantial inadequacy. Again, the EPA's view that SIP provisions cannot interfere with the enforcement structure of the CAA set forth in section 113 and section 304 is not unreasonable. The court's decision in *NRDC v. EPA* held that EPA regulations cannot alter or eliminate the jurisdiction of courts to determine liability and impose remedies in judicial enforcement cases and this same logic extends to the states in SIP provisions. Contrary to the arguments of the commenters, the EPA reasonably interprets the term "substantial" in section 110(k)(5) to include compliance with the legal requirements of the CAA applicable to SIP provisions.

Third, the EPA notes that its reading of section 110(k)(5) does not "read out of the statute" the statutory language that SIP provisions can be substantially inadequate "to attain or maintain the relevant NAAQS" as claimed by the commenters. The EPA agrees that SIP provisions can be found substantially inadequate for this specific reason, but it is the commenters who read words out of section 110(k)(5) by disregarding the portion of the statute that also authorizes a SIP call whenever a SIP provision does not "comply with any requirement of" the CAA. Indeed, the EPA believes that SIP provisions that fail to meet the specific legal requirements of the CAA are very likely to have these impacts as well; e.g., the unlimited emissions authorized by SSM exemptions can interfere with attainment and maintenance of the

NAAQS. The EPA believes that Congress consciously included these fundamental legal requirements in order to assure that SIP provisions will achieve the objectives of the CAA, such as attainment and maintenance of the NAAQS. For example, legislative history for section 302(k) indicates that Congress intentionally required that emission limitations apply continuously in order to assure that they would achieve these goals as well as be consistent with the enforcement structure of the CAA.³²⁵

4. Comments that the EPA lacks authority to issue a SIP call because it is required to "quantify" the magnitude of any alleged SIP deficiency in order to establish that it is substantial.

Comment: A number of commenters argued that, in addition to failing to provide a required technical analysis to support a SIP call, the EPA was also failing to quantify in advance the degree of inadequacy that is necessary for a given SIP provision to be substantially inadequate. The commenters asserted that the EPA has a burden to define in advance what amount of inadequacy is "substantial," before the Agency can require states to comply with a SIP call. Some commenters made this argument based upon their experience with prior SIP call rulemakings, such as the NO_x SIP call in which the Agency performed such an analysis. Other commenters, however, evidently based this argument upon their reading of the D.C. Circuit's decision in *EME Homer City Generation, L.P. v. EPA*.³²⁶ Some commenters also argued that "all" past EPA SIP calls have been based upon a specific technical analysis concerning the sufficiency of a SIP to provide for attainment and maintenance of a NAAQS and that this establishes that such an analysis is always required.

Response: The EPA disagrees that section 110(k)(5) requires the Agency to "quantify" the degree of inadequacy in a given SIP provision before issuing a SIP call. As explained in detail in the February 2013 proposal and this document, the EPA interprets section 110(k)(5) to authorize the Agency to determine the nature of the analysis necessary to make a finding that a SIP provision is substantially inadequate. The EPA agrees that for certain SIP call actions, such as the NO_x SIP call, the

³²⁵ See, e.g., H.R. 95-294, at 92 (1977) (referring to emission limitations as a fundamental tool for assuring attainment and maintenance of the NAAQS and stating that unless they are "complied with at all times, there can be no assurance that ambient standards will be attainment and maintained.")

³²⁶ 696 F.3d 7, 29 (D.C. Cir. 2012) *rev'd*, 134 S. Ct. 1584 (2014).

specific nature of the SIP call in question for section 110(a)(2)(D)(i) did warrant a technical evaluation of whether the emissions from sources in particular states were significantly contributing to violations of a NAAQS in other states. Thus, the EPA elected to perform a specific form of analysis to determine whether emissions from sources in certain states significantly contributed to violations of the NAAQS in other states, and if so, what degree of reductions were necessary to remedy that interstate transport.

The nature of the SIP deficiencies at issue in this action does not require that type of technical analysis and does not require a “quantification” of the extent of the deficiency. In this action, the EPA is promulgating a SIP call action that directs the affected states to revise existing SIP provisions with specific legal deficiencies that make the provisions inconsistent with fundamental legal requirements of the CAA for SIPs, *e.g.*, automatic exemptions for emissions during SSM events or affirmative defense provisions that limit or eliminate the jurisdiction of courts to determine liability and impose remedies for violations. Accordingly, the EPA has determined that it is not necessary to establish that these deficiencies literally caused a specific violation of the NAAQS on a particular day or undermined a specific enforcement case. It is sufficient that the provisions fail to meet a legal requirement of the CAA and thus are substantially inadequate as provided in section 110(k)(5).

5. Comments that the EPA’s interpretation of substantial inadequacy would override state discretion in development of SIP provisions.

Comment: Some state and industry commenters argued that the EPA’s interpretation of its authority under section 110(k)(5) is wrong because it is inconsistent with the principle of cooperative federalism. These commenters asserted that the EPA’s interpretation of the term “substantially inadequate,” as explained in the February 2013 proposal, would allow the Agency to dictate that states revise their SIPs without any consideration of whether the states’ preferred control measures affect attainment of the NAAQS, thereby expanding the EPA’s role in CAA implementation. Consequently, these commenters concluded, the EPA’s interpretation of section 110(k)(5) is neither “reasonable” nor “a permissible construction of the

statute” under the principles of *Chevron* deference.³²⁷

Response: The EPA disagrees with the commenters’ view of the cooperative-federalism relationship established in the CAA, as explained in detail in section V.D.2 of this document. Because the commenters are misconstruing the respective responsibility and authorities of the states and the EPA under cooperative federalism, the Agency does not agree that its interpretation of section 110(k)(5) is “unreasonable” for this reason under the principles of *Chevron*. As explained in detail in the February 2013 proposal, the EPA interprets its authority under section 110(k)(5) to include the ability to require states to revise their SIP provisions to correct the types of deficiencies at issue in this action.

Section 110(k)(5) explicitly authorizes the EPA to issue a SIP call for a broad range of reasons, including to address any SIP provisions that relate to attainment and maintenance of the NAAQS, to interstate transport, or to any other requirement of the CAA.³²⁸ The EPA’s authority and responsibility to review SIP submissions in the first instance is to assure that they meet all applicable procedural and substantive requirements of the CAA, in accordance with the requirements of sections 110(k)(3), 110(l) and 193. The EPA’s authority and responsibility under the CAA includes assuring that SIP provisions comply with specific statutory requirements, such as the requirement that emission limitations apply to sources continuously. The CAA imposes these statutory requirements in order to assure that the larger objectives of SIPs are achieved, such as the attainment and maintenance of the NAAQS, protection of PSD increments, improvement of visibility and providing for effective enforcement. The CAA imposes this authority and responsibility upon the EPA when it first evaluates a SIP submission for approval. Likewise, after the initial approval, section 110(k)(5) authorizes the EPA to require states to revise their SIPs whenever the Agency later determines that to be necessary to meet CAA requirements. This does not in any way allow the EPA to interfere in the

³²⁷ *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843–44 (1984).

³²⁸ See, *e.g.*, *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1168 (10th Cir. 2012) (citing 42 U.S.C. 7410(k)(5)) (holding that the EPA may issue a SIP call not only based on NAAQS violations, but also whenever “EPA determines that a SIP is no longer consistent with the EPA’s understanding of the CAA”); *id.* at 1170 (upholding the EPA’s authority “to call a SIP in order to clarify language in the SIP that could be read to violate the CAA,” even absent a pertinent judicial finding).

states’ selection of the control measures they elect to impose to satisfy CAA requirements relating to NAAQS attainment and maintenance, provided that those selected measures comply with all CAA requirements such as the need for continuous emissions limitations. Accordingly, the EPA believes that its interpretation of section 110(k)(5) is fully consistent with the letter and the purpose of the principles of cooperative federalism.

6. Comments that the EPA cannot issue a SIP call for an existing SIP provision unless the provision was deficient at the time the state originally developed and submitted the provision for EPA approval.

Comment: Commenters argued that the EPA is using the SIP call to require states to change SIP provisions that were acceptable at the time they were originally approved and argued that section 110(k)(5) cannot be used for that purpose. Specifically, one commenter asserted that section 110(k)(5) provides that findings of substantial inadequacy shall “subject the State to the requirements of this chapter to which the State was subject *when it developed and submitted the plan for which such finding was made.*” (Emphasis added by commenter.) The implication of the commenters’ argument is that a SIP provision only needs to meet the requirements of the CAA that were applicable at the time the state originally developed and submitted the provision for EPA approval. Because the EPA has no authority to issue a SIP call under their preferred reading of section 110(k)(5), the commenters claimed, the EPA would have to use its authority under section 110(k)(6) and would have to establish that the original approval of each of the provisions at issue in this action was in error.

Response: The EPA disagrees with this reading of section 110(k)(5). As an initial matter, the commenter takes the quoted excerpt of the statute out of context. The quoted language follows “to the extent the Administrator deems appropriate.” Thus, it is clear when the statutory provision is read in full that the EPA has discretion in specifying the requirements to which the state is subject and is not limited to specifying only those requirements that applied at the time the SIP was originally “developed and submitted.” Moreover, this cramped reading of section 110(k)(5) is not a reasonable interpretation of the statute because by this logic, the EPA could never require states to update grossly out-of-date SIP provisions so long as the provisions originally met CAA requirements. Given that the CAA creates a process by which

the EPA is required to establish and to update the NAAQS on a continuing basis, and states are required to update and revise their SIPs on a continuing basis, the Agency believes that Congress would not have intended that SIP provisions remain static for all time simply because they were adequate when first developed and approved. Such an interpretation would mean that subsequent legally significant events such as amendments of the CAA, court decisions interpreting the CAA and new or revised EPA regulations are not relevant to the continuing adequacy of existing SIP provisions. Similarly, such an interpretation would mean that facts arising later could never provide a basis for a SIP call, e.g., to address interstate transport that was not evident at the time of the original development and approval of the SIP provisions or that needs to be addressed further because of a revised NAAQS.

The commenters also argued that if a state's SIP provision was flawed at the time the EPA approved it, then the Agency's only alternative for addressing the deficient provision is through the error correction authority of section 110(k)(6). The EPA disagrees. The CAA provides a number of tools to address flawed SIPs and the EPA does not interpret these provisions to be mutually exclusive. While the EPA could potentially have relied on section 110(k)(6) to remove the deficient provisions at issue in this action, the Agency believes that section 110(k)(5) authority also provides a means to address flawed SIP provisions. As explained in the February 2013 proposal, the EPA specifically considered the relative merits of reliance on section 110(k)(5) and section 110(k)(6) and determined that the former was a better approach for this action.³²⁹ In the present circumstances, the EPA is not addressing a single targeted flaw, i.e., a specific SIP revision that was flawed. Moreover, the EPA is not only dealing with a multitude of states in this action, but also in many cases with numerous SIP provisions developed over the years by a specific state. The provisions at issue often are included in several different places in a complex SIP and can affect multiple emission limitations in the SIP that apply to sources for purposes of multiple NAAQS.

Comparing the SIP call and error correction approaches, the EPA concluded that the SIP call authority under section 110(k)(5) provides the better approach for this action, in that

it allows the states to evaluate the overall structure of their existing SIPs and determine how best to modify the affected SIP provisions in order to address the identified deficiencies. By contrast, use of the error correction authority under section 110(k)(6) would result in immediate disapproval and removal of existing SIP provisions from the SIP, which could cause confusion in terms of what requirements apply to sources. Moreover, the EPA's disapproval of a SIP submission through an error correction that reverses a prior SIP approval of a required SIP provision starts a "sanctions clock," and sanctions would apply if the state has not submitted a revised SIP within 18 months. Similarly, the EPA would be required to promulgate a FIP if the Agency has not approved a revised SIP submission from the state within 24 months. In comparison, the sanctions and federal plan "clocks" would not start under the SIP call approach unless and until the state fails to submit a SIP revision in response to this SIP call, or unless and until the EPA disapproves that SIP submission. As explained in the February 2013 proposal, the EPA determined that the SIP call process was a better procedure through which to address the deficient SIP provisions at issue in this action.

7. Comments that the EPA failed to consider how excess emissions resulting from SSM exemptions would affect compliance with specific NAAQS, including NAAQS with different averaging periods or different statistical forms.

Comment: In addition to general claims that the EPA failed to provide required technical analysis to support the proposed SIP call to states for automatic and discretionary SSM exemptions, commenters specifically argued that the EPA is required to establish that these exemptions have caused violations in light of the considerations such as the averaging time or statistical form of specific NAAQS. The implication of the commenters' argument is that in order to demonstrate that a given SIP provision with an SSM exemption is substantially inadequate under section 110(k)(5), the EPA has to establish definitively that the emissions during SSM events would cause a violation of a particular NAAQS. This would potentially include an evaluation of the impacts of the exempted emissions on NAAQS with different averaging periods, e.g., impacts on an annual NAAQS, a 24-hour NAAQS, or a 1-hour NAAQS, and impacts on NAAQS with different statistical forms, e.g., a NAAQS that measures attainment by an annual

arithmetical mean versus one that is measured by a 98th-percentile value. Moreover, commenters alluded to the difficulty of ascertaining definitively how emissions of specific precursor pollutants during a given exempted SSM event would affect attainment of one or more NAAQS.

To support the argument that the validity of SSM exemptions must be evaluated with respect to specific NAAQS, the commenters relied upon recent modeling guidance for the 1-hour NO₂ NAAQS in which, the commenters claimed, the EPA directed states to disregard emissions during SSM events for purposes of demonstrating compliance with that NAAQS. The commenters claimed that the cited EPA guidance supports their argument that emissions from a source during any specific SSM event are unlikely to cause a violation of the 1-hour NO₂ NAAQS. Accordingly, the commenters argued that the EPA has no authority to interpret the CAA to preclude exemptions for emissions during SSM events without first demonstrating that the exempt emissions cause NAAQS violations.

Response: As explained in the February 2013 proposal, and in response to other comments in this action, the EPA does not interpret section 110(k)(5) to require a specific technical analysis to support a SIP call related to legal deficiencies in SIP provisions. In section 110(k)(5), Congress left it to the Agency's discretion to determine what type and level of analysis is necessary to establish that a SIP provision is substantially inadequate. As explained in the February 2013 proposal, the EPA does not need to define the precise contours of its authority under section 110(k)(5) for all potential types of SIP deficiencies in this action. For purposes of this action, it is sufficient that the SIP provisions at issue are inconsistent with applicable requirements. While an ambient air quality impact analysis may be appropriate to support a SIP call with respect to certain requirements of the CAA, e.g., a SIP call for failure to have SIP provisions to prevent significant contribution to nonattainment in another state in accordance with section 110(a)(2)(D)(i)(I), the EPA does not interpret the CAA to require such an analysis in all instances. In particular, where the substantial inadequacy is related to a failure to meet a fundamental legal requirement for SIP provisions, such as the requirement in section 302(k) that emission limitations apply continuously, the EPA does not believe that such a technical analysis is required.

³²⁹ See February 2013 proposal, 78 FR 12459 at 12483, n.72.

For example, section 302(k) does not differentiate between the legal requirements applicable to SIP emission limitations for an annual NAAQS versus for a 1-hour NAAQS, nor between any NAAQS based upon the statistical form of the respective standards. In addition to being supported by the text of section 302(k), the EPA's interpretation of the requirement for sources to be subject to continuous emission limitations is also the most logical given the consequences of the commenters' theory. The commenters' argument provides additional practical reasons to support the EPA's interpretation of the CAA to preclude exemptions for emissions during SSM events from SIP emission limitations as a basic legal requirement for all emission limitations.

The EPA agrees that to ascertain the specific ambient impacts of emissions during a given SSM event can sometimes be difficult. This difficulty can be exacerbated by factors such as exemptions in SIP provisions that not only excuse compliance with emission limitations but also affect reporting or recordkeeping related to emissions during SSM events. Determining specific impacts of emissions during SSM events can be further complicated by the fact that the limited monitoring network for the NAAQS in many states may make it more difficult to establish that a given SSM event at a given source caused a specific violation of the NAAQS. Even if a NAAQS violation is monitored, it may be the result of emissions from multiple sources, including multiple sources having an SSM event simultaneously. The different averaging periods and statistical forms of the NAAQS may make it yet more difficult to determine the impacts of specific SSM events at specific sources, perhaps until years after the event occurred. By the commenters' own logic, there could be situations in which it is functionally impossible to demonstrate definitively that emissions during a given SSM event at a single source caused a specific violation of a specific NAAQS.

The commenters' argument, taken to its logical extension, could result in situations where a SIP emission limitation is only required to be continuous for purposes of one NAAQS but not for another, based on considerations such as averaging time or statistical form of the NAAQS. Such situations could include illogical outcomes such as the same emission limitation applicable to the same source simultaneously being allowed to contain exemptions for emissions during SSM events for one NAAQS but not for another. For example, purely

hypothetically under the commenters' premise, a given source could simultaneously be required to comply with a rate-based NO_x emission limitation continuously for purposes of a 1-hour NO₂ NAAQS but not be required to do so for purposes of an annual NO₂ NAAQS, or the source could be required to comply continuously with the same NO_x limitation for purposes of the 8-hour ozone NAAQS and the 24-hour PM_{2.5} NAAQS but not be required to do so for purposes of the annual PM_{2.5} NAAQS. Add to this the further complication that the source may be located in an area that is designated nonattainment for some NAAQS and attainment for other NAAQS, and thus subject to emission limitations for attainment and maintenance requirements simultaneously.

Under the commenters' premise, the same SIP emission limitation, subject to the same statutory definition in section 302(k), could validly include SSM exemptions for purposes of some NAAQS but not others. Such a system of regulation would make it unnecessarily hard for regulated entities, regulators and other parties to determine whether a source is in compliance. The EPA does not believe that this is a reasonable interpretation of the requirements of the CAA, nor of its authority under section 110(k)(5). This unnecessary confusion is easily resolved simply by interpreting the CAA to require that a source subject to a SIP emission limitation for NO_x must meet the emission limitation continuously, in accordance with the express requirement of section 302(k), thus making SSM exemptions impermissible. The EPA does not agree that the term "emission limitation" can reasonably be interpreted to allow noncontinuous emission limitations for some NAAQS and not others. The D.C. Circuit has already made clear that the term "emission limitation" means limits that apply to sources continuously, without exemptions for SSM events.

Finally, the EPA disagrees with the specific arguments raised by commenters concerning the modeling guidance for the 1-hour NO₂ NAAQS.³³⁰ As relevant here, that guidance provides recommendations about specific issues that arise in modeling that is used in the PSD program for purposes of demonstrating that proposed construction will not cause or contribute to a violation of the 1-hour

NO₂ NAAQS. Thus, as an initial matter, the EPA notes that the context of that guidance relates to determining the extent of emission reductions that a source needs to achieve in order to obtain a permit under the PSD program, which is distinct from the question of whether an emission limitation in a permit must assure continuous emission reductions.

The commenters argued that this EPA guidance "allows sources to completely exclude all emissions during startup and shutdown scenarios." This characterization is inaccurate for a number of reasons. First, the guidance in question is only intended to address certain modeling issues related to predictive modeling to demonstrate that proposed construction will not cause or contribute to violation of the 1-hour NO₂ NAAQS, for purposes of determining whether a PSD permit may be issued and whether the emission limitations in the permit will require sufficient emission reductions to avoid a violation of this standard.

Second, to the extent that the guidance indicates that air quality considerations might in certain circumstances and for certain purposes be relevant to determining what emission limitations should apply to a source, that does not mean a source may legally have an exemption from compliance with existing emissions limitations during SSM events. In the guidance cited by the commenter, the EPA did recommend that under certain circumstances, it may be appropriate to model the projected impact of the source on the NAAQS without taking into account "intermittent" emissions from sources such as emergency generators or emissions from particular kinds of "startup/shutdown" operations.³³¹ However, the EPA did not intend this to suggest that emissions from sources during SSM events may validly be treated as exempt in SIP emission limitations. Within the same guidance document, the EPA stated unequivocally that the guidance "has no effect on or relevance to existing policies and guidance regarding excess emissions that may occur during startup and shutdown." The EPA explained further that "all emissions from a new or modified source are subject to the applicable permitted emission limits and may be subject to enforcement concerning such excess emissions, regardless of whether a portion of those emissions are not included in the modeling demonstration based on the

³³⁰ See Memorandum, "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard," from T. Fox, EPA/OAQPS, to Regional Air Division Directors, March 1, 2011.

³³¹ *Id.* at 2.

guidance provided here.”³³² In other words, even if a state elects not to include intermittent emissions from some types of startup and shutdown events in certain modeling exercises, this does not mean that sources can be excused from compliance with the emission limitation during startup and shutdown, via an exemption for such emissions.

Third, the guidance does not say that all SSM emissions may be considered intermittent and excluded from the modeling demonstration. The guidance explicitly recommends that the modeling be based on “emission scenarios that can logically be assumed to be relatively continuous or which occur frequently enough to contribute significantly to the annual distribution of daily maximum 1-hour concentrations” and gives the example that it may be appropriate to include startup and shutdown emissions from a peaking unit at a power plant in the modeling demonstration because those units go through frequent startup/shutdown cycles.³³³ Thus, the guidance does not support commenters’ premise that the EPA must evaluate the air quality impacts from SSM events in SIP actions to determine that SSM exemptions in SIP provisions are substantially inadequate to meet fundamental requirements of the CAA.

8. Comments that this SIP call action is inconsistent with 1976 EPA guidance for such actions.

Comment: One commenter argued that the EPA misinterpreted the term “substantially inadequate” in the February 2013 proposal because the Agency is reading this term differently than in the past. In support of this contention, the commenter pointed to a 1976 guidance document from the EPA concerning the question of when a SIP may be substantially inadequate. The commenter argued that the EPA is wrong to interpret that term to mean anything other than a demonstrated failure to provide for factual attainment of the NAAQS. According to the commenter, the content of the 1976 guidance indicates that the EPA is obligated to conduct a specific analysis to determine the air quality impact of an alleged inadequacy in a SIP provision and to establish and document the specific air quality impacts of the inadequacy.

Response: The EPA disagrees with the commenter for multiple reasons. First, the 1976 document referred to by the commenter was the EPA’s guidance on the requirements of the CAA as it was

embodied in 1970, not as Congress substantially amended it in 1990. The 1976 guidance pertained not to the current SIP call provision at section 110(k)(5) but rather to the requirements of section 110(a)(2)(H). This is particularly significant because the 1990 CAA Amendments added section 110(k)(5) to the statute. Although section 110(a)(2)(H) remains in the statute, it is primarily a requirement applicable to state “infrastructure” SIP obligations through which states are required to have state law authority to meet the structural SIP elements required in section 110(a)(2).³³⁴ In reviewing SIPs for compliance with section 110(a)(2)(H), the EPA verifies that state SIPs include the legal authority to respond to any SIP call. By contrast, the EPA’s authority to issue a SIP call under section 110(k)(5) is worded broadly, explicitly including the authority to make a finding of substantial inadequacy not only for failure to attain or maintain the NAAQS but also for failures related to interstate transport or “otherwise to comply with any requirement of” the CAA.

Second, even setting aside that the guidance is not relevant to the EPA’s authority under section 110(k)(5), the 1976 guidance on its face did not purport to define the full contours of the term “substantially inadequate” in section 110(a)(2)(H). The 1976 guidance stated explicitly that “it is difficult to develop comprehensive guidelines for all cases” and only listed “[s]ome factors that could be considered” in evaluating whether a state’s SIP is substantially inadequate.³³⁵ While the EPA acknowledges that these factors were primarily focused upon ambient air considerations as suggested by the commenter, they were not limited to that topic. Moreover, the EPA stated that factors “other than air quality and emission data must be considered” and provided several examples, including potential amendments to the CAA under consideration at that point in time that might change state SIP obligations and thus create the need for a SIP call. More significantly, nothing in the 1976 guidance indicated that the EPA should or would ignore legal deficiencies in existing SIP provisions or that legal deficiencies are not relevant to the

question of whether a SIP would provide for attainment of the NAAQS.

Third, the EPA notes that the commenter did not advocate that the Agency follow the 1976 guidance with respect to other issues, e.g., that the EPA would initiate the obligations of states to revise their SIPs simply by making an announcement of substantial inadequacy “without proposal”; that states would be required to make the necessary SIP revision within 12 months; or that states should make those revisions by no later than July 1, 1977.

The EPA has fully articulated its interpretation of the term “substantial inadequacy” in section 110(k)(5) in the February 2013 proposal. As explained in the proposal, the EPA interprets its current authority to include the issuance of a SIP call for the types of legal deficiencies identified in this action. In order to establish that these legal deficiencies are substantial inadequacies, the EPA does not interpret section 110(k)(5) to require the Agency to document precisely how each deficiency factually undermines the objectives of the CAA, such as attainment and maintenance of the NAAQS in a particular location on a particular date. It is sufficient that these provisions are inconsistent with the legal requirements for SIP provisions set forth in the CAA that are intended to assure that SIPs in fact do achieve the intended objectives.

10. Comments that because the EPA has misinterpreted the statutory terms “emission limitation” and “continuous,” the EPA has not established a substantial inadequacy.

Comment: Many state and industry commenters disagreed with the EPA’s interpretation of the CAA to prohibit SSM exemptions in SIP provisions. These arguments took many tacks, based on the interpretation of various statutory provisions, the applicability of the court decision in *Sierra Club v. Johnson*, alleged inconsistencies related to this requirement in the EPA’s own NSPS and NESHAP regulations and a variety of other arguments. In particular, many commenters argued that the EPA was misinterpreting the statutory terms “emission limitation” and “continuous” in section 302(k) to preclude automatic or discretionary exemptions for emissions during SSM events in SIP provisions. As an extension of these arguments, commenters also argued that the EPA lacks authority under section 110(k)(5) to issue a SIP call when it has incorrectly interpreted a relevant statutory term as the basis for finding a SIP provision to be substantially inadequate.

³³⁴ See Memorandum, “Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Section 110(a)(1) and 110(a)(2),” from Stephen D. Page, Director, OAQPS, to Regional Air Directors, Regions 1–10, September 13, 2013, at page 51 (explaining that a state meets section 110(a)(2)(H) by having authority to revise its SIP in response to a SIP call).

³³⁵ *Id.* at 10–11.

³³² *Id.* at 11.

³³³ *Id.* at 9.

Response: The EPA disagrees that it lacks authority to issue this SIP call on the grounds claimed by the commenters. As explained in detail in the February 2013 proposal and in this final action, the EPA has long interpreted the CAA to preclude SSM exemptions in SIP provisions. This interpretation has been stated by the EPA since at least 1982, reiterated in subsequent SSM Policy guidance documents, applied in a number of notice and comment rulemakings and upheld by courts.

With respect to the arguments that the EPA has incorrectly interpreted the terms “emission limitation” and “continuous” in this action, the EPA has responded in detail in section VII.A.3 of this document and need not repeat those responses here. In short, the EPA is interpreting those terms consistent with the relevant statutory language and consistent with the decision of the court in *Sierra Club v. Johnson*. Because the specific SIP provisions identified in this action with automatic or discretionary exemptions for emissions during SSM events do not limit emissions from the affected sources continuously, the EPA has found these provisions substantially inadequate to meet CAA requirements in accordance with section 110(k)(5).

11. Comments that section 110(k)(5) imposes a “higher burden of proof” upon the EPA than section 110(l) and that section 110(l) requires the EPA to conduct a specific technical analysis of the impacts of a SIP revision.

Comment: Commenters argued that the EPA is misinterpreting section 110(k)(5) to authorize a SIP call using a lower “standard” than the section 110(l) “standard” that requires disapproval of a new SIP provision in the first instance. The commenters stated that section 110(k)(5) requires a determination by the EPA that a SIP provision is “substantially inadequate” to meet CAA requirements in order to authorize a SIP call, whereas section 110(l) provides that the EPA must disapprove a SIP revision provision only if it “would interfere with” CAA requirements. Thus, the commenters asserted that “the SIP call standard is higher than the SIP revision standard.” The commenters further argued that it would be “illogical and contrary to the CAA to interpret section 110 to establish a lower standard for calling a previously approved SIP and demanding revisions to it than for disapproving that SIP in the first place.” For purposes of section 110(l), the commenters claimed, the EPA “is required” to rely on specific “data and evidence” that a given SIP revision would interfere with CAA requirements and this requirement is thus imposed by

section 110(k)(5) as well. In support of this reasoning, the commenters relied on prior court decisions pertaining to the requirements of section 110(l).

Response: The EPA disagrees with the commenters’ interpretations of the relative “standards” of section 110(k)(5) and section 110(l) and with the commenters’ views on the court decisions pertaining to section 110(l). In addition, the EPA notes that the commenters did not fully address the related requirements of section 110(k)(3) concerning approval and disapproval of SIP provisions, of section 302(k) concerning requirements for emission limitations or of any other sections of the CAA that are substantively germane to specific SIP provisions and to enforcement of SIP provisions in general.³³⁶

The commenters argued that, by the “plain language” of the CAA and because of “common sense,” Congress intended the section 110(k)(5) SIP call standard to be “higher” than the section 110(l) SIP revision. The EPA disagrees that this is a question resolved by the “plain language.” To the contrary, the three most relevant statutory provisions, section 110(k)(3), section 110(l), and section 110(k)(5), are each to some degree ambiguous and are likewise ambiguous with respect to how they operate together to apply to newly submitted SIP provisions versus existing SIP provisions. Section 110(k)(3) requires the EPA to approve a newly submitted SIP provision “if it meets all of the applicable requirements of [the CAA].” Implicitly, the EPA is required to disapprove a SIP provision if it does not meet all applicable CAA requirements. Section 110(l) provides that the EPA may not approve any SIP revision that “would interfere with . . . any other applicable requirement of [the CAA].” Section 110(k)(5) provides that the EPA shall issue a SIP call “whenever” the Agency finds an existing SIP provision “substantially inadequate . . . to otherwise comply with [the CAA].” None of the core terms in each of the three provisions is

³³⁶ CAA section 110(k)(5) states that “[w]henver the [EPA] finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant [NAAQS], to mitigate adequately [] interstate pollutant transport . . . , or to otherwise comply with any requirement of [the CAA], the [EPA] shall require the State to revise the plan as necessary to correct such inadequacies.” Section 110(l) states that, in the event a state submits a SIP revision, the EPA “shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress . . . or any other applicable requirement of [the CAA].” Section 110(k)(3) states that the EPA “shall approve such submittal . . . if it meets all the requirements of [the CAA].”

defined in the CAA. Thus, whether the “would interfere with” standard of section 110(l) is *per se* a “lower” standard than the “substantially inadequate” standard of section 110(k)(5) as advocated by the commenters is not clear on the face of the statute, and thus the EPA considers these terms ambiguous.

As explained in detail in the February 2013 proposal, the EPA interprets its authority under section 110(k)(5) broadly to include authority to require a state to revise an existing SIP provision that fails to meet fundamental legal requirements of the CAA.³³⁷ The commenters raise a valid point that section 110(l) and section 110(k)(5), as well as section 110(k)(3), facially appear to impose somewhat different standards. However, the EPA does not agree that the proper comparison is necessarily between section 110(k)(5) and section 110(l) but instead would compare section 110(k)(5) and section 110(k)(3). Section 110(l) is primarily an “anti-backsliding” provision, meant to assure that if a state seeks to revise its SIP to change *existing* SIP provisions that the EPA has previously determined *did meet* CAA requirements, then there must be a showing that the revision of the existing SIP provisions (*e.g.*, a relaxation of an emission limitation) would not interfere with attainment of the NAAQS, reasonable further progress or any other requirement of the CAA. By contrast, section 110(k)(3) is a more appropriate point of comparison because it directs the EPA to approve a SIP provision “that meets all applicable requirements” of the CAA and section 110(k)(5) authorizes the EPA to issue a SIP call for previously approved SIP provisions that it later determines do not “comply with any requirement” of the CAA.

Notwithstanding that each of these three statutory provisions applies to different stages of the SIP process, all three of them explicitly make compliance with the legal requirements of the CAA a part of the analysis. At a minimum, the EPA believes that Congress intended these three sections, working together, to ensure that SIP provisions must meet all applicable legal CAA requirements when they are initially approved and to ensure that SIP provisions continue to meet CAA requirements over time, allowing for potential amendments to the CAA, changes in interpretation of the CAA by the EPA or courts or simply changed facts. With respect to compliance with the applicable legal requirements of the

³³⁷ See February 2013 proposal, 78 FR 12459 at 12483–88.

CAA, the EPA does not interpret section 110(k)(5) as setting a *per se* “higher” standard. Under section 110(l), the EPA is likewise directed not to approve a SIP revision that is not consistent with legal requirements imposed by the CAA, including those relevant to SIP provisions such as section 302(k). Pursuant to section 110(l), the EPA would not be authorized to approve a SIP revision that contradicts requirements of the CAA; pursuant to section 110(k)(5) the EPA is authorized to direct states to correct a SIP provision that it later determines does not meet the requirements of the CAA.

The EPA also disagrees with the commenters’ characterization of the requirements of section 110(l) and their arguments based on court decisions concerning section 110(l). Commenters rely on the decision in *Ky. Res Council v. EPA* to support their argument that section 110(l) requires the EPA to disapprove a SIP revision only if it “would interfere” with a requirement of the CAA, not if it “could interfere” with such requirements.³³⁸ From this decision, the commenters argue that the EPA is required to conduct a specific technical analysis under section 110(l) to determine the specific impacts of the revision on attainment and maintenance of the NAAQS and argue that by inference this must therefore also be required by section 110(k)(5). To the extent that court decisions concerning section 110(l) are relevant, these court decisions do not support the commenters’ position.

First, the EPA notes that the commenters mischaracterize section 110(l) as requiring a particular form or method of analysis to support approval or disapproval of a SIP revision. Section 110(l) does not contain any such explicit requirement or specifications. The EPA interprets section 110(l) only to require an analysis that is appropriate for the particular SIP revision at issue, and that analysis can take different forms or different levels of complexity depending on the facts and circumstances relevant to the SIP revision. Like section 110(l), the EPA believes that section 110(k)(5) does not specify a particular form of analysis necessary to find a SIP provision substantially inadequate.

Second, the commenters mischaracterize the primary decision that they rely upon. The court in *Ky. Res Council v. EPA* expressly discussed the fact that section 110(l) does not specify precisely how any such analysis should be conducted and deferred to the EPA’s reasonable interpretation of what form

of analysis is appropriate for a given SIP revision.³³⁹ Indeed, the decision stands for the proposition that the EPA does not necessarily have to develop an attainment demonstration in order to evaluate the impacts of a SIP revision, *i.e.* “prove” whether the revision will interfere with attainment, maintenance, reasonable further progress or any other requirements of the CAA. Thus, the commenters’ argument that section 110(k)(5) has to require a specific technical analysis of impacts on attainment and maintenance because section 110(l) does so is simply in error.

Third, the section 110(l) cases cited by the commenters did not involve SIP revisions in which states sought to change existing SIP provisions so that they would fail to meet the specific CAA requirements at issue in this action. For example, none of the cases involved the EPA’s approval of a new automatic exemption for emissions during SSM events. Had the state submitted a SIP revision that failed to meet applicable requirements of the CAA for SIP provisions, such as changing existing SIP emission limitations so that they would thereafter include SSM exemptions, then the EPA would have had to disapprove them.³⁴⁰ The challenged rulemaking actions at issue in the cases relied upon by the commenters involved SIP revision changes unrelated to the specific legal requirements at issue in this action. Accordingly, the EPA’s evaluation of those SIP revisions focused upon other issues, such as whether the revision would factually result in emissions that would interfere with attainment and maintenance of the NAAQS, that were relevant to the particular provisions at issue in those cases.

12. Comments that the EPA is misinterpreting *US Magnesium* and that the decision provides no precedent for this action.

Comment: A number of industry commenters argued that the EPA’s reliance on the decision of the Tenth Circuit in *US Magnesium, LLP v. EPA* is misplaced.³⁴¹ According to the commenters, the EPA did not correctly interpret the decision and is misapplying it in acting upon the Petition. The commenters asserted that

the decision provides no precedent for this action because it was decided upon issues different from those at issue here. Commenters also argued that the court did not reach an important issue because the petitioner had failed to comment on it, *i.e.*, the argument that the EPA had not defined the term “substantially inadequate” in the rulemaking.³⁴²

Response: The EPA disagrees with the commenters on this point. The EPA of course acknowledges that the court in *US Magnesium* did not address the full range of issues related to the correct treatment of emissions during SSM events in SIP provisions that were raised in the Petition, *e.g.*, the court did not need to address the legal basis for affirmative defense provisions in SIPs because of the nature of the SIP provisions at issue in that case. However, the *US Magnesium* court evaluated many of the same key questions raised in this rulemaking and reached decisions that are very relevant to this action.

First, the *US Magnesium* court specifically upheld the EPA’s SIP call action requiring the state to remove or revise a SIP provision that included an automatic exemption for emissions from sources during “upsets,” *i.e.*, malfunctions. In doing so, the court was fully aware of the reasons why the EPA interprets the CAA to prohibit such exemptions, because they violate statutory requirements including section 302(k), section 110(a)(2)(A) and (C), and other requirements related to attainment and maintenance of the NAAQS. The court explained at length the EPA’s reasoning about why the SIP provisions were inconsistent with CAA requirements for SIP provisions.³⁴³

Second, the court specifically upheld the EPA’s SIP call action requiring the state to revise its SIP to remove or revise another SIP provision that could be interpreted to give state personnel the authority to determine unilaterally whether excess emissions from sources are a violation of the applicable emission limitation and thereby preclude any enforcement action by the EPA or citizens.

Third, the court also upheld the EPA’s authority to issue a SIP call requiring a state “to clarify language in the SIP that could be read to violate the CAA, when a court has not yet interpreted the language in that way.” Indeed, the court opined that “in light of the potential conflicts” between competing interpretations of the SIP provision,

³³⁹ See 467 F.3d at 995 (rejecting claim that section 110(l) required a modeled attainment demonstration to prove that the SIP revision would meet applicable CAA requirements).

³⁴⁰ The EPA notes that the one exception to this, of course, is the Agency’s recent approval of new SIP provisions in Texas that created an affirmative defense for malfunctions. As discussed elsewhere in this document, however, the EPA has determined that such provisions do not meet CAA requirements and is thus issuing a SIP call for those provisions.

³⁴¹ See 690 F.3d 1157 (10th Cir. 2012).

³⁴² *Id.*, 690 F.3d 1167, n.3.

³⁴³ *Id.*, 690 F.3d at 1159–63.

³³⁸ See 467 F.3d 986 (6th Cir. 2006).

“seeking revision of the SIP was prudent, not arbitrary or capricious.”³⁴⁴

Fourth, the court explicitly upheld the EPA’s reasonable interpretation of section 110(k)(5) to authorize a SIP call when a state’s SIP provision is substantially inadequate to meet applicable legal requirements, without making “specific factual findings” that the deficient provision resulted in a NAAQS violation. The EPA interpreted the CAA to allow a SIP call if the Agency “determined that aspects of the SIP undermine the fundamental integrity of the CAA’s SIP process and structure, regardless of whether or not the EPA could point to specific instances where the SIP allowed violations of the NAAQS.” The *US Magnesium* court explicitly agreed that section 110(k)(5) authorizes issuance of a SIP call “where the EPA determines that a SIP is no longer consistent with the EPA’s understanding of the CAA.”³⁴⁵

Fifth, the court rejected claims that the EPA was requiring states to comply with the SSM Policy guidance rather than the CAA requirements, and the court noted that the Agency had undertaken notice-and-comment rulemaking to evaluate whether the SIP provisions at issue were consistent with CAA requirements.³⁴⁶

Sixth, the court rejected the claim that the EPA was interpreting the requirements of the CAA incorrectly because the EPA is in the process of bringing its own NSPS and NESHAP regulations into line with CAA requirements for emission limitations, in accordance with the *Sierra Club v. Johnson* decision.³⁴⁷ The court noted that the EPA is now correcting SSM exemptions in its own regulations, and thus its prior interpretation of the CAA, rejected by the court in *Sierra Club v. Johnson*, did not make the SIP call to Utah arbitrary and capricious.³⁴⁸

On these and many other issues, the EPA believes that the court’s decision in *US Magnesium* provides an important and correct precedent for the Agency’s interpretation of the CAA in this action. The commenters’ apparent disagreement with the court does not mean that the decision is not relevant to this action. The commenters specifically argued that the *US Magnesium* court did not reach the issue of whether the EPA had “defined” the term “substantial inadequacy” in the challenged rulemaking because the petitioner had

not raised this point in comments. The EPA does not necessarily agree that “defining” the full contours of the term is a necessary step for a SIP call, but regardless of that fact the Agency did explain its interpretation of the term “substantial inadequacy” with respect to the SIP provisions at issue in the February 2013 proposal, the SNPR and this final action.

13. Comments that EPA has to evaluate a SIP “as a whole” to have the authority to issue a SIP call.

Comment: Many state and industry commenters argued that the EPA cannot evaluate individual SIP provisions in isolation and that the Agency is required to evaluate the entire SIP and any related permit requirements in order to determine if a specific SIP provision is substantially inadequate. In particular, some commenters argued that the EPA was wrong to focus upon the exemptions in SIP emission limitations for emissions during SSM events without considering whether some other requirement of the SIP or of a permit might operate to override or otherwise modify the exemptions. Many of the commenters asserted that other “general duty” clause requirements, elsewhere in other SIP provisions or in permits for individual sources, make the SSM exemptions in SIP emission limitations valid under the CAA.³⁴⁹ These other requirements were often general duty-type standards that require sources to minimize emissions, to exercise good engineering judgment or not to cause a violation of the NAAQS. The implication of the commenters’ arguments is that such general-duty requirements legitimize an SSM exemption in a SIP emission limitation—even if they are not explicitly a component of the SIP provision, if they are not incorporated by reference in the SIP provision and if they are not adequate to meet the applicable substantive requirements for that type of SIP provision.

Response: The EPA disagrees with the basic premise of the commenters that the EPA cannot issue a SIP call directing a state to correct a facially deficient SIP provision without first determining

³⁴⁹ The EPA notes that other commenters on the February 2013 proposal made similar arguments with respect to affirmative defense provisions in their SIPs, asserting that other SIP provisions or terms in permits provided additional criteria that would have made the affirmative defense provisions at issue consistent with the EPA’s interpretation of the CAA in the 1999 SSM Guidance. See, e.g., Comment from Virginia Department of Environmental Quality at 1–2, in the rulemaking docket at EPA–HQ–OAR–2012–0322–0613. Because the EPA no longer interprets the CAA to allow any affirmative defense provisions, these comments are not germane.

whether an unrelated and not cross-referenced provision of the SIP or of a permit might potentially apply in such a way as to correct the deficiency. As explained in section VII.A.3 of this document, the EPA believes that all SIP provisions must meet applicable requirements of the CAA, including the requirement that they apply continuously to affected sources. In reviewing the specific SIP provisions identified in the Petition, the EPA determined that many of the provisions include explicit automatic or discretionary exemptions for emissions during SSM events, whether as a component of an emission limitation or as a provision that operates to override the otherwise applicable emission limitation. Based on the EPA’s review of these provisions, neither did they apply “continuously” as required by section 302(k) nor did they include cross-references to any other limitations that applied during such exempt periods to potentially provide continuous limitations. To the extent that the SIP of a state contained any other requirements that applied during such periods, that fact was not plain on the face of the SIP provision. If the EPA was unable to ascertain what, if anything, applied during these explicitly exempt periods, then the Agency concludes that regulated entities, members of and the public, and the courts will have the same problem. The EPA has authority under section 110(k)(5) to issue a SIP call requiring a state to clarify a SIP provision that is ambiguous or unclear such that the provision can lead to misunderstanding and thereby interfere with effective enforcement.³⁵⁰

To the extent that an affected state believes that the EPA has overlooked another valid provision of the SIP that would cure the substantial inadequacy that the Agency has identified in this action, the state may seek to correct the deficient SIP provision by properly revising it to remove the impermissible exemption or affirmative defense and replacing it with the requirements of the other SIP provision or by including a clear cross-reference that clarifies the applicability of such provision as a component of the specific emission limitation at issue. The state should make this revision in such a way that the SIP emission limitation is clear on its face as to what the affected sources are required to do during all modes of operation. The emission limitation should apply continuously, and what is required by the emission limitation under any mode of operation should be

³⁵⁰ See *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1169 (10th Cir. 2012).

³⁴⁴ *Id.*, 690 F.3d at 1170.

³⁴⁵ *Id.*, 690 F.3d at 1168.

³⁴⁶ *Id.*, 690 F.3d at 1168.

³⁴⁷ *Id.*, 690 F.3d at 1169.

³⁴⁸ *Id.*, 690 F.3d at 1170.

readily ascertainable by the regulated entities, the regulators and the public. The EPA emphasizes, however, that each revised SIP emission limitation must meet the substantive requirements applicable to that type of provision (e.g., impose RACM/RACT-level controls on sources located in nonattainment areas) and must be legally and practically enforceable (e.g., have sufficient recordkeeping, reporting and monitoring requirements). The revised SIP emission limitation must be consistent with all applicable CAA requirements.

14. Comments that the EPA inappropriately is “using guidance” as a basis for the SIP call action.

Comment: State and industry commenters asserted that the EPA is relying on guidance as the basis for issuing this SIP call action and argued that the EPA cannot issue a SIP call based on guidance. The commenters argued that the EPA guidance provided in the SSM Policy is not binding and that states thus have the flexibility to develop SIP provisions that are not in conformance with EPA guidance. Some commenters claimed that if the EPA wishes to make the interpretations of the CAA in its SSM Policy binding upon states, then it must do so through a notice-and-comment rulemaking and must codify those requirements in binding regulations in the CFR. The commenters argued that states should not be subject to a SIP call for existing provisions in their SIPs on the basis that they do not conform to guidance in the SSM Policy. Some commenters acknowledged that the EPA is providing notice and comment on its SSM Policy through this action, but still they contended that the EPA’s interpretation of the CAA is not binding upon states unless the Agency codifies its updated SSM Policy in regulations in the CFR.

Response: The EPA disagrees with arguments that the Agency has acted inappropriately by relying on its interpretations of the CAA set forth in the SSM Policy in issuing this SIP call. As explained in the February 2013 proposal, the SSM Policy is merely guidance. It is correct that guidance documents are nonbinding. However, the guidance provides the EPA’s recommendations concerning how best to interpret the statutory requirements of the CAA that are binding. Moreover, the EPA’s interpretation of the CAA in the SSM Policy can become binding once the Agency adopts and applies that interpretation through notice-and-comment rulemaking. The EPA is issuing this SIP call action through notice-and-comment rulemaking and has specifically taken comment on its

interpretations of the CAA as they apply to the specific SIP provisions at issue in this action. Thus, the EPA is requiring the affected states to comply with the requirements of the CAA, not with the SSM Policy guidance itself.³⁵¹

The EPA also disagrees with commenters that in order to rely on its interpretation of the CAA in the SSM Policy, the EPA must first issue regulatory provisions applicable to SIP provisions. There is no such general obligation for the EPA to codify its interpretations of the CAA in regulatory text. Unless Congress has specifically directed the EPA to promulgate regulations for a particular purpose, the EPA has authority and discretion to promulgate such regulations as it deems necessary or helpful in accordance with its authority under section 301. With respect to issues concerning proper treatment of excess emissions during SSM events in SIP provisions, the EPA has historically proceeded by issuance of guidance documents. In this action, the EPA is undergoing notice-and-comment rulemaking to update and revise its guidance and to apply that guidance to specific existing SIP provisions. Thus, the EPA is not required to promulgate specific implementing regulations as a precondition to making a finding of substantial inadequacy to address existing deficient SIP provisions.

15. Comments that the EPA’s redesignation and approval of a maintenance plan for an area in a state with a SIP that has provisions at issue in the SIP call establishes that all provisions in the SIP meet CAA requirements.

Comment: Commenters argued that the “EPA’s allegations that SSM provisions could threaten the NAAQS is contradicted by” the fact that the “EPA has consistently approved redesignation requests and attainment and maintenance plans, notwithstanding SSM provisions.” According to these commenters, “[t]he fact that EPA has already approved numerous redesignation requests . . . indicates that EPA has already (and in many cases, very recently) admitted that the [State SIPs are] fully approved, sufficient to achieve the NAAQS, and fully enforceable.” The commenters argued that the appropriate time for the EPA to

³⁵¹ The EPA’s reliance on interpretations of the CAA in the SSM Policy through notice-and-comment rulemakings has previously been upheld by several courts. See, e.g., *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1168 (10th Cir. 2012) (upholding the EPA’s SIP call to Utah for existing SIP provisions); *Mich. Dep’t of Env’tl. Quality v. Browner*, 230 F.3d 181 (6th Cir. 2000) (upholding the EPA’s disapproval of a SIP submission).

have addressed any issues concerning deficient SIP provisions applicable to emissions during SSM events was “in the context of its review and approval of [maintenance] plans.” Because the EPA has been approving maintenance plans for areas in states subject to this SIP call action, the commenters believed, this “is evidence that the Agency has not viewed SSM-related emissions as a threat to attainment or maintenance of the NAAQS.” In essence, these commenters argued that the EPA’s redesignation of any area in any of the states at issue in this rulemaking indicates that the SIPs of these states fully meet all CAA requirements and that there are no deficiencies whatsoever in the SIPs of these states.

Response: The EPA disagrees with the commenters’ premise that the Agency’s approval of redesignation requests and maintenance plans for certain nonattainment areas, notwithstanding the presence of impermissible provisions related to emissions during SSM events that may have been present in the SIP for those areas, is evidence that the EPA does not view SSM-related emissions as a threat to attainment or maintenance of the NAAQS. Contrary to the theory of the commenters, the EPA’s redesignation of an area to attainment does not mean that the SIP for the state in question fully meets each and every requirement of the CAA.

The CAA sets forth the general criteria for redesignation of an area from nonattainment to attainment in section 107(d)(3)(E). These criteria include a determination by the EPA that the area has attained the relevant standard (section 107(d)(3)(E)(i)) and that the EPA has fully approved the applicable implementation plan for the area for purposes of redesignation (section 107(d)(3)(E)(ii) and (v)). The EPA must also determine that the improvement in air quality in the area is due to reductions that are permanent and enforceable (section 107(d)(3)(E)(iii)) and that the EPA has fully approved a maintenance plan for the area under section 175A (section 107(d)(3)(E)(iv)).

For purposes of redesignation, the EPA has long held that SIP requirements that are not linked with a particular nonattainment area’s designation and classification, including certain section 110 requirements, are not “applicable” for purposes of evaluating compliance with the specific redesignation criteria in CAA sections 107(d)(3)(E)(ii) and (v).³⁵² The EPA maintains this

³⁵² See, e.g., “Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; State of Arizona;

interpretation because these requirements remain applicable after an area is redesignated to attainment. For at least the past 15 years, the EPA has applied this interpretation with respect to requirements to which a state will continue to be subject after the area is redesignated.³⁵³ Courts reviewing the EPA's interpretation of the term "applicable" in section 107(d)(3) in the context of requirements applicable for redesignation have generally agreed with the Agency.³⁵⁴

The EPA therefore approves redesignation requests in many instances without passing judgment on every part of a state's existing SIP, if it finds those parts of the SIP are not "applicable" for purposes of section 107(d)(3). For example, the EPA recently approved Arizona's request to redesignate the Phoenix-Mesa 1997 8-hour ozone nonattainment area and its accompanying maintenance plan, while recognizing that Arizona's SIP may contain affirmative defense provisions that are not consistent with CAA requirements.³⁵⁵ In that case, the EPA explicitly noted that approval of the redesignation of the Phoenix-Mesa nonattainment area did not relieve Arizona or Maricopa County of its obligation to remove the affirmative defense provisions from the SIP, if the EPA was to take later action to require correction of the Arizona SIP with respect to those provisions.³⁵⁶

The EPA also disagrees with commenters to the extent they suggest that the Agency must use the redesignation process to evaluate whether any existing SIP provisions are legally deficient. The EPA has other statutory mechanisms through which to

address existing deficiencies in a state's SIP, and courts have agreed that the EPA retains the authority to issue a SIP call to a state pursuant to CAA section 110(k)(5) even after redesignation of a nonattainment area in that state.³⁵⁷ The EPA recently addressed this issue in the context of redesignating the Ohio portion of the Huntington-Ashland (OH-WV-KY) nonattainment area to attainment for the PM_{2.5} NAAQS.³⁵⁸ In response to comments challenging the proposed redesignation due to the presence of certain SSM provisions in the Ohio SIP, the EPA concluded that the provisions at issue did not provide a basis for disapproving the redesignation request.³⁵⁹ In so concluding, the EPA noted that the SSM provisions and related SIP limitations at issue in that state were already approved into the SIP and thus "permanent and enforceable" for the purposes of meeting section 107(d)(3)(E)(iii) and that the Agency has other statutory mechanisms for addressing any problems associated with the SSM provisions.³⁶⁰ The EPA emphasizes that the redesignation of areas to attainment does not relieve states of the responsibility to remove legally deficient SIP provisions either independently or pursuant to a SIP call. To the contrary, the EPA maintains that it may determine that deficient provisions such as exemptions or affirmative defense provisions applicable to SSM events are contrary to CAA requirements and take action to require correction of those provisions even after an area is redesignated to attainment for a specific NAAQS. This interpretation is consistent with prior redesignation actions.

In some cases, the EPA has stated that the presence of illegal SSM provisions does constitute grounds for denying a redesignation request. For example, the EPA issued a proposed disapproval of Utah's redesignation requests for Salt Lake County, Utah County and Ogden City PM₁₀ nonattainment areas.³⁶¹ However, the specific basis for the proposed disapproval in that action, which was one of many SIP deficiencies

identified by EPA, was the state's inclusion in the submission of new provisions not previously in the SIP that would have provided blanket exemptions from compliance with emission standards during SSM events. Those SSM exemptions were not in the previously approved SIP, and the EPA declined to approve them in connection with the redesignation request because such provisions are inconsistent with CAA requirements. In most redesignation actions, states have not sought to create new SIP provisions that are inconsistent with CAA requirements as part of their redesignation requests or maintenance plans.

Finally, the EPA disagrees with commenters that approval of a maintenance plan for any area has the result of precluding the Agency from later finding that certain SIP provisions are substantially inadequate under the CAA on the basis that those provisions may interfere with attainment or maintenance of the NAAQS or fail to meet any other legal requirement of the CAA. The approval of a state's redesignation request and maintenance plan for a particular NAAQS is not the conclusion of the state's and the EPA's responsibilities under the CAA but rather is one step in the process Congress established for identifying and addressing the nation's air quality problems on a continuing basis. The redesignation process allows states with nonattainment areas that have attained the relevant NAAQS to provide the EPA with a demonstration of the control measures that will keep the area in attainment for 10 years, with the caveat that the suite of measures may be revisited if necessary and must be revisited with a second maintenance plan for the 10 years following the initial 10-year maintenance period.

Moreover, it is clear from the structure of section 175A maintenance plans that Congress understood that the EPA's approval of a maintenance plan is not a guarantee of future attainment air quality in a nonattainment area. Rather, Congress foresaw that violations of the NAAQS could occur following a redesignation of an area to attainment and therefore required section 175A maintenance plans to include contingency measures that a state could implement quickly in response to a violation of a standard. The notion that the EPA's approval of a maintenance plan must be the last word with regard to the contents of a state's SIP simply does not comport with the framework Congress established in the CAA for redesignations. The EPA has continuing authority and responsibility to assure that a state's SIP meets CAA

Redesignation of the Phoenix-Mesa Nonattainment Area to Attainment for the 1997 8-Hour Ozone Standard; Proposed rule," 79 FR 16734 at 16739 n.22 (March 26, 2014).

³⁵³ See, e.g., 73 FR 22307 at 22312–13 (April 25, 2008) (proposed redesignation of San Joaquin Valley; the EPA concluded that section 110(a)(2)(D) transport requirements are not applicable under section 110(d)(3)(E)(v) because they "continue to apply to a state regardless of the designation of any one particular area in the state"); 62 FR 24826 at 24829–30 (May 7, 1997) (redesignation of Reading, Pennsylvania, Area; the EPA concluded that the additional controls required by section 184 were not "applicable" for purposes of section 107(d)(3)(E) because "they remain in force regardless of the area's redesignation status").

³⁵⁴ See *Sierra Club v. EPA*, 375 F.3d 537 (7th Cir. 2004); *Wall v. EPA*, 265 F.3d 426, 438 (6th Cir. 2001). But see *Sierra Club v. EPA*, Nos. 12–3169, 12–3182, 12–3420 (6th Cir. Mar. 18, 2015), petition for reh'g en banc filed.

³⁵⁵ 79 FR 55645 (September 17, 2014).

³⁵⁶ *Id.* at 55648. The EPA notes that it has included the deficient SIP provisions that include the affirmative defenses in this action, thereby illustrating that it can take action to address a SIP deficiency separately from the redesignation action, where appropriate.

³⁵⁷ See *Southwestern Pennsylvania Growth Alliance v. EPA*, 114 F.3d 984 (6th Cir. 1998) (Redesignation of Cleveland-Akron-Lorain area determined valid even though the Agency subsequently proposed a SIP call to require Ohio and other states to revise their SIPs to mitigate ozone transport to other states).

³⁵⁸ See 77 FR 76883 (December 31, 2012).

³⁵⁹ *Id.* at 76891–92.

³⁶⁰ The EPA notes that the provisions at issue in the redesignation action are included in this SIP call, thus illustrating that the Agency can address these deficient provisions in a context other than a redesignation request.

³⁶¹ 74 FR 62717 (December 1, 2009).

requirements, even after approving a redesignation request for a particular NAAQS.

In conclusion, the EPA is not required to reevaluate the validity of all previously approved SIP provisions as part of a redesignation. The existence of provisions such as impermissible exemptions and affirmative defenses applicable during SSM events in an approved SIP does not preclude the EPA's determination that emission reductions that have provided for attainment and that will provide for maintenance of a NAAQS in a nonattainment area are "permanent and enforceable," as those terms are meant in section 107(d)(3), or that the state has met all applicable requirements under section 110 and part D relevant for the purposes of redesignation. Finally, if the EPA separately determines that the state's SIP is deficient after the redesignation of the area to attainment, the Agency can issue a SIP call requiring a corrective SIP revision. Redesignation of areas to attainment in no way relieves states of their continuing responsibilities to remove deficient SIP provisions from their SIPs in the event of a SIP call.

16. Comments that in issuing a SIP call the EPA is "dictating" to states how to regulate their sources and taking away their discretion to adopt appropriate control measures of their own choosing in developing a SIP.

Comment: Several commenters claimed that the EPA's SIP call action removes discretion that states would otherwise have under the CAA. Commenters claimed that the action has the effect of unlawfully directing states to impose a particular control measure by requiring the state to regulate all periods of operation for any source it chooses to regulate. Because the alternative emission limitations and work practice standards that the EPA asserts are necessary under the statutory definition of "emissions limitation" are not real options in some cases, the commenters claimed, the EPA's proposal is the type of mandate that the court in the *Virginia* decision found to have violated the CAA.³⁶² Other commenters also cited to the *Virginia* decision, as well as citing to the U.S. Supreme Court's decision in *Train v. NRDC*, in which the Court held that "so long as the ultimate effect of a State's choice of emissions limitations is compliance with the national standards, the State is at liberty to adopt whatever mix of emissions limitations it deems best suited to its particular situation."³⁶³

The commenters concluded that the EPA cannot prescribe the specific terms of SIP provisions applicable to SSM events absent evidence that the provisions undermine the NAAQS or are otherwise inconsistent with the Act.

Commenters claimed that states are provided substantial discretion under the Act in how to develop SIPs and that the EPA's SIP call action is inconsistent with this long-recognized discretion because it limits the states to one option: "Eliminate any consideration of unavoidable emissions during planned startups and shutdowns and adopt only an extremely limited affirmative defense for unavoidable emissions during a malfunction." The commenters claimed that other options available to states include "justifying existing provisions, adopting alternative numeric emission limitations, work practice standards, additional operational limitations, or revising existing numeric emission limitations and/or their associated averaging times to create a sufficient compliance margin for unavoidable SSM emissions."

The commenters further asserted that the EPA's February 2013 proposal contained inconsistent statements about how the Agency expects states to respond to the SIP call. For example, according to one commenter, the EPA states in one place that startup and shutdown emissions above otherwise applicable limits must be considered a violation yet elsewhere discusses the fact that states can adopt alternative emission limitations for startup and shutdown. The commenter also asserted that the EPA recommended that states could elect to adopt the an approach to emissions during startup and shutdown like that of the EPA's recent MATS rule but that the EPA then failed to explain that the MATS rule contains "exemptions" for emissions during startup and shutdown that apply so long as the source meets the general work practice standards in the rule. This commenter claimed that the EPA's own approach is inconsistent with statements in the February 2013 proposal that states should treat all startups and shutdowns as "normal operations."

Response: The EPA disagrees with the commenter's claims that the SIP call violates the structure of "cooperative federalism" that Congress enacted for the SIP program in the CAA. Under this structure, the EPA establishes NAAQS and reviews state plans to ensure that they meet the requirements of the CAA. States take primary responsibility for developing plans to attain and maintain the NAAQS, but the EPA is required to step in if states fail to adopt plans that

meet the statutory requirements. As the court in *Virginia* recognized, Congress gave states discretion in choosing the "mix of controls" necessary to attain and maintain the NAAQS. *See also Train v. NRDC*, 421 U.S. 60, 79, 95 (1975). The U.S. Supreme Court first recognized this program of cooperative federalism in *Train*, and the Court stated:

The Act gives the Agency no authority to question the wisdom of a State's choices of emissions limitations if they are part of a plan which satisfies the standards of § 110(a)(2) . . . [S]o long as the ultimate effect of a State's choice of emissions limitations is compliance with the national standards, the State is at liberty to adopt whatever mix of emissions limitations it deems best suited to its particular situation.

The issue in that case concerned whether changes to requirements that would occur before the area was required to attain the NAAQS were variances that should be addressed pursuant to the provision governing SIP revisions or were "postponements" that must be addressed under section 110(f) of the CAA of 1970, which contained prescriptive criteria. The court concluded that the EPA reasonably interpreted section 110(f) not to restrict a state's choice of the mix of control measures needed to attain the NAAQS and that revisions to SIPs that would not impact attainment of the NAAQS by the attainment date were not subject to the limits of section 110(f). While the court recognized that states had discretion in determining the appropriate emissions limitations, it also recognized that the SIP must meet the standards of section 110(a)(2). In *Virginia*, the issue was whether at the request of the Ozone Transport Commission the EPA could mandate that states adopt specific motor vehicle emission standards more stringent than those mandated by CAA sections 177 and 202 for regulating emissions from motor vehicles.

As the EPA has consistently explained in its SSM Policy, the Agency does not believe that exemptions from compliance with any applicable SIP emission limitation requirements during periods of SSM are consistent with the obligation of states in SIPs, including the requirements to demonstrate that plans will attain and maintain the NAAQS, protect PSD increments and improve visibility. If a source is free from any obligation during periods of SSM, there is nothing restraining those emissions and such emissions could cause or contribute to an exceedance or violation of the NAAQS. Moreover, neither the state nor citizens would have authority to take enforcement

³⁶² 108 F.3d at 1410.

³⁶³ 421 U.S. 60, 79 (1975).

action regarding such emissions. Also, even if historically such excess emissions have not caused or contributed to an exceedance or violation, this would not mean that they could not do so at some time in the future. Finally, given that there are many locations where air quality is not monitored such that a NAAQS exceedance or violation could be observed, the inability to demonstrate that such excess emissions have not caused or contributed to an exceedance or violation would not be proof that they have not. Thus, the EPA has long held that exemptions from emission limitations for emissions during SSM events are not consistent with CAA requirements, including the obligation to attain and maintain the NAAQS and the requirement to ensure adequate enforcement authority.

Despite claims by the commenter to the contrary, the EPA has not mandated the specific means by which states should regulate emissions from sources during startup and shutdown events. Requiring states to ensure that periods of startup and shutdown are regulated consistent with CAA requirements is not tantamount to prescribing the specific means of control that the state must adopt. By the SIP call, the EPA has simply explained the statutory boundaries to the states for SIP provisions, and the next step is for the states to revise their SIPs consistent with those boundaries. States remain free to choose the “mix of controls,” so long as the resulting SIP revisions meet CAA requirements. The EPA agrees with the commenter who notes several options available to the states in responding to the SIP call. The commenter stated that there are various options available to states, such as “adopting alternative numeric emission limitations, work practice standards, additional operational limitations, or revising existing numeric emission limitations and/or their associated averaging times to create a sufficient compliance margin for unavoidable SSM emissions.” However, the state must demonstrate how that mix of controls for all periods of operation will ensure attainment and maintenance of the NAAQS or meet other required goals of the CAA relevant to the SIP provision, such as visibility protection. For example, if a state chooses to modify averaging times in an emission limitation to account for higher emissions during startup and shutdown, the state would need to consider and demonstrate to the EPA how the variability of emissions over that averaging period might affect attainment

and maintenance of a NAAQS with a short averaging period (e.g., how a 30-day averaging period for emissions can ensure attainment of an 8-hour NAAQS). One option noted by the commenter, “justifying existing provisions,” does not seem promising, based on the evaluation that the EPA has performed as a basis for this SIP call action. If by justification, the commenter simply means that the state may seek to justify continuing to have an exemption for emissions during SSM events, the EPA has already determined that this is impermissible under CAA requirements.

The EPA regrets any confusion that may have resulted from its discussion in the preamble to the February 2013 proposal. The EPA’s statement that startup and shutdown emissions above otherwise applicable limitations must be considered a violation is simply another way of stating that states cannot exempt sources from complying with emissions standards during periods of startup and shutdown. This is not inconsistent with the EPA’s statement that states can develop alternative requirements for periods of startup and shutdown where emission limitations that apply during steady-state operations could not be feasibly met. In such a case, startup and shutdown emissions would not be exempt from compliance but rather would be subject to a different, but enforceable, standard. Then, only emissions that exceed such alternative emission limitations would constitute violations.

17. Comments that because areas are in attainment of the NAAQS, SIP provisions such as automatic exemptions for excess emissions during SSM events are rendered valid under the CAA.

Comment: Commenters argued that SSM exemptions should be permissible in SIP provisions applicable to areas designated attainment because, they asserted, there is evidence that the exemptions do not result in emissions that cause violations of the NAAQS. To support this contention, the commenters observed that a number of states with SSM exemptions in SIP provisions at issue in this SIP call are currently designated attainment in all areas for one or all NAAQS and also that some of these states had areas that previously were designated nonattainment for a NAAQS but subsequently have come into attainment. Thus, the commenters asserted, the SIP provisions that the EPA identified as deficient due to SSM exemptions must instead be consistent with CAA requirements because these states are in attainment. The commenters claimed that because these areas have shown they are able to attain

and maintain the NAAQS or to achieve emission reductions, despite SSM exemptions in their SIP provisions, the EPA’s concerns with respect to SSM exemptions are unsupported and unwarranted. Based on the premise that SSM exemptions are not inconsistent with CAA requirements applicable to areas that are attaining the NAAQS, the commenters claimed that such provisions cannot be substantially inadequate to meet CAA requirements.

Response: The EPA disagrees with the commenters’ view that, so long as the provisions apply in areas designated attainment, the CAA allows SIP provisions with exemptions for emissions during SSM events. The commenters based their argument on the incorrect premise that SIP provisions applicable to sources located in attainment areas do not also have to meet fundamental CAA requirements such as sections 110(a)(2)(A), 110(a)(2)(C) and 302(k). Evidently, the commenters were only thinking narrowly of the statutory requirements applicable to SIP provisions in SIPs for purposes of part D attainment plans, which are by design intended to address emissions from sources located in nonattainment areas and to achieve attainment of the NAAQS in such areas. The EPA does not interpret the fundamental statutory requirements applicable to SIP provisions (e.g., that they impose continuous emission limitations) to apply exclusively in nonattainment areas; these requirements are relevant to SIP provisions in general.

The statutory requirements applicable to SIPs are not limited to areas designated nonattainment. To the contrary, section 107(a) imposes the responsibility on each state to attain and maintain the NAAQS “within the entire geographic areas comprising such State.” The requirement to maintain the NAAQS in section 107(a) clearly applies to areas that are designated attainment, including those that may previously have been designated nonattainment. Similarly, section 110(a)(1) explicitly requires states to have SIPs with provisions that provide for the implementation, maintenance and enforcement of the NAAQS. By inclusion of “maintenance,” section 110(a)(1) clearly encompasses areas designated attainment as well as nonattainment. The SIPs that states develop must also meet a number of more specific requirements set forth in section 110(a)(2) and other sections of the CAA relevant to particular air quality issues (e.g., the requirements for attainment plans for the different NAAQS set out in more detail in part D). Among those basic requirements that

states must meet in SIPS are section 110(a)(2)(C), requiring a permitting program applicable to sources in areas designated attainment, and section 110(a)(2)(D)(i)(II), requiring SIP provisions to prevent interference with protection of air quality in areas designated attainment in other states. Part C, in turn, imposes additional requirements on states with respect to prevention of significant deterioration of air quality in areas designated attainment. Although the EPA agrees that the CAA distinguishes between, and imposes different requirements upon, areas designated attainment versus nonattainment, there is no indication that the statute distinguishes between the basic requirements for emission limitations in these areas, including that they be continuous.

Section 110(a)(2)(A) requires states to include “emission limitations” in their SIPs “as may be necessary or appropriate to meet applicable requirements of” the CAA. The EPA notes that the commenters have raised other arguments concerning the precise meaning of “necessary or appropriate” (see section VII.A.3 of this document), but in this context the Agency believes that because states are required to have SIPs that provide for “maintenance” of the NAAQS it is clear that the general requirements for emission limitations in SIPs are not limited to areas designated nonattainment. Section 110(a)(2)(A) contains no language distinguishing between emission limitations applicable in attainment areas and emission limitations applicable in nonattainment areas. Significantly, the definition of the term “emission limitation” in section 302(k) likewise makes no distinction between requirements applicable to sources in attainment areas versus nonattainment areas. The EPA sees no basis for interpreting the term “emission limitation” differently for attainment areas and nonattainment areas, with respect to whether such emission limitations must impose continuous controls on the affected sources. Most importantly, section 110(a)(2)(A) does explicitly require that any such emission limitations must “meet the applicable requirements” of the CAA, and the EPA interprets this to include the requirement that emission limitations apply continuously, *i.e.*, contain no exemptions for emissions during SSM events. This requirement applies equally in all areas, including attainment and nonattainment areas.

The EPA’s interpretation of the CAA in the SSM Policy has long extended to SIP provisions applicable to attainment areas as well as to nonattainment areas. Since at least 1982, the SSM Policy has

stated that SIP provisions with SSM exemptions are inconsistent with requirements of the CAA to provide both for attainment and maintenance of the NAAQS, *i.e.*, inconsistent with requirements applicable to both nonattainment and attainment areas.³⁶⁴ Since at least 1999, the EPA’s SSM Policy has clearly stated that SIP provisions with SSM exemptions are inconsistent with protection of PSD increments in attainment areas.³⁶⁵ The EPA provided its full statutory analysis with respect to SSM exemptions and CAA requirements applicable to areas designated attainment in the background memorandum accompanying the February 2013 proposal.³⁶⁶

Finally, the EPA disagrees with the commenters’ theory that, absent proof that the SIP deficiency has caused or will cause a specific violation of the NAAQS, the Agency lacks authority to issue a SIP call for SIP provisions that apply only in areas attaining the NAAQS. This argument is inconsistent with the plain language of section 110(k)(5). Section 110(k)(5) authorizes the EPA to issue a SIP call whenever the SIP is substantially inadequate to attain or maintain the NAAQS, to mitigate interstate transport or to comply with any other CAA requirement. The explicit reference to a SIP’s being inadequate to maintain the NAAQS clearly indicates that the EPA has authority to make a finding of substantial inadequacy for a SIP provision applicable to attainment areas, not only for a SIP provision applicable to nonattainment areas. In addition, section 110(k)(5) explicitly authorizes the EPA to issue a SIP call not only in instances related to a specific violation of the NAAQS but rather whenever the Agency determines that a SIP provision is inadequate to meet requirements related to attainment and maintenance of the NAAQS or any other applicable requirement of the Act, including when the provision is inadequate to meet the fundamental legal requirements applicable to SIP provisions. Were the EPA’s authority limited to issuing a SIP call only in the event an area was violating the NAAQS, section 110(k)(5) would not explicitly include requirements related to “maintenance” and would not explicitly include the statement “otherwise

comply with any requirement of [the CAA].”

18. Comments that the EPA’s initial approval of these deficient provisions, or subsequent indirect approval of them through action on other SIP submissions, establishes that these provisions meet CAA requirements.

Comment: A number of commenters argued that because the EPA initially approved the SIP provisions at issue in this rulemaking, this establishes that these provisions meet CAA requirements. Other commenters argued that subsequent actions on other SIP submissions in effect override the fact that the SIP provisions at issue are legally deficient. For example, an industry commenter asserted that there have been “dozens of instances where EPA has reviewed Alabama SIP revision submittals” and the EPA has never indicated “that it believed these rules to be inconsistent with the CAA.” Other state commenters made similar arguments suggesting that the EPA’s original approval of these provisions, and the fact that the EPA has not previously taken action to require states to revise them, indicates that they are not deficient.

Response: The EPA disagrees with these commenters. The fact that the EPA once approved a SIP provision does not mean that the SIP provision is *per se* consistent with the CAA, or consistent with the CAA notwithstanding any later legal or factual developments. This is demonstrated by the very existence of the SIP call provision in section 110(k)(5), whereby the EPA may find that an “applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant [NAAQS] . . . or to otherwise comply with any requirement of” the CAA. This SIP call authority expressly authorizes the EPA to direct a state to revise its SIP to remedy any substantial inadequacy, including failures to comply with legal requirements of the CAA. By definition, when the EPA promulgates a SIP call, this means that the Agency has previously approved the provision into the SIP, rightly or wrongly. The SIP call provision would be meaningless if a SIP provision were considered perpetually consistent with CAA requirements after it was originally approved, and merely because of that prior approval as commenters suggest. In the February 2013 proposal, the EPA acknowledged its own responsibility in approving provisions that were inconsistent with CAA requirements.

The EPA also disagrees with the argument that the Agency’s action on other intervening SIP submissions from a state over the years since the approval

³⁶⁴ See 1982 SSM Guidance, Attachment at 1.

³⁶⁵ See 1999 SSM Guidance at 2.

³⁶⁶ See Memorandum, “Statutory, Regulatory, and Policy Context for this Rulemaking,” February 4, 2013, in the rulemaking docket at EPA–HQ–OAR–2012–0322–0029.

of the original deficient SIP provision in some way negates the original deficiency. The industry commenter pointed to “dozens of instances where EPA reviewed Alabama SIP revision submittals” as times when the EPA should have addressed any SSM-related deficient SIP provisions. However, the EPA’s approval of other SIP revisions does not necessarily entail reexamination and reapproval of every provision in the SIP. The EPA often only examines the specific provision the state seeks to revise in the SIP submission without reexamining all other provisions in the SIP. The EPA sometimes broadens its review if commenters bring other concerns to the Agency’s attention during the rulemaking process that are relevant to the SIP submission under evaluation.

19. Comments that exemptions for excess emissions during exempt SSM events would not distort emissions inventories, SIP control measure development or modeling, because the EPA’s regulations and guidance concerning “rule effectiveness” adequately account for these emissions, and therefore the proposed SIP calls are not needed or justified.

Comment: One commenter argued that provisions allowing exemptions or affirmative defenses for excess emissions during startup and shutdown are consistent with a state’s authority under CAA section 110 and that this is evidenced by the fact that the EPA has issued guidance on “rule effectiveness” that plainly takes into account a “discount” factor in a state’s demonstration of attainment when it chooses to adopt startup/shutdown provisions. This commenter cited the EPA’s definition of “rule effectiveness” at 40 CFR 51.50 and EPA guidance on demonstrating attainment of PM_{2.5} and regional haze air quality goals.³⁶⁷

Response: The EPA disagrees with the characterization in this comment of past EPA guidance and with the conclusion that the fact of the existence of EPA guidance on “rule effectiveness” would support the claim that the CAA provides authority for exemptions or affirmative defenses for excess emissions during startup and shutdown. The EPA’s definition of “rule effectiveness” at 40 CFR 51.50 does not refer to startup and

shutdown; it refers only to “downtime, upsets, decreases in control efficiencies, and other deficiencies in emission estimates,” and once defined the term “rule effectiveness” is not subsequently used within 40 CFR part 51 in any way that would indicate that it is meant to capture the effect of exemptions during startup and shutdown. The EPA guidance on demonstrating attainment of PM_{2.5} and regional haze goals cited by the commenter also does not address rule effectiveness or excess emissions during startup and shutdown. The terms “startup” and “shutdown” do not appear in the attainment demonstration guidance. The EPA did issue a different guidance document in 1992 on rule effectiveness,³⁶⁸ but that document focused only on the preparation of emissions inventories for 1990, not on demonstrating attainment of NAAQS or regional haze goals. Moreover, the 1992 guidance document addressed ways of estimating actual 1990 emissions in light of the likelihood of a degree of source noncompliance with applicable emission limitations, not on the emissions that would be permissible in light of the absence of a continuous emission limitation applicable during startup and shutdown. The terms “startup” and “shutdown” do not appear in the 1992 guidance. In 2005, the EPA replaced the 1992 guidance document on rule effectiveness as part of providing guidance for the implementation of the 1997 ozone and PM_{2.5} NAAQS.³⁶⁹ Like the 1992 guidance, the 2005 guidance associated “rule effectiveness” with the issue of noncompliance and did not provide any specific advice on quantifying emissions that could be legally emitted because of SSM exemptions in SIPs. To avoid misunderstanding, the 2005 guidance included a question and answer on startup and shutdown emissions to the effect that emissions during startup and shutdown should be included in “actual emissions.” This question and answer included the statement, “[L]ess preferably, [emissions during startup, shutdown, upsets and malfunctions] can be accounted for using the rule effectiveness adjustment procedures outlined in this guidance.” However, other than in this question and answer, the 2005 guidance does not mention emissions during startup and shutdown

events; it focuses on issues of noncompliance with applicable emission limitations. The fact that the 1992 guidance document did not intend for “rule effectiveness” to encompass SIP-exempted emissions during startup and shutdown, and that the 2005 guidance also did not, is confirmed by a statement in a more recent draft EPA guidance document:

In addition to estimating the actual emissions during startup/shutdown periods, another approach to estimate startup/shutdown emissions is to adjust control parameters via the emissions calculation parameters of rule effectiveness or primary capture efficiency. *Using these parameters for startup/shutdown adjustments is not their original purpose*, but can be a simple way to increase the emissions and still have a record of the routine versus startup/shutdown portions of the emissions. (Emphasis added.)³⁷⁰

Furthermore, as explained in the proposals for this action and in this document, the EPA believes that it is a fundamental requirement of the CAA that SIP emission limitations be continuous, which therefore precludes exemptions for excess emissions during startup and shutdown. At bottom, although it is true that these guidance documents indicated that one less preferable way to account for startup and shutdown emissions could be through the rule effectiveness analysis, this does not in any way indicate that exemptions from emissions limitations would be appropriate for such periods.

Comment: A commenter argued that the EPA has not shown any substantial inadequacy with respect to CAA requirements but that the closest the EPA comes to identifying a substantial inadequacy is in the EPA’s discussion of its concern regarding the impacts of SSM exemptions on the development of accurate emissions inventories for air quality modeling and other SIP planning. This commenter and another commenter in particular noted a passage in the February 2013 proposal that stated that emission limitations in SIPs are used to meet various requirements for attainment and maintenance of the NAAQS and that all of these uses typically assume continuous source compliance with emission limitations.³⁷¹ These commenters disagreed with the EPA’s statement that all of these uses typically assume continuous source compliance with

³⁶⁷ The commenter appears to have been meaning to cite to the draft EPA guidance document “Draft Guidance for Demonstrating Attainment of Air Quality Goals for PM_{2.5} and Regional Haze,” January 2, 2001. This draft guidance on PM_{2.5} and Regional Haze was combined with similar guidance on ozone in the final guidance document “Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze,” April 2007, EPA-454/B-07-002.

³⁶⁸ “Guidelines for Estimating and Applying Rule Effectiveness for Ozone/CO State Implementation Plan Base Year Inventories,” November 1992, EPA-452/JR-92.010.

³⁶⁹ “Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations,” Appendix B, August 2005, EPA-454/R-05-001.

³⁷⁰ “Draft Emissions Inventory Guidance for Implementation of Ozone [and Particulate Matter]* National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations,” April 11, 2014, page 62.

³⁷¹ February 2013 proposal, 78 FR 12459 at 12485.

applicable emission limitations, and the commenters cited several EPA guidance documents and statements that, they believe, address SSM and ensure that states do not simply assume continuous compliance. These commenters in addition cited to footnote 4 of the EPA's 1999 SSM Guidance.³⁷² The commenters argued that as long as states are complying with the EPA's inventory and modeling rules and guidance, SSM exemptions and similar applicability provisions have no negative impact on SIP planning.

Response: The EPA acknowledges that the cited statement in the February 2013 proposal, that various types of required analysis used to develop SIPs or permits "typically assume continuous source compliance with emission limitations," was an oversimplification of a complex situation. However, the EPA disagrees with the commenters' assertion that the EPA's inventory rules and other guidance are sufficient to ensure that SSM exemptions, where they still exist in SIPs, have no negative impact on SIP planning. Also, if the EPA were to allow them, such exemptions could become more prevalent and have a larger negative effect. More importantly, regardless of how SSM exemptions may or may not negatively impact things like emissions inventories, as explained elsewhere in this document, the EPA believes that it is a fundamental requirement of the CAA that SIP emission limitations be continuous, which therefore precludes exemptions for excess emissions during SSM events.

Generally, the EPA's guidance and rules do not say that it is correct for estimates of source emissions used in SIP development to be based on an assumption of continuous compliance with the SIP emission limitations even if the SIP contains exemptions for SSM periods. Rather, the EPA has generally emphasized that SIPs and permits should be based on the best available information on actual emissions, including in most cases the effects of known or reasonably anticipatable noncompliance with emission limitations that do apply.³⁷³ Because the

³⁷² The EPA interprets the citation "*See supra* pp. 21–24" as being intended to refer to those pages of "Guidelines for Estimating and Applying Rule Effectiveness for Ozone/CO State Implementation Plan Base Year Inventories," November 1992, EPA–4S2JR–92.010, which this commenter did not refer to by title.

³⁷³ New source permitting under the PSD program is an exception to the principle that the effects of noncompliance should be included in estimates of source emissions. The air quality impact analysis for a proposed PSD permit is based on an assumption that the source will operate without malfunctions. However, it may be necessary in this

EPA's longstanding SSM Policy has interpreted the Act to prohibit exemptions during SSM events, it has not been a focus of EPA guidance to explain to states how to take account of such exemptions. As the commenters have pointed out, some aspects of some EPA guidance documents have some relationship to the issue of accounting for SSM exemptions. Nevertheless, taken together, the EPA's guidance does not and cannot ensure that emission estimates used in developing SIPs and permits correctly reflect actual emissions in all cases in which SSM exemptions still exist in SIPs, particularly for sources that, unlike all or most of the sources represented by these two commenters, are not subject to continuous emissions monitoring. For a source not subject to continuous emissions monitoring, when excess emissions during SSM events are exempted by a SIP—whether automatically, on a special showing or through director's discretion—it is much more likely that those emissions would not be quantified and reported to the air agency such that they could be accounted for in SIP and permit development. For example, when the SIP includes exemptions for excess emissions during SSM events, there may be no motive for a source to perform a special stack test during a SSM period in which there is no applicable emission limitation and possibly no legal basis for an air agency to require such a stack test. It would also be unusual to find well-documented emission factors for such transient operation that could be used in place of source-specific testing.

As explained in a response provided earlier in this document, the EPA guidance documents also cited by these commenters in fact do not address how the effect of exemptions in SIPs for excess emissions during startup and shutdown can be accounted for in an attainment or maintenance demonstration. The cited 1992 "rule effectiveness" guidance in regard to issues such as noncompliance in the form of non-operation of control equipment, malfunctions, poor maintenance and deterioration of control equipment was meant to address how the issues affected emissions in 1990, not in a future year when the NAAQS must be attained. The 2005 guidance also did not provide any particular advice on how "rule effectiveness" concepts could be used to estimate emissions during exempt SSM

type of analysis to consider excess emissions that are the result of poor maintenance, careless operation or other preventable conditions. *See* 40 CFR part 51, appendix W, section 8.1.2, footnote a.

periods. Given that the EPA's longstanding SSM Policy has been that exemptions for excess emissions during SSM events are not permissible, the EPA had no reason to provide guidance on how attainment demonstrations should account for such exemptions.

The commenters are right to infer that the EPA does believe that where exemptions for excess emissions during anticipatable events still remain in current SIPs, attainment demonstrations ideally should account for them. Indeed, the EPA's guidance has recommended that all emissions during startup and shutdown events be included in both historical and projected emissions inventories.³⁷⁴ However, as long as exemptions for excess emissions during SSM events have the effect of making such excess emissions not be violations and thus not reportable as violations, it will be difficult for air agencies to have confidence that they have sufficient knowledge of the magnitude, location and timing of such emissions as would be needed to accurately account for those emissions in attainment demonstrations, especially for NAAQS with averaging periods of one day or less. The EPA has promulgated emissions inventory reporting rules, but these rules apply requirements to air agencies rather than to the sources that would have actual knowledge of startup and shutdown events and emissions. To make a complying inventory data submission to the EPA, an air agency does not have to obtain from sources information on the magnitude and timing of emissions during SSM events for which an exemption applies, and to the EPA's knowledge most air agencies do not obtain this information. The EPA's emissions inventory rules require the reporting of historical annual-total emissions only (and in some areas "typical" seasonal and/or daily emissions for certain pollutants), not day-to-day emissions. Actual emissions during SSM events should be included in these annual emissions. While data formats are available from the EPA to allow a state to segregate the total annual emissions during SSM events

³⁷⁴ For example, *see* "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," Appendix B, August 2005, EPA–454/R–05–001. A recent draft EPA guidance on the preparation of emissions inventories for attainment demonstrations recognizes that, in contrast to startup and shutdown emissions, emissions during malfunctions are not predictable and do not need to be included in projected inventories for the future year of attainment. *See* "Draft Emissions Inventory Guidance for Implementation of Ozone [and Particulate Matter]* National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," April 11, 2014, page 62.

from annual emissions during other type of operation, to segregate the emissions is not a requirement and few states do so. Moreover, the EPA's emissions inventory rules require reporting on most sources only on an "every third year" basis, which means that unless an air agency has authority to and does require more information from sources than is needed to meet the air agency's reporting obligation to the EPA, the air agency will not be in a position to know whether and how, between the triennial inventory reports, excess emissions during startup and shutdown may be changing due to variations in source operation and possibly affecting attainment or maintenance. Thus, the EPA's emissions inventory rules provide air agencies only limited leverage in terms of ability to obtain detailed information from sources regarding the extent to which actual emissions during SSM events may be unreported in emissions inventories, due to SIP exemptions. The EPA believes that when exemptions for excess emissions during SSM events are removed from SIPs, thereby making high emissions during SSM events specifically reportable deviations from emission limitations for more sources than now report them as such, it will be easier for air agencies to understand the timing and magnitude of event-related emissions that can affect attainment and maintenance. However, this belief is not the basis for this SIP call action, only an expected useful outcome of it.

Footnote 4 of the EPA's 1999 SSM Guidance suggested that "[s]tates may account for [potential worst-case emissions that could occur during startup and shutdown] by including them in their routine rule effectiveness estimates." This statement in the 1999 document's footnote may seem at odds with the statement in this response that the "rule effectiveness" concept was not meant to embrace excess emissions during startup and shutdown that were allowed because of SIP exemptions. However, the footnote is attached to text that addresses "worst-case" emissions that are higher than allowed by the applicable SIP, because that text speaks about the required demonstration to support a SIP revision containing an affirmative defense for violations of applicable SIP emission limitations. Thus, estimates of such worst-case emissions would reflect the effects of noncompliance, which is within the intended scope of the EPA's "rule effectiveness" guidance. Footnote 4 was not referring to the issue of how to

account for the effect of SSM exemptions.³⁷⁵

Comment: A number of commenters stated their understanding that the EPA has proposed SIP calls as a way of improving air agencies' implementation of EPA-specified requirements in emissions inventory or modeling, and they stated that if this is the EPA's concern then the EPA should address the issue in that context.

Response: To clarify its position, the EPA explains here that while it believes that approvable SIP revisions in response to the proposed SIP calls will have the benefit of providing information on actual emissions during SSM events that can improve emissions inventories and modeling, the availability of this additional information is not the basis for the SIP calls that are being finalized. The EPA believes that it is a fundamental requirement of the CAA that SIP emission limitations be continuous, which therefore precludes exemptions for excess emissions during startup and shutdown.

Comment: An air agency commenter stated that facilities in its state are required to submit data on all annual emissions, including emissions from startup and shutdown operation (and malfunctions), as part of its annual emissions inventory, and that it takes these emissions into consideration as part of SIP development.

Response: The EPA appreciates the efforts of this commenter to develop SIPs that account for all emissions. However, these efforts and whatever degree of success the commenter enjoys do not change the fundamental requirement of the CAA that SIP emission limitations be continuous, which therefore precludes exemptions for excess emissions during startup and shutdown.

Comment: A commenter argued that even to the extent SSM emissions present some level of uncertainty in model-based air quality projections, that uncertainty is small compared to other sources of uncertainty in modeling analyses, and so SSM emissions will not have any significant impact on attainment demonstrations or any underlying air quality modeling analysis.

Response: In support of this very general statement, the commenter provided only its own assessment of its own experience and the similar opinion of unnamed permitting agencies. In any

³⁷⁵ In light of the *NRDC v. EPA* decision, affirmative defense provisions are not allowed in SIPs any longer, so this aspect of the 1999 SSM Guidance is no longer relevant.

case, this SIP call action is not based on any EPA determination about how modeling uncertainties due to SSM exemptions in SIPs compare to other modeling uncertainties.

20. Comments that exemptions for excess emissions during SSM events are not a concern with respect to PSD and protection of PSD increments.

Comment: Commenters asserted that the EPA has not adequately explained the basis for its concerns about the impact of emissions during SSM events on PSD increments.

Response: The EPA disagrees. As explained in detail in the background memorandum included in the docket for this rulemaking,³⁷⁶ CAA section 110(a)(2)(C) requires that a state's SIP must include a PSD program to meet CAA requirements for attainment areas.³⁷⁷ In addition, section 161 explains that "[e]ach [SIP] shall contain emission limitations and such other measures as may be necessary . . . to prevent significant deterioration of air quality for such region . . . designated . . . as attainment or unclassifiable." Specifically, each SIP is required to contain measures assuring that certain pollutants do not exceed designated maximum allowable increases over baseline concentrations.³⁷⁸ These maximum allowable increases are known as PSD increments. Applicable EPA regulations require states to include in their SIPs emission limitations and such other measures as may be necessary in attainment areas to assure protection of PSD increments.³⁷⁹ Authorizing sources in attainment areas to exceed SIP emission limitations during SSM events compromises the protection of these increments.

The commenters' concerns seem to be focused on PSD permitting for individual sources rather than on emission limitations in SIPs. The commenters asserted that the EPA already adequately accounts for all emissions during SSM events when calculating the baseline and increment consumption and expressed concern about the potential for "double counting" of emissions by counting them both toward the baseline and against increment. The EPA agrees that

³⁷⁶ See Memorandum, "Statutory, Regulatory, and Policy Context for this Rulemaking," February 4, in the rulemaking docket at EPA-HQ-OAR-2012-0322-0029.

³⁷⁷ "Each implementation plan . . . shall . . . include a program to provide for . . . regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that [NAAQS] are achieved, including a permit program as required in . . . part C." CAA section 110(a)(2)(C).

³⁷⁸ CAA section 163.

³⁷⁹ See 40 CFR 51.166(c).

emissions should not be double-counted and has regulatory requirements in place to ensure that emissions are either attributed to the baseline or counted against increment but not both.³⁸⁰ Nevertheless, permitting agencies base their calculations of both the baseline and increment consumption on air quality data representing actual emissions from sources.³⁸¹ As explained more fully in the background memorandum accompanying the February 2013 proposal, the EPA is concerned that as a result of SSM exemptions in SIPs, inventories of actual emissions often do not include an accurate accounting of excess emissions that occur during SSM events. Moreover, the models used to calculate increment consumption typically assume continuous source compliance with applicable emission limitations.³⁸² Authorizing exceedances of emission limitations during SSM events would compromise the accuracy of the projections made by these models. Accurate calculations of the baseline and increment consumption rely on the correct accounting of all emissions, including those occurring during SSM events. Without accurate data, the EPA cannot be certain that state agencies are calculating baseline or increment consumption correctly or that increments in attainment areas are not being exceeded. For the foregoing reasons, the EPA is concerned that SSM exemptions in SIPs compromise the ability of the PSD program to protect air quality increments.

21. Comments that because ambient air quality has improved over the duration of the CAA through various regulatory programs such as the Acid Rain Program, this disproves that SIP provisions including exemptions for excess emissions during SSM events pose any concerns with respect to

protection of public health and the environment.

Comment: Industry commenters claimed that because ambient air quality data show that air quality has been consistently improving over a period of years, this proves that exemptions for emissions during SSM events do not impede the ability of areas to attain and maintain the NAAQS. The commenters provided a chart showing percentage reduction in emissions of the various NAAQS pollutants ranging from 52 percent reduction in NO_x between 1980 and 2010 to 83 percent reduction in direct PM₁₀ emissions for that same time period. The commenters further claimed that a significant portion of the recent emissions reductions have been achieved by electric utilities. The commenters also provided charts and graphs showing reductions in pollutants under the CAA Acid Rain Program. The commenters further claimed that the states in which they operate—Alabama, Florida, Georgia, Mississippi and North Carolina—are meeting the NAAQS, with isolated exceptions. The commenters further stated that, although the EPA recently has promulgated several new NAAQS, the attainment plans for those standards are not yet due, and thus the new standards cannot justify the SIP call. The commenters concluded by noting that the states' success in achieving the various NAAQS, even as the NAAQS have been strengthened, demonstrates that the existing SSM exemptions in SIP provisions identified by the EPA do not “place the NAAQS at risk.” Regarding visibility, the commenters noted that plans to show progress in meeting the regional haze goal were due in 2013 and that evidence shows that visibility is also improving notwithstanding the existing SSM exemptions.

Response: The EPA agrees that many areas in the U.S. have made great strides in improving ambient air quality under the CAA. However, excess emissions from sources during SSM events have the potential to undermine that progress and are also inconsistent with the requirements of the CAA, as discussed elsewhere in the February 2013 proposal and in this final action. The EPA notes that the fact that an area has attained the NAAQS does not demonstrate that emissions during SSM events do not have the potential to undermine attainment or maintenance of the NAAQS, interfere with protection of PSD increments or interfere with visibility. For certain pollutants, such as lead or SO₂, a single source could have a single SSM event that could cause an exceedance of the NAAQS that would otherwise not have occurred. It is

through its SIP that a state demonstrates that it has in place an air quality management program that will attain and maintain the NAAQS on an ongoing basis, and so it is critical that the state, through its SIP provisions, can ensure that emissions during normal source operation including startup and shutdown events do not exceed levels relied on for purposes of developing attainment and maintenance plans. Similarly, SIP provisions designed to protect visibility must also meet requirements of the CAA, and exemptions for emissions during SSM events would likewise have the potential to undermine visibility objectives of the CAA. Thus, it is not appropriate to exempt emissions during these SSM events from compliance with emission limitations in SIPs. As explained in this final action, the state has flexibility in choosing how to regulate source during these periods of operation, and sources do not necessarily have to be subject to the same numerical emissions limitations or the same other control requirements during startup and shutdown that apply during other modes of operation. However, SIP emission limitations must be continuous, and thus sources must be subject to requirements that apply at all times including during startup and shutdown.

22. Comments that the EPA's position that SIP provisions such as automatic exemptions for excess emissions during SSM events hinder effective enforcement for violations is incorrect, because there have been a number of citizen suits brought under the CAA.

Comment: According to industry commenters, the EPA's argument that deficient SIP provisions concerning emissions during SSM events limit enforcement of violations of emissions limitations under sections 113 and 304 is inaccurate, because “the facts show that SSM provisions do not preclude or hinder enforcement of any CAA requirements.” The commenters provided a list of “recent” enforcement actions and asserted that “[t]he sheer number of cases demonstrates that the existing regulations provide ample opportunity for enforcement.” The commenters cited to litigation brought by citizen groups that the commenters asserted has resulted in settlements including “injunctive relief and supplemental environmental projects (“SEPs”) worth tens of millions, if not hundreds of millions, of dollars.” The commenters also cited to one example to suggest that “whereas EPA and/or States may use enforcement discretion” in certain types of cases, “citizen groups do not.”

³⁸⁰ See 40 CFR 51.166 and 52.21.

³⁸¹ See CAA section 169(4) (defining baseline concentration); 40 CFR 51.166(b)(13)(i) (setting forth what is included in baseline concentration); 40 CFR 52.21(b)(13)(i) (same). The **Federal Register** document promulgating the revised PSD regulations also explained this point. In that document, the EPA explained, “[B]aseline concentrations reflect actual air quality in an area. Increment consumption or expansion is directly related to baseline concentration. Any emissions not included in the baseline are counted against the increment. The complementary relationship between the concepts supports using the same approach for calculating emissions contributions to each.” 45 FR 52676, 52718 (August 7, 1980). “Actual emissions” is defined in 40 CFR 51.166(b)(21)(i) and 52.21(b)(21)(i).

³⁸² See 45 FR 52717 (“increment consumption and expansion should be based primarily on actual emissions increases and decreases, which can be presumed to be allowable emissions for sources subject to source-specific emissions limitations.”).

Response: The EPA disagrees with the commenters' logic that the mere existence of enforcement actions negates the concern that deficient SIP provisions interfere with effective enforcement of SIP emission limitations. The EPA believes that deficient SIP provisions can interfere with effective enforcement by air agencies, the EPA and the public to assure that sources comply with CAA requirements, contrary to the fundamental enforcement structure provided in CAA sections 113 and 304. For example, automatic or discretionary exemption provisions for excess emissions during SSM events by definition completely eliminate the possibility of enforcement for what may otherwise be clear violations of emissions limitations during those times. Affirmative defense provisions purport to alter or eliminate the statutory jurisdiction of courts to determine liability or to impose remedies for violations. These types of provisions eliminate the opportunity to obtain injunctive relief or penalties that may be needed to ensure appropriate efforts to design, operate and maintain sources so as to prevent and to minimize excess emissions, protect the NAAQS and PSD increments and meet other CAA requirements. Similarly, the exemption of sources from liability for excess emissions during SSM events eliminates incentives to minimize emissions during those times. These exemptions thus reduce deterrence of future violations from the same sources or other sources during these periods.

In the February 2013 proposal, the EPA discussed in detail an enforcement case that illustrates and supports the Agency's position.³⁸³ In that case, citizen suit plaintiffs sought to bring an enforcement action against a source for thousands of self-reported exceedances of emission limitations in the source's operating permit. The source asserted that those exceedances were not "violations," through application of a permit provision that mirrored an underlying Georgia SIP provision. The U.S. Court of Appeals for the Eleventh Circuit (Eleventh Circuit) ultimately determined that the provision created an "affirmative defense" for SSM emissions that shielded the source from liability for numerous violations. The court noted that even if the approved provision in Georgia's SIP was inconsistent with the EPA's guidance on the proper treatment of excess emissions during SSM events, the defendant could rely on the provision because the EPA had not taken action through

rulemaking to rectify any discrepancy.³⁸⁴ In this final action on the Petition, the EPA has determined that the specific SIP provision at issue in that case is deficient for several reasons. Had that deficient SIP provision not been in the SIP at the time of the enforcement action, then the provision would not have had any effect on the outcome of the case. Instead, the courts would have evaluated the alleged violations and imposed any appropriate remedies consistent with the applicable CAA provisions, rather than in accordance with the SIP provision that imposed the state's enforcement discretion preferences on other parties contrary to their rights under the CAA.

As the outcome of this case demonstrates, the mere fact that a number of enforcement actions have been filed does not mean that the deficient SIP provisions identified by the EPA in this SIP call action do not hinder effective enforcement under sections 113 and 304. To the contrary, that case illustrates exactly how conduct that might otherwise be a clear violation of the applicable SIP emission limitations by a source was rendered immune from enforcement through the application of a provision that operated to excuse liability for violations and potentially allowed unlimited excess emissions during SSM events.

The commenters cited 15 other enforcement cases brought by government and citizen groups over a span of 17 years, but the commenters do not indicate whether any SIP provisions relevant to emissions during SSM events were involved, nor do the commenters indicate whether any provisions at issue in this SIP call action were involved in any of the enforcement cases it cited.³⁸⁵ Even if an enforcement action has been initiated, the EPA's fundamental point remains: SIP provisions that exempt what would otherwise be a violation of SIP

³⁸⁴ See *Sierra Club v. Georgia Power Co.*, 443 F.3d 1346 (11th Cir. 2006).

³⁸⁵ Even if these cases did all involve SIP provisions relevant to SSM events, the sampling of cases cited by the commenter still do not prove the commenter's point. The commenter indicated that 11 of the 15 cited cases resulted in settlement. The EPA presumes that neither party admitted any fault in these settlements and it remains unknown whether the court would have found the existence of a violation. In addition, because these cases were settled, it is unknown whether exemption or affirmative defense provisions would have prevented the court from finding liability for violation of a CAA emissions limitation that would otherwise have applied. In one additional case cited by the commenter, the court determined that the defendant successfully asserted an affirmative defense to alleged violations of a 6-minute 40-percent opacity limit. The outcome of this case evidently supports the EPA's concerns about the impacts of such provisions.

emissions limitations can undermine effective enforcement during times when the CAA requires continuous compliance with such emissions limitations. By interfering with enforcement, such provisions undermine the integrity of the SIP process and the rights of parties to seek enforcement for violation of SIP emission limitations.

A number of commenters on the February 2013 proposal indicated that, from their perspective, a primary benefit of automatic or discretionary exemptions in SIP provisions applicable to emissions during SSM events is to shield sources from liability. Similarly, commenters on the SNPR indicated that, from their perspective, a key benefit of affirmative defense provisions is to prevent what is in their opinion inappropriate enforcement action for violations of SIP emission limitations during SSM events. The EPA does not agree that the purpose of SIP provisions should be to preclude or impede effective enforcement of SIP emission limitations. To the contrary, the potential for enforcement for violations of CAA requirements is a key component of the enforcement structure of the CAA. To the extent that commenters are concerned about inappropriate enforcement actions for conduct that is not in violation of CAA requirements, the EPA believes that the sources already have the ability to defend against any such invalid claims in court.

23. Comments that the EPA's alleged inclusion of "exemptions" or "affirmative defenses" in enforcement consent decrees negates the Agency's interpretation of the CAA to prohibit them in SIP provisions.

Comment: One industry commenter claimed that the EPA has itself recently promulgated an exemption for emissions during SSM events. The commenter cited an April 1, 2013, settlement agreement in a CAA enforcement case against Dominion Energy as an example. According to the commenter, this settlement agreement "provides allowances for excess emissions during startup and shutdown" and "allows an EGU to operate without the ESP when it is not practicable." The commenter characterized this as the creation of an exemption from the applicable emission limitations during startup and shutdown. The commenter further alleged that the settlement agreement "provides for an affirmative defense to stipulated penalties for excess emissions occurring during start up and shutdown." The commenter intended the fact that the EPA agrees to this type

³⁸³ See February 2013 proposal, 78 FR 12459 at 12504-05.

of provision in an enforcement settlement agreement to establish that affirmative defense provisions must also be valid in SIP provisions so that sources can assert them in the event of any violation of SIP emission limitations.

Response: The EPA disagrees with the commenter concerning the EPA's purported creation of exemptions for SSM events in enforcement consent decrees or settlement agreements. Consent decrees or settlement agreements negotiated by the EPA to resolve enforcement actions do not raise the same concerns as automatic exemptions for excess emissions during SSM periods or any other provisions that the EPA has found substantially inadequate in this SIP call action.

The EPA has the authority to enter consent decrees and settlement agreements in its enforcement cases and uses this discretion to resolve these cases. Settlements aim to achieve the best possible result for a given case, taking into account its specific circumstances and risks, but are still compromises between the parties to the litigation.

The EPA also disagrees with comments that attempt to equate affirmative defense provisions in SIPs with affirmative defense clauses that the EPA and defendants agree to contractually in a consent decree or settlement agreement to resolve an enforcement case. Some consent decrees and settlement agreements that the EPA enters into contain provisions referred to as "affirmative defenses" that apply only with respect to whether a source must pay stipulated penalties specified in the consent decree or settlement agreement. However, the EPA does not believe these agreements are counter to CAA requirements. The provisions in these contractual agreements are distinguishable from affirmative defense provisions in SIPs for excess emissions during SSM events. Affirmative defenses to stipulated penalties apply only in the limited context of violations of the contract terms of the consent decree or settlement agreement.

Significantly, these affirmative defense provisions apply only to the stipulated penalties of the consent decree or settlement agreement and do not carry over for incorporation into the source's permit. Most importantly, these affirmative defense provisions do not affect the penalty for violations of CAA requirements in general or of SIP emission limitation violations in particular. Further, a consent decree is itself a court order, and where these provisions have been used in a consent decree they are sanctioned by the court

and cannot be seen as a compromise of the court's own jurisdiction or authority. Indeed, the specific consent decree cited by the commenter contains exactly these types of "affirmative defense" provisions that are applicable only to the stipulated penalties imposed contractually by the consent decree and that do not operate to create any other form of affirmative defense applicable more broadly.

The EPA's use of these provisions in enforcement consent decrees or settlement agreements is not inconsistent with the EPA's interpretation of the CAA to preclude such provisions in SIPs. The EPA interprets the CAA to preclude such affirmative defenses in SIP provisions because they purport to alter or eliminate the jurisdiction of courts to find liability or to impose remedies for CAA violations in the event of judicial enforcement. No such concern is presented by the types of provisions in consent decrees or settlement agreements raised by the commenters, because the terms of such agreements must be approved and sanctioned by a court.

24. Comments that the EPA should provide more than 18 months for the SIP call because state law administrative process can take longer than that.

Comment: Several state and industry commenters claimed that states will need longer than 18 months to submit SIPs in response to a SIP call. One state commenter argued generally that more time is needed for the state to "change rules and submit a proposed SIP revision" but did not provide any detail on how much more time is needed. The commenter concluded that a "total of five years" is needed for both the state to complete its actions and for facilities "to change operating procedures or add hardware." Another state commenter claimed states would need at least 3 years to submit revised plans and cited to 40 CFR 51.166(a)(6) as providing a 3-year window for submission of SIP revisions.

An industry commenter asserted that it has taken EPA numerous years to address the startup and shutdown provisions in its own MACT standards and that states will need a similar amount of time to "unspool" the SSM provisions from SIP emission limitations and replace them with new requirements. The commenter pointed to the difficulty of modifying multiple permits and source-specific or source-category specific regulations. The commenter urged the EPA to provide much more time than the 18 months allowed by statute for a SIP call through

"a transition period of a reasonable length far exceeding 48 months."

Another industry commenter stated that more time is necessary but recognized that the maximum statutory period is 18 months. The commenter supported the EPA's providing states with the full 18 months to submit SIP revisions, because that time is needed in order for the states to undertake the necessary technical analyses to support the SIP revisions and in order to allow for the state rulemaking processes.

Response: The EPA recognizes that rule development and the associated administrative processes can be complex and time-consuming for states and for the Agency. Thus, the EPA is providing the maximum period allowed under CAA section 110(k)(5)—18 months—for states to submit SIP revisions in response to the SIP call. The EPA does not have authority under the statute to provide states with a longer period of time to submit these SIP submissions. To assist states in responding to this SIP call, the EPA is providing updated and comprehensive guidance concerning CAA requirements applicable to SIP provisions with respect to emissions during SSM events. Ideally, this guidance will allow states and the EPA to address the existing deficiencies as efficiently as possible, given the statutory schedules applicable to both states and the Agency.

The commenter who cited to 40 CFR 51.166(a)(6) is incorrect that it provides authority for the EPA to grant states 3 years to correct SIPs in response to a SIP call. The regulatory provision cited by the commenter is part of the EPA's regulations for the PSD program and simply provides that if the EPA amends that section of the PSD regulations, then a state will have 3 years to make a SIP submission to revise its SIP to meet the new PSD requirements in response to such amendments. This final action does not amend the PSD regulations and 40 CFR 51.166(a)(6) is not implicated. Under CAA section 110(k)(5), the EPA is only authorized to provide a maximum period of 18 months for states to submit SIP revisions to rectify the SIP deficiencies.

25. Comments that EPA should issue an interim enforcement policy, with respect to enforcement between the time that states revise SIP requirements and source permits are revised to reflect those changes.

Comment: One commenter argued that if the EPA finalizes the proposed SIP call for provisions applicable to emissions during SSM events, it will take state regulators a significant period of time to "disaggregate" the effect of those deficient provisions on various

other SIP provisions and the requirements of source operating permits. Because these corrections to SIP provisions and permit requirements will take time to occur, the commenter asserted that “a transition period of reasonable length far exceeding 48 months will be needed to shield industry from enforcement.” The commenter thus requested that the EPA impose such a transition period. In addition, the commenter suggested that the EPA should create “an interim enforcement policy” to shield sources and allow reliance on affirmative defense provisions “even after SIPs are corrected until permits reflect those changes.” The commenter posed this request based upon concern that there will be industry confusion concerning what requirements apply to individual sources until permits are revised to reflect the correction of the deficient SIP provisions.

Response: The EPA agrees with the commenter that it will take time for states to make the necessary SIP revisions in response to this SIP call, for the EPA to evaluate and act upon those SIP submissions and subsequently for states or the Agency to revise operating permits in the ordinary course to reflect the corrected state SIPs. As explained in the February 2013 proposal, the EPA consciously elected to proceed via its SIP call authority under section 110(k)(5) and to provide the statutory maximum of 18 months for the submission of corrective SIP revisions. The EPA chose this path specifically in order to provide states with time to revise their deficient SIP provisions correctly and in the manner that they think most appropriate, consistent with CAA requirements. The EPA also explicitly acknowledged that during the pendency of the SIP revision process, and during the time that it will take for permit terms to be revised in the ordinary course, sources will remain legally authorized to emit in accordance with current permit terms.³⁸⁶

The EPA is in this final action reiterating that the issuance of the SIP call action does not automatically alter any provisions in existing operating permits. By design, sources for which emission limitations are incorporated in permits will thus have a *de facto* transition period during which they can take steps to assure that they will ultimately meet the revised SIP provisions (e.g., by changing their equipment or mode of operation to meet an appropriate emission limitation that applies during startup and shutdown

instead of relying on exemptions). Sources subject to permit requirements will thus have yet more time (beyond the 18 months allowed for the SIP revision in response to this SIP call action) over the permit review cycle to take steps to meet revised permit terms reflecting the revised SIP provisions. However, the EPA does not agree with the commenter that there is a need for a “transition period” to “shield” sources from enforcement. The EPA’s objective in this action is to eliminate impermissible SIP provisions that exempt emissions during SSM events or otherwise interfere with effective enforcement for violations that occur during such events. Further delaying the time by which sources will be expected to comply with SIP provisions that are consistent with CAA requirements is inappropriate. Moreover, the primary purpose of SIP provisions is not to shield sources from liability for violations of CAA requirements but rather to assure that sources are required to meet CAA requirements.

The EPA shares the commenter’s concern that there is the potential for confusion on the part of sources or other parties in the interim period between the correction of deficient SIP provisions and the revision of source operating permits in the ordinary course. However, the EPA presumes that most sources required to have a permit, especially a title V operating permit, are sufficiently sophisticated and aware of their legal rights and responsibilities that the possibility for confusion on the part of sources should be very limited. Likewise, by making clear in this final action that sources will continue to be authorized to operate in accordance with existing permit terms until such time as the permits are revised after the necessary SIP revision, the EPA anticipates that other parties should be on notice of this fact as well. Regardless of the potential for confusion by any party, the EPA believes that the legal principle of the “permit shield” is well known by regulated entities, regulators, courts and other interested parties. Accordingly, the EPA is not issuing any “enforcement policy” in connection with this SIP call action.

26. Comments that a SIP call directing states to eliminate exemptions for excess emissions during SSM events is a “paper exercise” or “exalts form over substance.”

Comment: A number of commenters argued that by requiring states to correct deficient SIP provisions, such as by requiring removal of exemptions for emissions during SSM events, this SIP call action will not result in any environmental benefits. For example,

state commenters claimed that they will not be able simply to revise regulations to eliminate startup and shutdown exemptions. Instead, the commenters claimed, the states will need to revise the emissions limitations completely in order to take into account the EPA’s interpretation of the CAA that such exemptions are impermissible. The commenters asserted that rewriting the state regulations will produce no reduction in emissions or improvement in air quality and will merely impose burdens upon states to change existing regulations. The implication of the commenters’ argument is that states will merely revise SIP emission limitations to allow the same amount of emissions during SSM events by some other means, rather than by establishing emission limitations that would encourage sources to be designed, operated and maintained in a fashion that would better control those emissions.

Response: The EPA does not agree with the commenters’ assertion that revisions to the affected SIP provisions in response to this SIP call action will produce no emissions reductions or improvements in air quality. The EPA recognizes that some states may elect to develop revised emission limitations that provide for alternative numerical limitations, control technologies or work practices applicable during startup and shutdown that differ from requirements applicable during other modes of source operation. Other states may elect to develop completely revised emission limitations and elevate the level of the numerical emission limitation that applies at all times to account for greater emissions during startup and shutdown. However, any such revised emission limitations must comply with applicable substantive CAA requirements relevant to the type of SIP provision at issue, e.g. be RACM and RACT for sources located in nonattainment areas, and must meet other requirements for SIP revisions such as in sections 110(k)(3), 110(l) and 193.

The EPA believes that revision of the existing deficient SIP provisions has the potential to decrease emissions significantly in comparison to existing provisions, such as those that authorize unlimited emissions during startup and shutdown. Elimination of automatic and director’s discretion exemptions for emissions during SSM events should encourage sources to reduce emissions during startup and shutdown and to take steps to avoid malfunctions. Elimination of inappropriate enforcement discretion provisions and affirmative defense provisions should

³⁸⁶ See February 2013 proposal, 78 FR 12459 at 12482.

provide increased incentive for sources to be properly designed, operated and maintained in order to reduce emissions at all times. The EPA also anticipates that revision of older SIP emission limitations in light of more recent technological advances in control technology, and in light of more recent NAAQS, has the potential to result in significant emission control and air quality improvements. In any event, by bringing these provisions into compliance with CAA requirements, the EPA believes that the resulting SIP provisions will support the fundamental integrity of the SIP process and structure, both substantively and with respect to enforceability.

27. Comments that the EPA should make its interpretation of the CAA with respect to SSM exemptions applicable only “prospectively” and not require states to correct existing deficient provisions.

Comment: Commenters argued that the EPA should not issue a SIP call to states for existing SIP provisions and should only require states to comply with its interpretations of the CAA “prospectively.” One commenter argued that the SIP provisions at issue in this SIP call action were approved by the EPA in the past and have largely been “upheld through several EPA refinements and guidance on SSM since then.” The commenter estimated that the proposed SIP call would require states to reestablish emission limits for thousands of existing sources or could require existing sources to comply with emission limitations that did not originally take into account emissions during SSM events. The commenter characterized the EPA’s action on the Petition as a change of policy with which the EPA should only require states to meet prospectively, putting states “on notice” that the EPA will evaluate future SIP submissions under a different test applicable only to new sources going forward.

Other commenters argued that the EPA cannot require states to revise their SIP provisions if this would have the effect of making existing sources have to comply with the revised SIP. According to the commenters, existing sources should be “grandfathered” and should not have to change their control strategies or modes of operation to meet the revised SIP requirements. The commenters asserted that issuance of a SIP call without grandfathering existing sources would “retroactively” require sources to comply with the new SIP provisions and “suddenly” render sources noncompliant, even though they were in compliance with the SIP when they were originally designed, financed

and built. The commenter claimed that the SIP call would “change the legal structure for commercial transactions that have already taken place.” The thrust of the commenters’ argument is that sources, once built, should never be subjected to any additional pollution control requirements once they are in existence.

Response: The EPA disagrees with the commenters’ suggestions for multiple reasons. At the outset, the EPA notes that the only significant actual “change” in the Agency’s SSM Policy in this action is the determination that affirmative defense provisions are not permissible in SIP provisions. Since the 1999 SSM Guidance, the EPA had interpreted the CAA to allow such affirmative defense provisions, so long as they were limited only to civil penalties and very narrowly drawn consistent with criteria recommended by the Agency. As fully explained in section IV of this document, however, the EPA has determined in light of the court’s decision in *NRDC v. EPA* that the CAA does not permit SIP provisions that operate to alter or eliminate the jurisdiction of the courts to determine liability and impose remedies in judicial enforcement actions.³⁸⁷ In other respects, this action primarily consists of the EPA’s taking action to assure that SIP provisions are consistent with the CAA as the Agency has interpreted it in the SSM Policy for many years.

In addition, it is not appropriate for the EPA to allow states to retain deficient SIP provisions that would continue to excuse existing sources from complying with the revised SIP provisions in perpetuity or that would only require that future sources comply with such revised SIP provisions. The commenters advocate for “grandfathering” that would authorize current sources to continue to operate under existing deficient SIP provisions (e.g., with exemptions for SSM emissions or with affirmative defense provisions) while requiring only new sources to comply with revised SIP provisions that meet CAA requirements. The EPA understands the practical reasons why the commenters make this suggestion, but such an approach would be grossly unfair both to new sources and to the communities affected by emissions from the old sources, as well as flatly inconsistent with the

³⁸⁷ The EPA notes, however, that many of the affirmative defense type provisions at issue in this action were also not consistent with the Agency’s interpretation of the CAA in the 1999 SSM Guidance. Thus, even in the absence of the *NRDC v. EPA* decision, these provisions were not consistent with the EPA’s prior interpretation of the CAA for such provisions.

requirements of the CAA for SIP provisions. Existing sources will not be required to comply with the revised SIP emission limitations until the SIPs are updated, and if they are subject to permit requirements the sources may continue to operate consistent with those permits until the operating permits are revised to reflect the revised SIP requirements, but after that time current sources will be required to comply. Thus, sources will not immediately be in noncompliance with any requirements. The EPA has authority to issue a SIP call at any time that it determines a SIP provision is substantially inadequate, even if it mistakenly thought that the SIP provision was adequate at some time in the past. Sources will be on notice of the SIP call and the state’s administrative process to respond to it long before they will be required to comply with a revised SIP provision, and those sources will have ample opportunity to participate in the rulemakings establishing new requirements at both the state and federal level.

Finally, the EPA notes, the need for states to establish new emission limitations and change permit terms for many sources should not be viewed as an unusual occurrence. The need to reexamine existing SIP provisions and permit terms applicable to sources in response to this SIP call action is comparable to the process that states would undertake to update their SIPs as necessary to meet new and evolving CAA requirements, including future revised NAAQS. For example, under section 110(a)(1) and section 110(a)(2) states are already required to reexamine and potentially to revise their SIP provisions whenever the EPA promulgates a new or revised NAAQS. States already need to reexamine emission limitations required by section 110(a)(2)(A) and other relevant sections of the CAA in their SIPs on a regular basis as the NAAQS are revised (e.g., the potential need to revisit what is RACT for a specific source category with respect to a new NAAQS), as new legal requirements are created (e.g. the potential need to address interstate transport including compliance with any applicable FIP addressing a SIP deficiency with respect to this issue), or as new emissions control technologies are developed (e.g., what is RACT for a pollutant may evolve with technological developments). Thus, as a general matter, states already engage in periodic review of their SIP provisions on a regular basis, and the potential need to update the emissions limitations applicable to sources and thereafter the

need to update the permits applicable to those sources is part of that process. This SIP call action simply directs the affected states to address specific deficiencies in their SIP provisions as part of this normal evolutionary process.

28. Comments that directing states to correct their existing SIP provisions will require many sources to change terms of their operating permits.

Comment: A number of commenters opposed the February 2013 proposal because of the administrative burden the action would impose on air agencies and sources. Commenters asserted that requiring states to remove affirmative defense provisions for startup and shutdown from SIPs and to develop alternative emission limitations for such periods of operation instead is unreasonable. Other commenters argued that requiring removal of the deficient SIP provisions would impose enormous and time-consuming burdens on permitting authorities and the regulated community associated with the development of new or revised emissions limitations for startup and shutdown, the revision of SIPs and the revision of permits to incorporate such revised emission limitations. Another commenter asserted that sources only accepted numerical limits in permits with the understanding that they also had the benefit of affirmative defenses in the event of exceedances of those numerical emission limits during periods of SSM. The commenter thus argued that sources would seek to revise the permit limits in order to account for the absence of such affirmative defenses.

Response: The EPA acknowledges the concerns raised by commenters concerning the need for air agencies to revise the deficient SIP provisions at issue in this action, as well as the need for the EPA to review the resulting SIP revisions. The EPA does not agree, however, with the commenters' argument that the need for these administrative actions is a justification for leaving the deficient provisions unaddressed.

The EPA also acknowledges that the SIP revisions initiated by this SIP call action will result in the removal of deficient provisions such as automatic and discretionary SSM exemptions, overly broad enforcement discretion provisions and affirmative defense provisions. These SIP revisions will ultimately need to be reflected in revised operating permit terms for sources. This SIP call action will not, however, have an automatic impact on any permit terms and conditions, and the resource burden to revise permits will be spread over many years. After a

state makes the necessary revisions to its SIP provisions, any needed revisions to operating permits to reflect the revised SIP provisions will occur in the ordinary course as the state issues new permits or reviews and revises existing permits. For example, in the case of title V operating permits, permits with more than 3 years remaining will be reopened to add new applicable requirements within 18 months of the promulgation of the requirements. If a permit has less than 3 years remaining, the new applicable requirement will be added at renewal.³⁸⁸

IX. What is the EPA's final action for each of the specific SIP provisions identified in the Petition or by the EPA?

A. Overview of the EPA's Evaluation of Specific SIP Provisions

In reviewing the Petitioner's concerns with respect to the specific SIP provisions identified in the Petition, the EPA notes that most of the provisions relate to a small number of common issues. Many of these provisions are as old as the original SIPs that the EPA approved in the early 1970s, when the states and the EPA had limited experience in evaluating the provisions' adequacy, enforceability and consistency with CAA requirements.

In some instances the EPA does not agree with the Petitioner's reading of the provision in question, or with the Petitioner's conclusion that the provision is inconsistent with the requirements of the CAA. However, given the common issues that arise for multiple states in the Petition as well as in the EPA's independent evaluation, there are some overarching conceptual points that merit discussion in general terms. Thus, this section IX.A of the document provides a general discussion of each of the overarching points, including a summary of what the EPA proposed to determine with respect to the relevant SIP provisions collectively. The EPA received comments on the proposed determinations from affected states, the Petitioner and other commenters. A detailed discussion of the comments received with the EPA's responses is provided in the Response to Comment document available in the docket for this rulemaking.

Sections IX.B through IX.K of this document name the specific SIP provisions identified in the Petition or by the EPA, including a summary of what the EPA proposed and followed by the EPA's stated final action with respect to each SIP provision.

³⁸⁸ See 40 CFR 70.7(f)(1)(i).

1. Automatic Exemption Provisions

A significant number of provisions identified by the Petitioner pertain to existing SIP provisions that create automatic exemptions for excess emissions during periods of SSM. Some of these provisions also pertain to exemptions for excess emissions that occur during maintenance, load change or other types of normal source operation. These provisions typically provide that a source subject to a specific SIP emission limitation is exempted from compliance during SSM, so that the excess emissions are defined as not violations. Most of these provisions are artifacts of the early phases of the SIP program, approved before state and EPA regulators recognized the implications of such exemptions. Whatever the genesis of these existing SIP provisions, however, these automatic exemptions from emission limitations are not consistent with the CAA, as the EPA has stated in its SSM Policy since at least 1982.

After evaluating the Petition, the EPA proposed to determine that a number of states have existing SIP provisions that create impermissible automatic exemptions for excess emissions during malfunctions or during startup, shutdown or other types of normal source operation. In those instances where the EPA agreed that a SIP provision identified by the Petitioner contained such an exemption contrary to the requirements of the CAA, the EPA proposed to grant the Petition and accordingly to issue a SIP call to the appropriate state.

2. Director's Discretion Exemption Provisions

Another category of problematic SIP provision identified by the Petitioner is exemptions for excess emissions that, while not automatic, are exemptions for such emissions granted at the discretion of state regulatory personnel. In some cases, the SIP provision in question may provide some minimal degree of process and some parameters for the granting of such discretionary exemptions, but the typical provision at issue allows state personnel to decide unilaterally and without meaningful limitations that what would otherwise be a violation of the applicable emission limitation is instead exempt. Because the state personnel have the authority to decide that the excess emissions at issue are not a violation of the applicable emission limitation, such a decision would transform the violation into a nonviolation, thereby barring enforcement by the EPA or others.

The EPA refers to this type of provision as a “director’s discretion” provision, and the EPA interprets the CAA generally to forbid such provisions in SIPs because they have the potential to undermine fundamental statutory objectives such as the attainment and maintenance of the NAAQS and to undermine effective enforcement of the SIP. As described in sections VII.C and VIII.A.3 of this document, unbounded director’s discretion provisions purport to allow unilateral revisions of approved SIP provisions without meeting the applicable statutory substantive and procedural requirements for SIP revisions. The specific SIP provisions at issue in the Petition are especially inappropriate because they purport to allow discretionary creation of case-by-case exemptions from the applicable emission limitations, when the CAA does not permit any such exemptions in the first instance. The practical impact of such provisions is that in effect they transform an enforcement discretion decision by the state (*e.g.*, that the excess emission from a given SSM event should be excused for some reason) into an exemption from compliance that also prevents enforcement by the EPA or through a citizen suit. The EPA’s longstanding SSM Policy has interpreted the CAA to preclude SIP provisions in which a state’s exercise of its own enforcement discretion bars enforcement by the EPA or through a citizen suit. Where the EPA agreed that a SIP provision identified by the Petitioner contained such a discretionary exemption contrary to the requirements of the CAA, the EPA proposed to grant the Petition and to call for the state to rectify the problem.

3. State-Only Enforcement Discretion Provisions

The Petitioner identified existing SIP provisions in many states that ostensibly pertain to parameters for the exercise of enforcement discretion by state personnel for violations due to excess emissions during SSM events. The EPA’s SSM Policy has consistently encouraged states to utilize traditional enforcement discretion within appropriate bounds for such violations and, in the 1982 SSM Guidance, explicitly recommended criteria that states might consider in the event that they elected to formalize their enforcement discretion with provisions in the SIP. The intent has been that such enforcement discretion provisions in a SIP would be “state-only,” meaning that the provisions apply only to the state’s own enforcement personnel and not to the EPA or to others.

The EPA determined that a number of states have SIP provisions that, when evaluated carefully, could reasonably be construed to allow the state to make enforcement discretion decisions that would purport to foreclose enforcement by the EPA under CAA section 113 or by citizens under section 304. In those instances where the EPA agreed that a specific provision could have the effect of impeding adequate enforcement of the requirements of the SIP by parties other than the state, the EPA proposed to grant the Petition and to take action to rectify the problem. By contrast, where the EPA’s evaluation indicated that the existing provision on its face or as reasonably construed could not be read to preclude enforcement by parties other than the state, the EPA proposed to deny the Petition, and the EPA invited comment on this issue in particular to assure that the state and the EPA have a common understanding that the provision does not have any impact on potential enforcement by the EPA or through a citizen suit. This process was intended to ensure that there is no misunderstanding in the future that the correct reading of the SIP provision would not bar enforcement by the EPA or through a citizen suit when the state elected to exercise its own enforcement discretion.

In the February 2013 proposal, the EPA noted that another method by which to eliminate any potential ambiguity about the meaning of these enforcement discretion provisions would be for the state to revise its SIP to remove the provisions. Because these provisions are only applicable to the state, the EPA’s view was, and still is, that the provisions need not be included within the SIP. Thus, the EPA supports states that elect to revise their SIPs to remove these provisions to avoid any unnecessary confusion.

4. Affirmative Defense Provisions

The Petitioner asked the EPA to rescind its SSM Policy element that interpreted the CAA to allow SIPs to include affirmative defenses for violations due to excess emissions during any type of SSM events. Related to this request, the Petitioner asked the EPA to find that states with SIPs containing an affirmative defense to monetary penalties for excess emissions during SSM events are substantially inadequate because they do not comply with the CAA. If the EPA were to deny the Petitioner’s request that the EPA revise its interpretation of the CAA, the Petitioner asked that the EPA in the alternative require states with SIPs that contain such affirmative defense provisions to revise them so that they

are consistent with the EPA’s 1999 SSM Guidance for excess emissions during SSM events and to issue a SIP call to states with provisions inconsistent with the EPA’s interpretation of the CAA.

The Petitioner drew no distinction between affirmative defense provisions for malfunctions versus affirmative defense provisions for startup and shutdown or other normal modes of operation. As explained in section IV.B of the February 2013 proposal, the EPA did make such distinction in its proposed response to the Petition, at that time proposing to revise its SSM Policy to reflect an interpretation of the CAA that affirmative defense provisions applicable during startup and shutdown were not appropriate but reasoning that affirmative defense provisions remained appropriate for violations when due to malfunction events. Thus, in the February 2013 proposal, the EPA proposed to issue a SIP call to a state to rectify a problem with an affirmative defense provision only if the provision included an affirmative defense that was applicable to excess emissions during startup and shutdown or included an affirmative defense that was applicable to excess emissions during malfunctions but was inconsistent with the criteria recommended in the EPA’s SSM Policy.

Subsequent to that February 2013 proposal, a federal court ruled that the CAA precludes authority of the EPA to create affirmative defense provisions applicable to private civil suits. The *NRDC v. EPA* decision pertained to a challenge to the EPA’s NESHAP regulations issued pursuant to CAA section 112 to regulate hazardous air pollutants from sources that manufacture Portland cement.³⁸⁹ As explained in detail in section V of the SNPR, the court’s decision in *NRDC v. EPA* compelled the Agency to revise its interpretation of the CAA concerning the legal basis for affirmative defense provisions. As a result, the EPA proposed in the SNPR to further revise its SSM Policy with respect to affirmative defense provisions applicable to excess emissions during SSM events (as described in section V of the SNPR) and to apply its revised interpretation of the CAA to specific provisions in the SIPs of particular states (as described in section VII of the SNPR).

For some of the affirmative defense provisions identified by the Petitioner, the EPA in the SNPR re-proposed granting of the Petition but proposed a revised basis for its proposed findings of inadequacy and SIP calls. For other affirmative defense provisions identified

³⁸⁹ *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014).

by the Petitioner, the EPA in the SNPR reversed its prior proposed denial of the Petition, and it newly proposed findings of inadequacy and SIP calls. Further, for some affirmative defense provisions that were not explicitly identified by the Petitioner, the EPA in the SNPR proposed findings of inadequacy and SIP calls for additional affirmative defense provisions that were not explicitly identified by the Petitioner.

B. Affected States in EPA Region I

1. Maine

As described in section IX.B.1 of the February 2013 proposal, the Petitioner first objected to a specific provision in the Maine SIP that provides an exemption for certain boilers from otherwise applicable SIP visible emission limits during startup and shutdown (06–096–101 Me. Code R. § 3). Second, the Petitioner objected to “exempt emissions occurring during periods of unavoidable malfunction or unplanned shutdown from civil penalty under section 349, subsection 2” (06–096–101 Me. Code R. § 4).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 06–096–101 Me. Code R. § 3 and 06–096–101 Me. Code R. § 4.

Consequently, the EPA proposed to find that 06–096–101 Me. Code R. § 3 and 06–096–101 Me. Code R. § 4 are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to 06–096–101 Me. Code R. § 3 and 06–096–101 Me. Code R. § 4. Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call to Maine to correct its SIP with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Maine SIP that the EPA received and considered during the development of this rulemaking.

2. New Hampshire

As described in section IX.B.2 of the February 2013 proposal, the Petitioner objected to two generally applicable provisions in the New Hampshire SIP that allow emissions in excess of otherwise applicable SIP emission limitations during “malfunction or breakdown of any component part of the

air pollution control equipment.” The Petitioner argued that the challenged provisions provide an automatic exemption for excess emissions during the first 48 hours when any component part of air pollution control equipment malfunctions (N.H. Code R. Env-A 902.03) and further provide that “[t]he director may . . . grant an extension of time or a temporary variance” for excess emissions outside of the initial 48-hour time period (N.H. Code R. Env-A 902.04). Second, the Petitioner objected to two specific provisions in the New Hampshire SIP that provide source-specific exemptions for periods of startup for “any process, manufacturing and service industry” (N.H. Code R. Env-A 1203.05) and for pre-June 1974 asphalt plants during startup, provided they are at 60-percent opacity for no more than 3 minutes (N.H. Code R. Env-A 1207.02).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to N.H. Code R. Env-A 902.03, N.H. Code R. Env-A 1203.05 and N.H. Code R. Env-A 902.04. Also for reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to N.H. Code R. Env-A 1207.02.

Consequently, the EPA proposed to find that N.H. Code R. Env-A 902.03, N.H. Code R. Env-A 1203.05 and N.H. Code R. Env-A 902.04 were substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions. Through comments submitted on the February 2013 proposal, however, the EPA has ascertained that the versions of N.H. Code R. Env-A 902.03 and N.H. Code R. Env-A 902.04 identified in the Petition and evaluated in the February 2013 proposal are no longer in the state’s SIP. In November 2012, the EPA approved a SIP revision that replaced N.H. Code R. Env-A 902.03 and N.H. Code R. Env-A 902.04 with a new version of Env-A 900 that does not contain the deficient provisions identified in the February 2013 proposal.³⁹⁰ These provisions no longer exist for purposes of state or federal law. In addition, the EPA has determined that the version of N.H. Code R. Env-A 1203.05 identified in the Petition and the February 2013 proposal is no longer in the state’s SIP as a result of another SIP revision.³⁹¹ Because

³⁹⁰ See “Approval and Promulgation of Air Quality Implementation Plans; New Hampshire; Reasonably Available Control Technology for the 1997 8-Hour Ozone Standard; Direct final rule,” 77 FR 66388 (November 5, 2012).

³⁹¹ See “Approval and Promulgation of Air Quality Implementation Plans; New Hampshire;

these three provisions are no longer components of the EPA-approved SIP for the state of New Hampshire, the Petition is moot with respect to these provisions and there is no need for a SIP call with respect to these no longer extant provisions.

In this final action, the EPA is denying the Petition with respect to N.H. Code R. Env-A 902.03, N.H. Code R. Env-A 902.04, N.H. Code R. Env-A 1203.05 and N.H. Code R. Env-A 1207.02. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the New Hampshire SIP that the EPA received and considered during the development of this rulemaking.

3. Rhode Island

As described in section IX.B.3 of the February 2013 proposal, the Petitioner objected to a generally applicable provision in the Rhode Island SIP that allows for a case-by-case petition procedure whereby a source can obtain a variance from state personnel under R.I. Gen. Laws § 23–23–15 to continue to operate during a malfunction of its control equipment that lasts more than 24 hours, if the source demonstrates that enforcement would constitute undue hardship without a corresponding benefit (25–4–13 R.I. Code R. § 16.2).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 25–4–13 R.I. Code R. § 16.2.

Consequently, the EPA proposed to find that 25–4–13 R.I. Code R. § 16.2 is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to 25–4–13 R.I. Code R. § 16.2. Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Rhode Island SIP that the EPA received and considered during the development of this rulemaking.

Reasonably Available Control Technology Update To Address Control Techniques Guidelines Issued in 2006, 2007, and 2008; Direct final rule,” 77 FR 66921 (November 8, 2012).

C. Affected State in EPA Region II

New Jersey

As described in section IX.C.1 of the February 2013 proposal, the Petitioner objected to two specific provisions in the New Jersey SIP that allow for automatic exemptions for excess emissions during emergency situations. The Petitioner objected to the first provision because it provides industrial process units that have the potential to emit sulfur compounds an exemption from the otherwise applicable sulfur emission limitations where “[t]he discharge from any stack or chimney [has] the sole function of relieving pressure of gas, vapor or liquid under abnormal emergency conditions” (N.J. Admin. Code 7:27-7.2(k)(2)). The Petitioner objected to the second provision because it provides electric generating units (EGUs) an exemption from the otherwise applicable NO_x emission limitations when the unit is operating at “emergency capacity,” also known as a “MEG alert,” which is statutorily defined as a period in which one or more EGUs is operating at emergency capacity at the direction of the load dispatcher in order to prevent or mitigate voltage reductions or interruptions in electric service, or both (N.J. Admin. Code 7:27-19.1).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to N.J. Admin. Code 7:27-7.2(k)(2). Also for reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to N.J. Admin. Code 7:27-19.1.

Consequently, the EPA proposed to find that N.J. Admin. Code 7:27-7.2(k)(2) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to N.J. Admin. Code 7:27-7.2(k)(2) and denying the Petition with respect to N.J. Admin. Code 7:27-19.1. Accordingly, the EPA is finding that the provision in N.J. Admin. Code 7:27-7.2(k)(2) is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the New Jersey SIP that the EPA received and considered during the development of this rulemaking.

D. Affected States in EPA Region III

1. Delaware

As described in section IX.D.1 of the February 2013 proposal, the Petitioner objected to seven provisions in the Delaware SIP that provide exemptions during startup and shutdown from the otherwise applicable SIP emission limitations. The seven source-specific and pollutant-specific provisions that provide exemptions during periods of startup and shutdown are: 7-1100-1104 Del. Code Regs § 1.5 (Particulate Emissions from Fuel Burning Equipment); 7-1100-1105 Del. Code Regs § 1.7 (Particulate Emissions from Industrial Process Operations); 7-1100-1108 Del. Code Regs § 1.2 (Sulfur Dioxide Emissions from Fuel Burning Equipment); 7-1100-1109 Del. Code Regs § 1.4 (Emissions of Sulfur Compounds From Industrial Operations); 7-1100-1114 Del. Code Regs § 1.3 (Visible Emissions); 7-1100-1124 Del. Code Regs § 1.4 (Control of Volatile Organic Compound Emissions); and 7-1100-1142 Del. Code Regs § 2.3.5 (Specific Emission Control Requirements).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 7-1100-1104 Del. Code Regs § 1.5, 7-1100-1105 Del. Code Regs § 1.7, 7-1100-1108 Del. Code Regs § 1.2, 7-1100-1109 Del. Code Regs § 1.4, 7-1100-1114 Del. Code Regs § 1.3, 7-1100-1124 Del. Code Regs § 1.4 and 7-1100-1142 Del. Code Regs § 2.3.5.

Consequently, the EPA proposed to find that 7-1100-1104 Del. Code Regs § 1.5, 7-1100-1105 Del. Code Regs § 1.7, 7-1100-1108 Del. Code Regs § 1.2, 7-1100-1109 Del. Code Regs § 1.4, 7-1100-1114 Del. Code Regs § 1.3, 7-1100-1124 Del. Code Regs § 1.4 and 7-1100-1142 Del. Code Regs § 2.3.5 are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to 7-1100-1104 Del. Code Regs § 1.5, 7-1100-1105 Del. Code Regs § 1.7, 7-1100-1108 Del. Code Regs § 1.2, 7-1100-1109 Del. Code Regs § 1.4, 7-1100-1114 Del. Code Regs § 1.3, 7-1100-1124 Del. Code Regs § 1.4 and 7-1100-1142 Del. Code Regs § 2.3.1.6 (updated to § 2.3.1.6 from earlier identification as § 2.3.5). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions.

2. District of Columbia

As described in section IX.D.2 of the February 2013 proposal, the Petitioner objected to five provisions in the District of Columbia (DC) SIP as being inconsistent with the CAA and the EPA's SSM Policy. The Petitioner first objected to a generally applicable provision in the DC SIP that allows for discretionary exemptions during periods of maintenance or malfunction (D.C. Mun. Regs. tit. 20 § 107.3). Secondly, the Petitioner objected to the alternative limitations on stationary sources for visible emissions during periods of “start-up, cleaning, soot blowing, adjustment of combustion controls, or malfunction,” (D.C. Mun. Regs. tit. 20 § 606.1) and, for fuel-burning equipment placed in initial operation before January 1977, alternative limits for visible emissions during startup and shutdown (D.C. Mun. Regs. tit. 20 § 606.2). The Petitioner also objected to the exemption from emission limitations for emergency standby engines (D.C. Mun. Regs. tit. 20 § 805.1(c)(2)). Finally, the Petitioner objected to the provision in the DC SIP that provides an affirmative defense for violations of visible emission limitations during “unavoidable malfunction” (D.C. Mun. Regs. tit. 20 § 606.4).

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to D.C. Mun. Regs. tit. 20 § 107.3 and D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2. Also for reasons explained in the February 2013 proposal, the EPA proposed to deny the Petition with respect to D.C. Mun. Regs. tit. 20 § 805.1(c)(2). Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the petition with respect to D.C. Mun. Regs. tit. 20 § 606.4 on the basis that it was not a permissible affirmative defense provision consistent with the requirements of the CAA as interpreted in the EPA's SSM Policy at the time.

Subsequently, for reasons explained in the SNPR, the EPA repropose granting of the Petition with respect to the affirmative defense provision in D.C. Mun. Regs. tit. 20 § 606.4, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that D.C. Mun. Regs. tit. 20 § 107.3, D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2 and D.C. Mun. Regs. tit. 20 § 606.4 are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to D.C. Mun. Regs. tit. 20 § 107.3, D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2 and D.C. Mun. Regs. tit. 20 § 606.4 and is denying the Petition with respect to D.C. Mun. Regs. tit. 20 § 805.1(c)(2). Accordingly, the EPA is finding that the provisions in D.C. Mun. Regs. tit. 20 § 107.3, D.C. Mun. Regs. tit. 20 §§ 606.1 and 606.2 and D.C. Mun. Regs. tit. 20 § 606.4 are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call to the District of Columbia to correct its SIP with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the DC SIP that the EPA received and considered during the development of this rulemaking.

3. Virginia

As described in section IX.D.3 of the February 2013 proposal, the Petitioner objected to a generally applicable provision in the Virginia SIP that allows for discretionary exemptions during periods of malfunction (9 Va. Admin. Code § 5–20–180(G)). First, the Petitioner objected because this provision provides an exemption from the otherwise applicable SIP emission limitations. Second, the Petitioner objected to the discretionary exemption for excess emissions during malfunction because the provision gives the state the authority to determine whether a violation “shall be judged to have taken place.” Third, the Petitioner argued that while the regulation provides criteria, akin to an affirmative defense, by which the state must make such a judgment that the event is not a violation, the criteria “fall far short of EPA policy at the time” and the provision “fails to establish any procedure through which the criteria are to be evaluated.”

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 9 Va. Admin. Code § 5–20–180(G). Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to this provision on the basis that it was not a permissible affirmative defense provision consistent with the requirements of the CAA as interpreted in the EPA’s SSM Policy.

Subsequently, for reasons explained in the SNPR, the EPA re-proposed granting of the Petition with respect to 9 Va. Admin. Code § 5–20–180(G), but it proposed to revise the basis for the

finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that 9 Va. Admin. Code § 5–20–180(G) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to 9 Va. Admin. Code § 5–20–180(G) and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Virginia SIP that the EPA received and considered during the development of this rulemaking.

4. West Virginia

As described in section IX.D.4 of the February 2013 proposal, the Petitioner made four types of objections identifying inadequacies regarding SSM provisions in West Virginia’s SIP. First, the Petitioner objected to three specific provisions in the West Virginia SIP that allow for automatic exemptions from emission limitations, standards, and monitoring and recordkeeping requirements for excess emission during startup, shutdown, or malfunction (W. Va. Code R. § 45–2–9.1, W. Va. Code R. § 45–7–10.3 and W. Va. Code R. § 45–40–100.8). Second, the Petitioner objected to seven discretionary exemption provisions because these provisions provide exemptions from the otherwise applicable SIP emission limitations. The Petitioner noted that the provisions allow a state official to “grant an exception to the otherwise applicable visible emissions standards” due to “unavoidable shortage of fuel” or “any emergency situation or condition creating a threat to public safety or welfare” (W. Va. Code R. § 45–2–10.1), to permit excess emissions “due to unavoidable malfunctions of equipment” (W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1 and W. Va. Code R. § 45–10–9.1) and to permit exceedances where the limit cannot be “satisfied” because of “routine maintenance” or “unavoidable malfunction” (W. Va. Code R. § 45–21–9.3). Third, the Petitioner objected to the alternative limit imposed on hot mix asphalt plants during periods of startup and shutdown in W. Va. Code R. § 45–3–3.2 because it was “not sufficiently justified” under the EPA’s SSM Policy regarding source category-specific rules. Fourth, the

Petitioner objected to a discretionary provision allowing the state to approve an alternative visible emission standard during startups and shutdowns for manufacturing processes and associated operations (W. Va. Code R. § 45–7–10.4). The Petitioner argued that such a provision “allows a decision of the state to preclude enforcement by EPA and citizens.”

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to W. Va. Code R. § 45–2–9.1, W. Va. Code R. § 45–7–10.3 and W. Va. Code R. § 45–40–100.8 on the basis that each of these provisions allows for automatic exemptions. Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to W. Va. Code R. § 45–2–10.1, W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, W. Va. Code R. § 45–10–9.1 and W. Va. Code R. § 45–21–9.3 on the basis that these provisions allow for discretionary exemptions from otherwise applicable SIP emission limitations. Further, for reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to W. Va. Code R. § 45–3–3.2, W. Va. Code R. § 45–2–10.2 and W. Va. Code R. § 45–7–10.4. The W. Va. Code R. § 45–3–3.2 applies to a broad category of sources and is not narrowly limited to a source category that uses a specific control strategy, as required by the EPA’s SSM Policy interpreting the CAA. Similarly, W. Va. Code R. § 45–2–10.2 is inconsistent with the EPA’s SSM Policy interpreting the CAA because it is an alternative limit that allows for discretionary exemptions from otherwise applicable SIP emission limitations.³⁹² The W. Va. Code R. § 45–

³⁹² As explained in the February 2013 proposal, the Petitioner specifically focused on concern with W. Va. Code R. § 45–2–10.1, but the same issue affects W. Va. Code R. § 45–2–10.2, and so the EPA similarly proposed to issue a SIP call with respect to the latter provision. See 78 FR 12459 at 12500, n.111. W. Va. Code R. § 45–2–10.2 is an alternative limit that applies during periods of maintenance. In the February 2013 proposal, the EPA noted that this provision was inconsistent with the EPA’s SSM Policy interpreting the CAA because it was an alternative limit that specifically applied during periods of maintenance. Although the EPA originally contemplated that an alternative emission limitation could appropriately apply only during startup or shutdown, the EPA recognizes in section VII.B of this document that it may be appropriate for an air agency to establish alternative emission limitations that apply during modes of source operation other than during startup and shutdown, but any such alternative emission limitations should be developed using the same criteria that the EPA recommends for those applicable during startup and shutdown. The alternative emission limitation applicable during maintenance does not appear to have been developed using the

7–10.4 allows state officials the discretion to establish alternative visible emissions standards during startup and shutdown upon application.

Subsequently, for reasons explained fully in the SNPR, the EPA identified one affirmative defense provision in the West Virginia SIP in W. Va. Code R. § 45–2–9.4 that was not identified by the Petitioner, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for this provision.

Consequently, the EPA proposed to find that W. Va. Code R. § 45–2–9.1, W. Va. Code R. § 45–7–10.3, W. Va. Code R. § 45–40–100.8, W. Va. Code R. § 45–2–10.1, W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, W. Va. Code R. § 45–10–9.1, W. Va. Code R. § 45–21–9.3, W. Va. Code R. § 45–3–3.2 and W. Va. Code R. § 45–7–10.4, which are provisions identified by the Petitioner, and W. Va. Code R. § 45–2–10.2 and W. Va. Code R. § 45–2–9.4, which are provisions identified by the EPA, are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to the West Virginia SIP provisions identified by the Petitioner. Accordingly, the EPA is finding that the provisions in W. Va. Code R. § 45–2–9.1, W. Va. Code R. § 45–7–10.3, W. Va. Code R. § 45–40–100.8, W. Va. Code R. § 45–2–10.1, W. Va. Code R. § 45–3–7.1, W. Va. Code R. § 45–5–13.1, W. Va. Code R. § 45–6–8.2, W. Va. Code R. § 45–7–9.1, W. Va. Code R. § 45–10–9.1, W. Va. Code R. § 45–21–9.3, W. Va. Code R. § 45–3–3.2 and W. Va. Code R. § 45–7–10.4, which are provisions identified by the Petitioner, and W. Va. Code R. § 45–2–10.2 and W. Va. Code R. § 45–2–9.4, which are provisions identified by the EPA, are substantially inadequate to meet CAA requirements. The EPA is thus issuing a SIP call to West Virginia to correct its SIP with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the West Virginia SIP that the

recommended criteria for such alternative emission limitations. In addition, the EPA finds that this provision, like W. Va. Code R. § 45–2–10.1, is also deficient because it allows for discretionary exemptions from otherwise applicable SIP emission limitations. As noted in the proposal, such provisions that authorize director's discretion exemptions are impermissible in SIPs.

EPA received and considered during the development of this rulemaking.

E. Affected States and Local Jurisdictions in EPA Region IV

1. Alabama

As described in section IX.E.1 of the February 2013 proposal, the Petitioner objected to two generally applicable provisions in the Alabama SIP that allow for discretionary exemptions during startup, shutdown or load change (Ala Admin Code Rule 335–3–14–.03(1)(h)(1)), and during emergencies (Ala Admin Code Rule 335–3–14–.03(1)(h)(2)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Ala Admin Code Rule 335–3–14–.03(1)(h)(1) and Ala Admin Code Rule 335–3–14–.03(1)(h)(2).

Consequently, the EPA proposed to find that Ala Admin Code Rule 335–3–14–.03(1)(h)(1) and Ala Admin Code Rule 335–3–14–.03(1)(h)(2) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Ala Admin Code Rule 335–3–14–.03(1)(h)(1) and Ala Admin Code Rule 335–3–14–.03(1)(h)(2). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Alabama SIP that the EPA received and considered during the development of this rulemaking.

2. Florida

As described in section IX.E.2 of the February 2013 proposal, the Petitioner objected to three specific provisions in the Florida SIP that allow for generally applicable automatic exemptions for excess emissions during SSM (Fla. Admin. Code Ann Rule 62–210.700(1)), for fossil fuel steam generators during startup and shutdown (Fla. Admin. Code Ann Rule 62–210.700(2)), and for such sources during boiler cleaning and load change (Fla. Admin. Code Ann Rule 62–210.700(3)).³⁹³ After objecting

³⁹³ The EPA notes that in the February 2013 proposal, it incorrectly cited Fla. Admin. Code Ann Rule 52.201.700 when it intended to cite Rule 52.210.700. The transposition of numbers was a typographical error. Commenters on the proposal

to the three provisions that create the exemptions, the Petitioner noted that the related provision in Fla. Admin. Code Ann Rule 62–210.700(4) reduces the potential scope of the exemptions in the other three provisions if the excess emissions at issue are caused entirely or in part by things such as poor maintenance but that it does not eliminate the impermissible exemptions.

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Fla. Admin. Code Ann Rule 62–210.700(1), Fla. Admin. Code Ann Rule 62–210.700(2), Fla. Admin. Code Ann Rule 62–210.700(3) and Fla. Admin. Code Ann Rule 62–210.700(4).

Consequently, the EPA proposed to find that Fla. Admin. Code Ann Rule 62–210.700(1), Fla. Admin. Code Ann Rule 62–210.700(2), Fla. Admin. Code Ann Rule 62–210.700(3) and Fla. Admin. Code Ann Rule 62–210.700(4) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Fla. Admin. Code Ann Rule 62–210.700(1), Fla. Admin. Code Ann Rule 62–210.700(2), Fla. Admin. Code Ann Rule 62–210.700(3) and Fla. Admin. Code Ann Rule 62–210.700(4). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Florida SIP that the EPA received and considered during the development of this rulemaking.

3. Georgia

As described in section IX.E.3 of the February 2013 proposal, the Petitioner objected to a provision in the Georgia SIP that provides for exemptions for excess emissions during SSM under certain circumstances (Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7)). The Petitioner acknowledged that this provision of the Georgia SIP includes some conditions for when sources may be entitled to seek the exemption under state law, such as when the source has

correctly recognized that the EPA intended to instead refer to Fla. Admin. Code Ann Rule 52.210.700. See, e.g., comment letter received from the Florida Department of Environmental Protection, May 13, 2013, in the rulemaking docket at EPA–HQ–OAR–2012–0322–0878.

used “best operational practices” to minimize emissions during the SSM event.

First, the Petitioner objected because the provision creates an exemption from the applicable emission limitations by providing that the excess emissions “shall be allowed” subject to certain conditions. Second, the Petitioner argued that although the provision provides some “substantive criteria,” the provision does not meet the criteria the EPA recommended at the time for an affirmative defense provision consistent with the requirements of the CAA in the EPA’s SSM Policy. Third, the Petitioner asserted that the provision is not a permissible “enforcement discretion” provision applicable only to state personnel, because it “is susceptible to interpretation as an enforcement exemption, precluding EPA and citizen enforcement as well as state enforcement.”

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7). Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to this provision on the basis that it was not a permissible affirmative defense provision consistent with the requirements of the CAA and the EPA’s recommendations in the EPA’s SSM Policy at the time.

Subsequently, for reasons explained in the SNPR, the EPA repropose granting of the Petition with respect to Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7), but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Ga. Comp. R. & Regs. 391–3–1–.02(2)(a)(7). Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Georgia SIP that the EPA received and considered during the development of this rulemaking.

4. Kentucky

As described in section IX.E.4 of the February 2013 proposal, the Petitioner objected to a generally applicable provision that allows discretionary exemptions from otherwise applicable SIP emission limitations in Kentucky’s SIP (401 KAR 50:055 § 1(1)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 401 KAR 50:055 § 1(1).

Consequently, the EPA proposed to find that 401 KAR 50:055 § 1(1) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to 401 KAR 50:055 § 1(1). Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Kentucky SIP that the EPA received and considered during the development of this rulemaking.

5. Kentucky: Jefferson County

As described in section IX.E.5 of the February 2013 proposal, the Petitioner objected to a generally applicable provision in the Jefferson County Air Regulations 1.07 because it provided for discretionary exemptions from compliance with emission limitations during SSM. The provision required different demonstrations for exemptions for excess emissions during startup and shutdown (Regulation 1.07 § 3), malfunction (Regulation 1.07 § 4 and § 7) and emergency (Regulation 1.07 § 5 and § 7). Second, the Petitioner objected to the affirmative defense for emergencies in Jefferson County Air Regulations 1.07.

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to provisions in the Jefferson County Air Regulations 1.07.

Subsequently, for reasons explained fully in the SNPR, the EPA reversed its prior proposed granting of the Petition with respect to Jefferson County Air Regulations 1.07. For Jefferson County, Kentucky, the provisions for which the EPA proposed in February 2013 to grant the Petition were subsequently removed from the SIP. Thus, in the SNPR, the EPA proposed instead to deny the

Petition.³⁹⁴ As explained in the SNPR, the state of Kentucky has revised the SIP provisions applicable to Jefferson County and eliminated the SIP inadequacies identified in the February 2013 proposal document. The EPA has already approved the necessary SIP revisions.³⁹⁵ Accordingly, the EPA’s final action on the Petition does not include a finding of substantial inadequacy and SIP call for Jefferson County, Kentucky.

In this final action, the EPA is denying the Petition with respect to Jefferson County Air Regulations 1.07. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Kentucky SIP that the EPA received and considered during the development of this rulemaking.

6. Mississippi

As described in section IX.E.6 of the February 2013 proposal, the Petitioner objected to two generally applicable provisions in the Mississippi SIP that allow for affirmative defenses for violations of otherwise applicable SIP emission limitations during periods of upset, *i.e.*, malfunctions (11–1–2 Miss. Code R. § 10.1) and unavoidable maintenance (11–1–2 Miss. Code R. § 10.3). First, the Petitioner objected to both of these provisions based on its assertion that the CAA allows no affirmative defense provisions in SIPs. Second, the Petitioner asserted that even if affirmative defense provisions were permissible under the CAA, the affirmative defenses in these provisions “fall far short of the EPA policy at the time.” The Petitioner also objected to a generally applicable provision that provides an exemption from otherwise applicable SIP emission limitations during startup and shutdown (11–1–2 Miss. Code R. § 10.2).

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 11–1–2 Miss. Code R. § 10.1 and 11–1–2 Miss. Code R. § 10.3. Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the petition with respect to these provisions on the basis that they were not appropriate as an affirmative defense provisions because they were

³⁹⁴ See SNPR, 79 FR 55919 at 55925.

³⁹⁵ See Approval and Promulgation of Implementation Plans; Kentucky; Approval of Revisions to the Jefferson County Portion of the Kentucky SIP; Emissions During Startups, Shutdowns, and Malfunctions, 79 FR 33101 (June 10, 2014).

inconsistent with fundamental requirements of the CAA. Also for reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 11–1–2 Miss. Code R. § 10.2.

Subsequently, for reasons explained in the SNPR, the EPA repoposed granting of the Petition with respect to the affirmative defense provisions in 11–1–2 Miss. Code R. § 10.1 and 11–1–2 Miss. Code R. § 10.3, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for these provisions.

Consequently, the EPA proposed to find that 11–1–2 Miss. Code R. § 10.1, 11–1–2 Miss. Code R. § 10.2 and 11–1–2 Miss. Code R. § 10.3 are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to 11–1–2 Miss. Code R. § 10.1, 11–1–2 Miss. Code R. § 10.2 and 11–1–2 Miss. Code R. § 10.3. Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Mississippi SIP that the EPA received and considered during the development of this rulemaking.

7. North Carolina

As described in section IX.E.7 of the February 2013 proposal, the Petitioner objected to two generally applicable provisions in the North Carolina SIP that provide exemptions for emissions exceeding otherwise applicable SIP emission limitations at the discretion of the state agency during malfunctions (15A N.C. Admin. Code 2D.0535(c)) and during startup and shutdown (15A N.C. Admin. Code 2D.0535(g)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 15A N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g).

Consequently, the EPA proposed to find that 15A N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to 15A

N.C. Admin. Code 2D.0535(c) and 15A N.C. Admin. Code 2D.0535(g). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the North Carolina SIP that the EPA received and considered during the development of this rulemaking.

8. North Carolina: Forsyth County

As described in section IX.E.8 of the February 2013 proposal, the Petitioner objected to two generally applicable provisions in the Forsyth County Code that provide exemptions for emissions exceeding otherwise applicable SIP emission limitations at the discretion of a local official during malfunctions (Forsyth County Code, ch. 3, 3D.0535(c)) and startup and shutdown (Forsyth County Code, ch. 3, 3D.0535(g)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g).

Consequently, the EPA proposed to find that Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Forsyth County Code, ch. 3, 3D.0535(c) and Forsyth County Code, ch. 3, 3D.0535(g). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the North Carolina SIP that the EPA received and considered during the development of this rulemaking.

9. South Carolina

As described in section IX.E.9 of the February 2013 proposal, the Petitioner objected to three provisions in the South Carolina SIP, arguing that they contained impermissible source category- and pollutant-specific exemptions. The Petitioner

characterized these provisions as providing exemptions from opacity limits for fuel-burning operations for excess emissions that occur during startup or shutdown (S.C. Code Ann. Regs. 61–62.5 St 1(C)), exemptions from NO_x limits for special-use burners that are operated less than 500 hours per year (S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14)) and exemptions from sulfur limits for kraft pulp mills for excess emissions that occur during SSM events (S.C. Code Ann. Regs. St 4(XI)(D)(4)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to S.C. Code Ann. Regs. 61–62.5 St 1(C) and S.C. Code Ann. Regs. St 4(XI)(D)(4). Also for reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14).

Subsequently, for reasons explained fully in the SNPR, the EPA identified one affirmative defense provision in the South Carolina SIP in S.C. Code Ann. Regs. 62.1, Section II(G)(6) that was not identified by the Petitioner, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for this provision.

Consequently, the EPA proposed to find that the provisions in S.C. Code Ann. Regs. 61–62.5 St 1(C), S.C. Code Ann. Regs. St 4(XI)(D)(4) and S.C. Code Ann. Regs. 62.1, Section II(G)(6) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to S.C. Code Ann. Regs. 61–62.5 St 1(C), S.C. Code Ann. Regs. St 4(XI)(D)(4) and S.C. Code Ann. Regs. 62.1, Section II(G)(6) and denying the Petition with respect to S.C. Code Ann. Regs. 61–62.5 St 5.2(I)(b)(14). Accordingly, the EPA is finding that the provisions in S.C. Code Ann. Regs. 61–62.5 St 1(C), S.C. Code Ann. Regs. St 4(XI)(D)(4) and S.C. Code Ann. Regs. 62.1, Section II(G)(6) are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the South Carolina SIP that the EPA received and considered during the development of this rulemaking.

10. Tennessee

As described in section IX.E.10 of the February 2013 proposal, the Petitioner objected to three provisions in the Tennessee SIP. First, the Petitioner objected to two provisions that authorize a state official to decide whether to “excuse or proceed upon” (Tenn. Comp. R. & Regs. 1200–3–20–.07(1)) violations of otherwise applicable SIP emission limitations that occur during “malfunctions, startups, and shutdowns” (Tenn. Comp. R. & Regs. 1200–3–20–.07(3)). Second, the Petitioner objected to a provision that excludes excess visible emissions from the requirement that the state automatically issue a notice of violation for all excess emissions (Tenn. Comp. R. & Regs. 1200–3–5–.02(1)). This provision states that “due allowance may be made for visible emissions in excess of that permitted in this chapter which are necessary or unavoidable due to routine startup and shutdown conditions.”

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Tenn. Comp. R. & Regs. 1200–3–20–.07(1), Tenn. Comp. R. & Regs. 1200–3–20–.07(3) and Tenn. Comp. R. & Regs. 1200–3–5–.02(1).

Consequently, the EPA proposed to find that Tenn. Comp. R. & Regs. 1200–3–20–.07(1), Tenn. Comp. R. & Regs. 1200–3–20–.07(3) and Tenn. Comp. R. & Regs. 1200–3–5–.02(1) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Tenn. Comp. R. & Regs. 1200–3–20–.07(1), Tenn. Comp. R. & Regs. 1200–3–20–.07(3) and Tenn. Comp. R. & Regs. 1200–3–5–.02(1). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Tennessee SIP that the EPA received and considered during the development of this rulemaking.

11. Tennessee: Knox County

As described in section IX.E.11 of the February 2013 proposal, the Petitioner objected to a provision in the Knox County portion of the Tennessee SIP that bars evidence of a violation of SIP emission limitations from being used in

a citizen enforcement action (Knox County Regulation 32.1(C)). The provision specifies that “[a] determination that there has been a violation of these regulations or orders issued pursuant thereto shall not be used in any law suit brought by any private citizen.”

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Knox County Regulation 32.1(C). For instance, the regulation was inconsistent with requirements related to credible evidence.

Consequently, the EPA proposed to find that Knox County Regulation 32.1(C) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Knox County Regulation 32.1(C). Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Tennessee SIP that the EPA received and considered during the development of this rulemaking.

12. Tennessee: Shelby County

As described in section IX.E.12 of the February 2013 proposal, the Petitioner objected to a provision in the Shelby County Code (Shelby County Code § 16–87) that addresses enforcement for excess emissions that occur during “malfunctions, startups, and shutdowns” by incorporating by reference the state’s provisions in Tenn. Comp. R. & Regs. 1200–3–20. Shelby County Code § 16–87 provides that “all such additions, deletions, changes and amendments as may subsequently be made” to Tennessee’s regulations will automatically become part of the Shelby County Code.

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Shelby County Code § 16–87.

Consequently, the EPA proposed to find that Shelby County Code § 16–87 is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Shelby County Code § 16–87. Accordingly, the EPA is finding that this provision is substantially inadequate to

meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Tennessee SIP that the EPA received and considered during the development of this rulemaking.

F. Affected States in EPA Region V

1. Illinois

As described in section IX.F.1 of the February 2013 proposal, the Petitioner objected to three generally applicable provisions in the Illinois SIP which together have the effect of providing discretionary exemptions from otherwise applicable SIP emission limitations. The Petitioner noted that the provisions invite sources to request, during the permitting process, advance permission to continue to operate during a malfunction or breakdown, and, similarly to request advance permission to “violate” otherwise applicable emission limitations during startup (Ill. Admin. Code tit. 35 § 201.261). The Illinois SIP provisions establish criteria that a state official must consider before granting the advance permission to violate the emission limitations (Ill. Admin. Code tit. 35 § 201.262). However, the Petitioner asserted, the provisions state that, once granted, the advance permission to violate the emission limitations “shall be a prima facie defense to an enforcement action” (Ill. Admin. Code tit. 35 § 201.265).

Further, the Petitioner objected to the use of the term “prima facie defense” in Ill. Admin. Code tit. 35 § 201.265, arguing that the term is “ambiguous in its operation.” The Petitioner argued that the provision is not clear regarding whether the defense is to be evaluated “in a judicial or administrative proceeding or whether the Agency determines its availability.” Allowing defenses to be raised in these undefined contexts, the Petitioner argued, is “inconsistent with the enforcement structure of the Clean Air Act.”

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262 and Ill. Admin. Code tit. 35 § 201.265.

Subsequently, for reasons explained fully in the SNPR, the EPA repropose granting of the Petition with respect to the affirmative defense provisions in Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262 and Ill.

Admin. Code tit. 35 § 201.265, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for these provisions.

Consequently, the EPA proposed to find that Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262 and Ill. Admin. Code tit. 35 § 201.265 are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Ill. Admin. Code tit. 35 § 201.261, Ill. Admin. Code tit. 35 § 201.262 and Ill. Admin. Code tit. 35 § 201.265. Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Illinois SIP that the EPA received and considered during the development of this rulemaking.

2. Indiana

As described in section IX.F.2 of the February 2013 proposal, the Petitioner objected to a generally applicable provision in the Indiana SIP that allows for discretionary exemptions during malfunctions (326 Ind. Admin. Code 1–6–4(a)). The Petitioner noted that the provision is ambiguous because it states that excess emissions during malfunction periods “shall not be considered a violation” if the source demonstrates that a number of conditions are met (326 Ind. Admin. Code 1–6–4(a)), but the provision does not specify to whom or in what forum such demonstration must be made.

If the demonstration was required to have been made in a showing to the state, the Petitioner argued, the provision would give a state official the sole authority to determine that the excess emissions were not a violation and could thus be read to preclude enforcement by the EPA or citizens in the event that the state official elects not to treat the excess emissions as a violation. If instead, as the Petitioner noted, the demonstration was required to have been made in an enforcement context, the provision could be interpreted as providing an affirmative defense.

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 326 Ind. Admin. Code 1–6–4(a).

Subsequently, for reasons explained fully in the SNPR, the EPA republished granting of the Petition with respect to 326 Ind. Admin. Code 1–6–4(a), but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that 326 Ind. Admin. Code 1–6–4(a) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to 326 Ind. Admin. Code 1–6–4(a). Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Indiana SIP that the EPA received and considered during the development of this rulemaking.

3. Michigan

As described in section IX.F.3 of the February 2013 proposal, the Petitioner objected to a generally applicable provision in Michigan’s SIP, Mich. Admin. Code r. 336.1916, that provides for an affirmative defense to monetary penalties for violations of otherwise applicable SIP emission limitations during periods of startup and shutdown.

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Mich. Admin. Code r. 336.1916.

Subsequently, for reasons explained fully in the SNPR, the EPA republished granting of the Petition with respect to the affirmative defense provision in Mich. Admin. Code r. 336.1916, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that Mich. Admin. Code r. 336.1916 substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Mich. Admin. Code r. 336.1916. Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the

docket for this rulemaking concerning any comments specific to the Michigan SIP that the EPA received and considered during the development of this rulemaking.

4. Minnesota

As described in section IX.F.4 of the February 2013 proposal, the Petitioner objected to a provision in the Minnesota SIP that provides automatic exemptions for excess emissions resulting from flared gas at petroleum refineries when those flares are caused by SSM (Minn. R. 7011.1415).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Minn. R. 7011.1415.

Consequently, the EPA proposed to find that Minn. R. 7011.1415 is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Minn. R. 7011.1415. Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Minnesota SIP that the EPA received and considered during the development of this rulemaking.

5. Ohio

As described in section IX.F.5 of the February 2013 proposal, the Petitioner objected to a generally applicable provision in the Ohio SIP that allows for discretionary exemptions during periods of scheduled maintenance (Ohio Admin. Code 3745–15–06(A)(3)). The Petitioner also objected to two source category-specific and pollutant-specific provisions that provide for discretionary exemptions during malfunctions (Ohio Admin. Code 3745–17–07(A)(3)(c) and Ohio Admin. Code 3745–17–07(B)(11)(f)). The Petitioner also objected to a source category-specific provision in the Ohio SIP that allows for an automatic exemption from applicable emission limitations and requirements during periods of startup, shutdown, malfunction, or regularly scheduled maintenance activities (Ohio Admin. Code 3745–14–11(D)). Finally, the Petitioner objected to five provisions that contain exemptions for Hospital/Medical/Infectious Waste Incinerator (HMIWI) sources during startup, shutdown, and malfunction—Ohio

Admin. Code 3745-75-02(E), Ohio Admin. Code 3745-75-02(J), Ohio Admin. Code 3745-75-03(I), Ohio Admin. Code 3745-75-04(K) and Ohio Admin. Code 3745-75-04(L).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f) and Ohio Admin. Code 3745-14-11(D). Also for reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Ohio Admin. Code 3745-75-02(E), Ohio Admin. Code 3745-75-02(J), Ohio Admin. Code 3745-75-03(I), Ohio Admin. Code 3745-75-04(K) and Ohio Admin. Code 3745-75-04(L), on the basis that they are not part of the Ohio SIP and thus cannot represent a substantial inadequacy in the SIP. In addition, for reasons explained fully in the February 2013 proposal, the EPA proposed to find that another provision, Ohio Admin. Code 3745-15-06(C), is substantially inadequate to meet CAA requirements and proposed to issue a SIP call with respect to this provision, even though the Petitioner did not request that the EPA evaluate this provision. As explained in the February 2013 proposal, the EPA determined that Ohio Admin. Code 3745-15-06(C) was the regulatory mechanism in the SIP by which exemptions are granted in the two provisions to which the Petitioner did object.

Consequently, the EPA proposed to find that the provisions in Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f), Ohio Admin. Code 3745-14-11(D) and Ohio Admin. Code 3745-15-06(C) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Ohio Admin. Code 3745-15-06(A)(3), Ohio Admin. Code 3745-17-07(A)(3)(c), Ohio Admin. Code 3745-17-07(B)(11)(f), Ohio Admin. Code 3745-14-11(D) and Ohio Admin. Code 3745-15-06(C) are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. Also in this final action, the EPA is denying the Petition with respect to Ohio Admin. Code 3745-75-02(E), Ohio Admin. Code 3745-75-02(J), Ohio Admin. Code 3745-75-03(I), Ohio Admin. Code 3745-75-04(K) and Ohio Admin. Code 3745-75-04(L). This action is fully

consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Ohio SIP that the EPA received and considered during the development of this rulemaking.

G. Affected States in EPA Region VI

1. Arkansas

As described in section IX.G.1 of the February 2013 proposal, the Petitioner objected to two provisions in the Arkansas SIP. First, the Petitioner objected to a provision that provides an automatic exemption for excess emissions of VOC for sources located in Pulaski County that occur due to malfunctions (Reg. 19.1004(H)). Second, the Petitioner objected to a separate provision that provides a “complete affirmative defense” for excess emissions that occur during emergency conditions (Reg. 19.602). The Petitioner argued that this provision, which the state may have modeled after the EPA’s title V regulations, is impermissible because its application is not clearly limited to operating permits.

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Reg. 19.1004(H) and Reg. 19.602.

Subsequently, for reasons explained fully in the SNPR, the EPA repropose granting of the Petition with respect to the affirmative defense provision in Reg. 19.602, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that Reg. 19.1004(H) and Reg. 19.602³⁹⁶ are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Reg. 19.1004(H) and Reg. 19.602. Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the

³⁹⁶ In a final action published March 4, 2015 (80 FR 11573), the EPA approved revisions of the Arkansas SIP pertaining to the regulation and permitting of PM_{2.5}. Among the approved revisions was a change to Reg. 19.602, to capitalize the letter “C” in that regulation’s title, “Emergency Conditions”). To the extent the EPA’s recent action affected Reg. 19.602, that action was only a ministerial matter and should not be construed as reapproval of the provision on its merits. That action does not affect the basis on which the EPA proposed to find Reg. 19.602 substantially inadequate in the February 2013 proposal.

EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Arkansas SIP that the EPA received and considered during the development of this rulemaking.

2. Louisiana

As described in section IX.G.2 of the February 2013 proposal, the Petitioner objected to several provisions in the Louisiana SIP that allow for automatic and discretionary exemptions from SIP emission limitations during various situations, including startup, shutdown, maintenance and malfunctions. First, the Petitioner objected to provisions that provide automatic exemptions for excess emissions of VOC from wastewater tanks (LAC 33:III.2153(B)(1)(i)) and excess emissions of NO_x from certain sources within the Baton Rouge Nonattainment Area (LAC 33:III.2201(C)(8)). The LAC 33:III.2153(B)(1)(i) provides that control devices “shall not be required” to meet emission limitations “during periods of malfunction and maintenance on the devices for periods not to exceed 336 hours per year.” Similarly, LAC 33:III.2201(C)(8) provides that certain sources “are exempted” from emission limitations “during start-up and shutdown . . . or during a malfunction.” Second, the Petitioner objected to provisions that provide discretionary exemptions to various emission limitations. Three of these provisions provide discretionary exemptions from otherwise applicable SO₂ and visible emission limitations in the Louisiana SIP for excess emissions that occur during certain startup and shutdown events (LAC 33:III.1107, LAC 33:III.1507(A)(1) and LAC 33:III.1507(B)(1)), while the other two provide such exemptions for excess emissions from nitric acid plants during startups and “upsets” (LAC 33:III.2307(C)(1)(a) and LAC 33:III.2307(C)(2)(a)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to LAC 33:III.2153(B)(1)(i) and LAC 33:III.2201(C)(8) on the basis that these provisions allow for automatic exemptions for excess emissions from otherwise applicable SIP emission limitations. Also for reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to LAC 33:III.1107(A), LAC 33:III.1507(A)(1), LAC 33:III.1507(B)(1), LAC 33:III.2307(C)(1)(a) and LAC 33:III.2307(C)(2)(a) on the basis that

these provisions allow impermissible discretionary exemptions.

Consequently, the EPA proposed to find that LAC 33:III.2153(B)(1)(i), LAC 33:III.2201(C)(8), LAC 33:III.1107(A), LAC 33:III.1507(A)(1), LAC 33:III.1507(B)(1), LAC 33:III.2307(C)(1)(a) and LAC 33:III.2307(C)(2)(a) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to LAC 33:III.2153(B)(1)(i), LAC 33:III.2201(C)(8), LAC 33:III.1107(A), LAC 33:III.1507(A)(1), LAC 33:III.1507(B)(1), LAC 33:III.2307(C)(1)(a) and LAC 33:III.2307(C)(2)(a). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Louisiana SIP that the EPA received and considered during the development of this rulemaking.

3. New Mexico

As described in section IX.G.3 of the February 2013 proposal, the Petitioner objected to three provisions in the New Mexico SIP that provide affirmative defenses for excess emissions that occur during malfunctions (20.2.7.111 NMAC), during startup and shutdown (20.2.7.112 NMAC) and during emergencies (20.2.7.113 NMAC).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 20.2.7.111 NMAC, 20.2.7.112 NMAC and 20.2.7.113 NMAC.

Subsequently, for reasons explained fully in the SNPR, the EPA repropose granting of the Petition with respect to the affirmative defense provisions in 20.2.7.111 NMAC, 20.2.7.112 NMAC and 20.2.7.113 NMAC, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for these provisions.

Consequently, the EPA proposed to find that the provisions in 20.2.7.111 NMAC, 20.2.7.112 NMAC and 20.2.7.113 NMAC are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to 20.2.7.111 NMAC, 20.2.7.112 NMAC and 20.2.7.113 NMAC. Accordingly, the

EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the New Mexico SIP that the EPA received and considered during the development of this rulemaking.

4. New Mexico: Albuquerque-Bernalillo County

The Petitioner did not identify any provisions in the SIP for the state of New Mexico that specifically apply in the Albuquerque-Bernalillo County area, which is why this area was not explicitly addressed in the February 2013 proposal.

Subsequently, for reasons explained fully in the SNPR, the EPA identified three affirmative defense provisions in the SIP for the state of New Mexico that apply in the Albuquerque-Bernalillo County area, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for these provisions. These provisions provide affirmative defenses available to sources for excess emissions that occur during malfunctions (20.11.49.16.A NMAC), during startup and shutdown (20.11.49.16.B NMAC) and during emergencies (20.11.49.16.C NMAC).

In this final action, the EPA is finding that the provisions in 20.11.49.16.A NMAC, 20.11.49.16.B NMAC and 20.11.49.16.C NMAC are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. The EPA notes that removal of 20.11.49.16.A NMAC, 20.11.49.16.B NMAC and 20.11.49.16.C NMAC from the SIP will render 20.11.49.16.D NMAC, 20.11.49.16.E, 20.11.49.15.B (15) (concerning reporting by a source of intent to assert an affirmative defense for a violation), a portion of 20.11.49.6 NMAC (concerning the objective of establishing affirmative defense provisions) and 20.11.49.18 NMAC (concerning actions where a determination has been made under 20.11.49.16.E NMAC) superfluous and no longer operative, and the EPA thus recommends that these provisions be removed as well. This action is fully consistent with what the EPA proposed in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the New Mexico SIP that the

EPA received and considered during the development of this rulemaking.

5. Oklahoma

As described in section IX.G.4 of the February 2013 proposal, the Petitioner objected to two provisions in the Oklahoma SIP that together allow for discretionary exemptions from emission limitations during startup, shutdown, maintenance and malfunctions (OAC 252:100-9-3(a) and OAC 252:100-9-3(b)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to OAC 252:100-9-3(a) and OAC 252:100-9-3(b).

Consequently, the EPA proposed to find that OAC 252:100-9-3(a) and OAC 252:100-9-3(b) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to OAC 252:100-9-3(a) and OAC 252:100-9-3(b). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Oklahoma SIP that the EPA received and considered during the development of this rulemaking.

6. Texas

The Petitioner did not identify in the June 2011 petition any provisions in the SIP for the state of Texas, which is why this state was not explicitly addressed in the February 2013 proposal.

Subsequently, for reasons explained fully in the SNPR, the EPA identified four affirmative defense provisions in the SIP for the state of Texas, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for these provisions. These provisions provide affirmative defenses available to sources for excess emissions that occur during upsets (30 TAC 101.222(b)), unplanned events (30 TAC 101.222(c)), upsets with respect to opacity limits (30 TAC 101.222(d)) and unplanned events with respect to opacity limits (30 TAC 101.222(e)).

In this final action, the EPA is finding that the provisions in 30 TAC 101.222(b), 30 TAC 101.222(c), 30 TAC 101.222(d) and 30 TAC 101.222(e) are substantially inadequate to meet CAA requirements and the EPA is thus

issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Texas SIP that the EPA received and considered during the development of this rulemaking.

H. Affected States in EPA Region VII

1. Iowa

As described in section IX.H.1 of the February 2013 proposal, the Petitioner objected to a specific provision in the Iowa SIP that allows for automatic exemptions from otherwise applicable SIP emission limitations during periods of startup, shutdown or cleaning of control equipment (Iowa Admin. Code r. 567-24.1(1)). Also, the Petitioner objected to a provision that empowers the state to exercise enforcement discretion for violations of the otherwise applicable SIP emission limitations during malfunction periods (Iowa Admin. Code r. 567-24.1(4)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Iowa Admin. Code r. 567-24.1(1) on the basis that this provision allows for exemptions from the otherwise applicable SIP emission limitations. Also for reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Iowa Admin. Code r. 567-24.1(4) on the basis that the provision is on its face clearly applicable only to Iowa state enforcement personnel and that the provision thus could not reasonably be read by a court to foreclose enforcement by the EPA or through a citizen suit where Iowa state personnel elect to exercise enforcement discretion.

Consequently, the EPA proposed to find that Iowa Admin. Code r. 567-24.1(1) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Iowa Admin. Code r. 567-24.1(1). Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. Also in this final action, the EPA is denying the Petition with respect to Iowa Admin. Code r. 567-24.1(4). This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document

available in the docket for this rulemaking concerning any comments specific to the Iowa SIP that the EPA received and considered during the development of this rulemaking.

2. Kansas

As described in section IX.H.2 of the February 2013 proposal, the Petitioner objected to three provisions in the Kansas SIP that allow for exemptions for excess emissions during malfunctions and necessary repairs (K.A.R. § 28-19-11(A)), scheduled maintenance (K.A.R. § 28-19-11(B)), and certain routine modes of operation (K.A.R. § 28-19-11(C)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to K.A.R. § 28-19-11(A), K.A.R. § 28-19-11(B) and K.A.R. § 28-19-11(C).

Consequently, the EPA proposed to find that K.A.R. § 28-19-11(A), K.A.R. § 28-19-11(B) and K.A.R. § 28-19-11(C) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to K.A.R. § 28-19-11(A), K.A.R. § 28-19-11(B) and K.A.R. § 28-19-11(C). Accordingly, the EPA is finding that these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Kansas SIP that the EPA received and considered during the development of this rulemaking.

3. Missouri

As described in section IX.H.3 of the February 2013 proposal, the Petitioner objected to two provisions in the Missouri SIP that could be interpreted to provide discretionary exemptions. The first provides exemptions for visible emissions exceeding otherwise applicable SIP opacity limitations (Mo. Code Regs. Ann. tit 10, § 10-6.220(3)(C)). The second provides authorization to state personnel to decide whether excess emissions “warrant enforcement action” where a source submits information to the state showing that such emissions were “the consequence of a malfunction, start-up or shutdown.” (Mo. Code Regs. Ann. tit 10, § 10-6.050(3)(C)).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Mo. Code Regs. Ann. tit 10, § 10-6.220(3)(C) on the basis that this provision could be read to allow for exemptions from the otherwise applicable SIP emission limitations through a state official’s unilateral exercise of discretionary authority that is insufficiently bounded and includes no additional public process at the state or federal level. Also for reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Mo. Code Regs. Ann. tit 10, § 10-6.050(3)(C) on the basis that the provision is on its face clearly applicable only to Missouri state enforcement personnel and that the provision thus could not reasonably be read by a court to foreclose enforcement by the EPA or through a citizen suit where Missouri state personnel elect to exercise enforcement discretion.

Consequently, the EPA proposed to find that the provision in Mo. Code Regs. Ann. tit 10, § 10-6.220(3)(C) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Mo. Code Regs. Ann. tit 10, § 10-6.220(3)(C). Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. Also in this final action, the EPA is denying the Petition with respect to Mo. Code Regs. Ann. tit 10, § 10-6.050(3)(C). This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Missouri SIP that the EPA received and considered during the development of this rulemaking.

4. Nebraska

As described in section IX.H.4 of the February 2013 proposal, the Petitioner objected to two provisions in the Nebraska SIP. First, the Petitioner objected to a generally applicable provision that provides authorization to state personnel to decide whether excess emissions “warrant enforcement action” where a source submits information to the state showing that such emissions were “the result of a malfunction, start-up or shutdown” (Neb. Admin. Code Title 129 § 11-35.001). Second, the Petitioner objected to a specific provision in Nebraska state law that contains exemptions for excess emissions at hospital/medical/infectious

waste incinerators (HMIWI) during SSM (Neb. Admin. Code Title 129 § 18–004.02).

For reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Neb. Admin. Code Title 129 § 11–35.001. Also for reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Neb. Admin. Code Title 129 § 18–004.02 on the basis that this regulation is not part of the Nebraska SIP and thus cannot represent an inadequacy in the SIP.

In this final action, the EPA is denying the Petition with respect to Neb. Admin. Code Title 129, Chapter 35, Section 001 (correction to citation, as per comment received from Nebraska DEQ, from earlier identification as Neb. Admin. Code Title 129 § 11–35.001) and Neb. Admin. Code Title 129 § 18–004.02.

This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any other comments specific to the Nebraska SIP that the EPA received and considered during the development of this rulemaking.

5. Nebraska: Lincoln-Lancaster

As described in section IX.H.5 of the February 2013 proposal, the Petitioner objected to a generally applicable provision in the Lincoln-Lancaster County Air Pollution Control Program (Art. 2 § 35), which governs the Lincoln-Lancaster County Air Pollution Control District of Nebraska, that is parallel “in all aspects pertinent to this analysis” to Neb. Admin. Code Title 129 § 11–35.001. (Note that as per comment subsequently received from Nebraska DEQ, the correct citation is Neb. Admin. Code Title 129, Chapter 35, Section 001.)

For reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Art. 2 § 35, on the basis that this provision is on its face clearly applicable only to Lincoln-Lancaster County enforcement personnel and that the provision thus could not reasonably be read by a court to foreclose enforcement by the EPA or through a citizen suit where personnel from Lincoln-Lancaster County elect not to bring an enforcement action.

In this final action, the EPA is denying the Petition with respect to Art. 2 § 35. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document

available in the docket for this rulemaking concerning any other comments specific to the Nebraska SIP that the EPA received and considered during the development of this rulemaking.

I. Affected States in EPA Region VIII

1. Colorado

As described in section IX.I.1 of the February 2013 proposal, the Petitioner objected to two affirmative defense provisions in the Colorado SIP that provide for affirmative defenses to qualifying sources during malfunctions (5 Colo. Code Regs § 1001–2(II.E)) and during periods of startup and shutdown (5 Colo. Code Regs § 1001–2(II.J)).

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to 5 Colo. Code Regs § 1001–2(II.J). Also for reasons explained in the February 2013 proposal, the EPA proposed to deny the Petition with respect to 5 Colo. Code Regs § 1001–2(II.E) on the basis that it included an affirmative defense applicable to malfunction events that was consistent with the requirements of the CAA as interpreted by the EPA in the 1999 SSM Guidance.

Subsequently, for reasons explained fully in the SNPR, the EPA repropoed granting of the Petition with respect to the affirmative defense provision in 5 Colo. Code Regs § 1001–2(II.J) applicable to startup and shutdown, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision. Also for reasons explained in the SNPR, the EPA reversed its prior proposed denial of the Petition with respect to the affirmative defense provision 5 Colo. Code Regs § 1001–2(II.E) applicable to malfunctions.

Consequently, the EPA proposed to find that the provisions in 5 Colo. Code Regs § 1001–2(II.J) and 5 Colo. Code Regs § 1001–2(II.E) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to 5 Colo. Code Regs § 1001–2(II.J) and 5 Colo. Code Regs § 1001–2(II.E). Accordingly, the EPA is finding that the provisions in 5 Colo. Code Regs § 1001–2(II.J) and 5 Colo. Code Regs § 1001–2(II.E) are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call to Colorado to correct its SIP with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to

Comment document available in the docket for this rulemaking concerning any comments specific to the Colorado SIP that the EPA received and considered during the development of this rulemaking.

2. Montana

As described in section IX.I.2 of the February 2013 proposal, the Petitioner objected to an exemption from otherwise applicable emission limitations for aluminum plants during startup and shutdown (Montana Admin. R 17.8.334).

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to ARM 17.8.334.

Consequently, the EPA proposed to find that ARM 17.8.334 is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to ARM 17.8.334. Accordingly, the EPA is finding that ARM 17.8.334 is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Montana SIP that the EPA received and considered during the development of this rulemaking.

3. North Dakota

As described in section IX.I.3 of the February 2013 proposal, the Petitioner objected to two provisions in the North Dakota SIP that create exemptions from otherwise applicable emission limitations. The first provision creates exemptions from a number of cross-referenced opacity limits “where the limits specified in this article cannot be met because of operations and processes such as, but not limited to, oil field service and drilling operations, but only so long as it is not technically feasible to meet said specifications” (N.D. Admin. Code § 33–15–03–04(4)). The second provision creates an implicit exemption for “temporary operational breakdowns or cleaning of air pollution equipment” if the source meets certain conditions (N.D. Admin. Code § 33–15–05–01(2)(a)(1)).

For reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to N.D. Admin. Code 33–15–03–04.4 (cited in the Petition as N.D. Admin. Code § 33–15–03–04(4)) and also with respect to a

provision to which the Petitioner cited but did not explicitly object, N.D. Admin. Code 33-15-03-04.3 (cited in the Petition as N.D. Admin. Code § 33-15-03-04(3)). Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to N.D. Admin. Code 33-15-05-01.2a(1) (cited in the Petition as N.D. Admin. Code § 33-15-05-01(2)(a)(1)).

Subsequently, the state of North Dakota removed N.D. Admin. Code 33-15-03-04.4 and N.D. Admin. Code 33-15-05-01.2.a(1) and eliminated the SIP inadequacies with respect to those two of the three provisions identified in the February 2013 proposal notice. The EPA has already approved the necessary SIP revisions for those two provisions.³⁹⁷ Thus, the EPA's final action on the Petition does not need to include a finding of substantial inadequacy and SIP call for those two provisions.

In this final action, the EPA is granting the Petition with respect to N.D. Admin. Code 33-15-03-04.3 and denying the Petition with respect to N.D. Admin. Code 33-15-03-04.4 and N.D. Admin. Code 33-15-05-01.2.a(1). Accordingly, the EPA is finding that the provision in N.D. Admin. Code 33-15-03-04.3 is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call to North Dakota to correct its SIP with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013 with respect to this provision. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the North Dakota SIP that the EPA received and considered during the development of this rulemaking.

4. South Dakota

As described in section IX.I.4 of the February 2013 proposal, the Petitioner objected to a provision in the South Dakota SIP that creates exemptions from otherwise applicable SIP emission limitations (S.D. Admin. R. 74:36:12:02(3)). The Petitioner asserted that the provision imposes visible emission limitations on sources but explicitly excludes emissions that occur "for brief periods during such operations as soot blowing, start-up, shut-down, and malfunctions."

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to S.D. Admin. R. 74:36:12:02(3).

Consequently, the EPA proposed to find that S.D. Admin. R. 74:36:12:02(3) is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to S.D. Admin. R. 74:36:12:02(3). Accordingly, the EPA is finding that S.D. Admin. R. 74:36:12:02(3) is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the South Dakota SIP that the EPA received and considered during the development of this rulemaking.

5. Wyoming

As described in section IX.I.5 of the February 2013 proposal, the Petitioner objected to a specific provision in the Wyoming SIP that provides an exemption for excess PM emissions from diesel engines during startup, malfunction and maintenance (WAQSR Chapter 3, section 2(d), cited as ENV-AQ-1 Wyo. Code R. § 2(d) in the Petition). The provision exempts emission of visible air pollutants from diesel engines from applicable SIP limitations "during a reasonable period of warmup following a cold start or where undergoing repairs and adjustment following malfunction."

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to WAQSR Chapter 3, section 2(d) (cited as ENV-AQ-1 Wyo. Code R. § 2(d) in the Petition).

Subsequently, the state of Wyoming revised WAQSR Chapter 3, section 2(d) and eliminated the SIP inadequacies identified in the February 2013 proposal document with respect to this provision. The EPA has already approved the necessary SIP revision for this provision.³⁹⁸ Thus, the EPA's final action on the Petition does not need to include a finding of substantial inadequacy and SIP call for this provision.

In this final action, the EPA is denying the Petition with respect to WAQSR Chapter 3, section 2(d). Please refer to the Response to Comment document available in the docket for this rulemaking concerning any

comments specific to the Wyoming SIP that the EPA received and considered during the development of this rulemaking.

J. Affected States and Local Jurisdictions in EPA Region IX

1. Arizona

As described in section IX.J.1 of the February 2013 proposal, the Petitioner objected to two provisions in the Arizona Department of Air Quality's (ADEQ) Rule R18-2-310, which provide affirmative defenses for excess emissions during malfunctions (AAC Section R18-2-310(B)) and for excess emissions during startup or shutdown (AAC Section R18-2-310(C)).

For reasons explained in the February 2013 proposal, the EPA proposed to deny the Petition with respect to AAC Section R18-2-310(B) on the basis that it included an affirmative defense applicable to malfunction events that was consistent with the CAA as interpreted by the EPA in the 1999 SSM Guidance.

Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to AAC Section R18-2-310(C).

Subsequently, for reasons explained fully in the SNPR, the EPA reversed its prior proposed denial of the Petition with respect to the affirmative defense provision AAC Section R18-2-310(B) applicable to malfunctions. Also for reasons explained in the SNPR, the EPA re-proposed granting of the Petition with respect to the affirmative defense provision in AAC Section R18-2-310(C) applicable to startup and shutdown, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that the provisions in AAC Section R18-2-310(B) and AAC Section R18-2-310(C) are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to AAC Section R18-2-310(B) and AAC Section R18-2-310(C). Accordingly, the EPA is finding that the provisions in AAC Section R18-2-310(B) and AAC Section R18-2-310(C) are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments

³⁹⁷ See "Approval and Promulgation of Implementation Plans; North Dakota; Revisions to the Air Pollution Control Rules," 79 FR 63045 (October 22, 2014).

³⁹⁸ See "Approval and Promulgation of Implementation Plans; Wyoming; Revisions to the Air Quality Standards and Regulations," 79 FR 62859 (October 21, 2014).

specific to the Arizona SIP that the EPA received and considered during the development of this rulemaking.

2. Arizona: Maricopa County

As described in section IX.J.2 of the February 2013 proposal, the Petitioner objected to two provisions in the Maricopa County Air Pollution Control Regulations that provide affirmative defenses for excess emissions during malfunctions (Maricopa County Air Pollution Control Regulation 3, Rule 140, § 401) and for excess emissions during startup or shutdown (Maricopa County Air Pollution Control Regulation 3, Rule 140, § 402). These provisions in Maricopa County Air Quality Department (MCAQD) Rule 140 are similar to the affirmative defense provisions in ADEQ R18–2–310.

For reasons explained in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Maricopa County Air Pollution Control Regulation 3, Rule 140, § 401 on the basis that it included an affirmative defense applicable to malfunction events that was consistent with the CAA as interpreted by the EPA in the 1999 SSM Guidance. Also for reasons explained in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Maricopa County Air Pollution Control Regulation 3, Rule 140, § 402.

Subsequently, for reasons explained fully in the SNPR, the EPA reversed its prior proposed denial of the Petition with respect to the affirmative defense provision Maricopa County Air Pollution Control Regulation 3, Rule 140, § 401 applicable to malfunctions. Also for reasons explained in the SNPR, the EPA repropose granting of the Petition with respect to the affirmative defense provision in Maricopa County Air Pollution Control Regulation 3, Rule 140, § 402 applicable to startup and shutdown, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that the provisions in Maricopa County Air Pollution Control Regulation 3, Rule 140, § 401 and Maricopa County Air Pollution Control Regulation 3, Rule 140, § 402 are substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to these provisions.

In this final action, the EPA is granting the Petition with respect to Maricopa County Air Pollution Control Regulation 3, Rule 140, § 401 and Maricopa County Air Pollution Control Regulation 3, Rule 140, § 402. Accordingly, the EPA is finding that

these provisions are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Arizona SIP that the EPA received and considered during the development of this rulemaking.

3. Arizona: Pima County

As described in section IX.J.3 of the February 2013 proposal, the Petitioner objected to a provision in the Pima County Department of Environmental Quality's (PCDEQ) Rule 706 that pertains to enforcement discretion.

For reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to PCDEQ Rule 706.

In this final action, the EPA is denying the Petition with respect to PCDEQ Rule 706. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Arizona SIP that the EPA received and considered during the development of this rulemaking.

4. California: Eastern Kern Air Pollution Control District

The Petitioner did not identify any provisions in the SIP for the state of California, which is why this state was not explicitly addressed in the February 2013 proposal.

Subsequently, for reasons explained fully in the SNPR, the EPA identified an affirmative defense provision in the SIP for the state of California applicable in the Eastern Kern Air Pollution Control District (APCD), and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for this provision. The affirmative defense is included in Kern County "Rule 111 Equipment Breakdown." This SIP provision provides an affirmative defense available to sources for excess emissions that occur during a breakdown condition (*i.e.*, malfunction).

In this final action, the EPA is finding that Kern County Rule 111 Equipment Breakdown in the California SIP applicable in the Eastern Kern APCD³⁹⁹

³⁹⁹ The EPA is in this final action making a finding of substantial inadequacy and issuing a SIP call for Kern County Rule 111 Equipment Breakdown in the California SIP as it applies in each the Eastern Kern APCD and the San Joaquin Valley Unified APCD.

is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the California SIP that the EPA received and considered during the development of this rulemaking.

5. California: Imperial County Air Pollution Control District

The Petitioner did not identify any provisions in the SIP for the state of California, which is why this state was not explicitly addressed in the February 2013 proposal.

Subsequently, for reasons explained fully in the SNPR, the EPA identified an affirmative defense provision in the SIP for the state of California applicable in the Imperial Valley APCD, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for this provision. The affirmative defense is included in Imperial County "Rule 111 Equipment Breakdown." This SIP provision provides an affirmative defense available to sources for excess emissions that occur during a breakdown condition (*i.e.*, malfunction).

In this final action, the EPA is finding that Imperial County "Rule 111 Equipment Breakdown" in the California SIP applicable in the Imperial Valley APCD is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the California SIP that the EPA received and considered during the development of this rulemaking.

6. California: San Joaquin Valley Unified Air Pollution Control District

The Petitioner did not identify any provisions in the SIP for the state of California, which is why this state was not explicitly addressed in the February 2013 proposal.

Subsequently, for reasons explained fully in the SNPR, the EPA identified affirmative defense provisions in the SIP for the state of California applicable in the San Joaquin Valley Unified APCD, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for these provisions. The affirmative defenses are included in: (i) Fresno County "Rule 110 Equipment

Breakdown”; (ii) Kern County “Rule 111 Equipment Breakdown”; (iii) Kings County “Rule 111 Equipment Breakdown”; (iv) Madera County “Rule 113 Equipment Breakdown”; (v) Stanislaus County “Rule 110 Equipment Breakdown”; and (vi) Tulare County “Rule 111 Equipment Breakdown.”

Each of these SIP provisions provides an affirmative defense available to sources for excess emissions that occur during a breakdown condition (*i.e.*, malfunction).

In this final action, the EPA is finding that the following six provisions in the California SIP applicable in the San Joaquin Valley Unified APCD are substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to these provisions: (i) Fresno County “Rule 110 Equipment Breakdown”; (ii) Kern County “Rule 111 Equipment Breakdown”; (iii) Kings County “Rule 111 Equipment Breakdown”; (iv) Madera County “Rule 113 Equipment Breakdown”; (v) Stanislaus County “Rule 110 Equipment Breakdown”; and (vi) Tulare County “Rule 111 Equipment Breakdown.”⁴⁰⁰ This action is fully consistent with what the EPA proposed in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the California SIP that the EPA received and considered during the development of this rulemaking.

K. Affected States in EPA Region X

1. Alaska

As described in section IX.K.1 of the February 2013 proposal, the Petitioner objected to a provision in the Alaska SIP that provides an excuse for “unavoidable” excess emissions that occur during SSM events, including startup, shutdown, scheduled maintenance and “upsets” (Alaska Admin. Code tit. 18 § 50.240). The provision provides: “Excess emissions determined to be unavoidable under this section will be excused and are not subject to penalty. This section does not limit the department’s power to enjoin the emission or require corrective action.” The Petitioner also stated that the provision is worded as if it were an affirmative defense but it uses criteria for enforcement discretion.

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with

respect to Alaska Admin. Code tit. 18 § 50.240 on the basis that, to the extent the provision was intended to be an affirmative defense, it was not a permissible affirmative defense provision consistent with the requirements of the CAA as interpreted in the EPA’s 1999 SSM Guidance.

Subsequently, for reasons explained in the SNPR, the EPA repropoed granting of the Petition with respect to Alaska Admin. Code tit. 18 § 50.240, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that Alaska Admin. Code tit. 18 § 50.240 is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

In this final action, the EPA is granting the Petition with respect to Alaska Admin. Code tit. 18 § 50.240. Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Alaska SIP that the EPA received and considered during the development of this rulemaking.

2. Idaho

As described in section IX.K.2 of the February 2013 proposal, the Petitioner objected to a provision in the Idaho SIP that appears to grant enforcement discretion to the state as to whether to impose penalties for excess emissions during certain SSM events (Idaho Admin. Code r. 58.01.01.131).

For reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Idaho Admin. Code r. 58.01.01.131.

In this final action, the EPA is denying the Petition with respect to Idaho Admin. Code r. 58.01.01.131. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Idaho SIP that the EPA received and considered during the development of this rulemaking.

3. Oregon

As described in section IX.K.3 of the February 2013 proposal, the Petitioner objected to a provision in the Oregon

SIP that grants enforcement discretion to the state to pursue violations for excess emissions during certain SSM events (Or. Admin. R. 340–028–1450).

For reasons explained fully in the February 2013 proposal, the EPA proposed to deny the Petition with respect to Or. Admin. R. 340–028–1450.

In this final action, the EPA is denying the Petition with respect to Or. Admin. R. 340–028–1450. This action is fully consistent with what the EPA proposed in February 2013. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Oregon SIP that the EPA received and considered during the development of this rulemaking.

4. Washington

As described in section IX.K.4 of the February 2013 proposal, the Petitioner objected to a provision in the Washington SIP that provides an excuse for “unavoidable” excess emissions that occur during certain SSM events, including startup, shutdown, scheduled maintenance and “upsets” (Wash. Admin. Code § 173–400–107). The provision provides that “[e]xcess emissions determined to be unavoidable under the procedures and criteria under this section shall be excused and are not subject to penalty.” The Petitioner argued that this provision excuses excess emissions in violation of the CAA and the EPA’s SSM Policy, which require all such emissions to be treated as violations of the applicable SIP emission limitations. The Petitioner also stated that the provision is worded as if it were an affirmative defense but it uses criteria for enforcement discretion.

For reasons explained fully in the February 2013 proposal, the EPA proposed to grant the Petition with respect to Wash. Admin. Code § 173–400–107 on the basis that, to the extent the provision was intended to be an affirmative defense, it was not a permissible affirmative defense provision consistent with the requirements of the CAA as interpreted in the EPA’s 1999 SSM Guidance.

Subsequently, for reasons explained in the SNPR, the EPA repropoed granting of the Petition with respect to Wash. Admin. Code § 173–400–107, but it proposed to revise the basis for the finding of substantial inadequacy and the SIP call for this provision.

Consequently, the EPA proposed to find that Wash. Admin. Code § 173–400–107 is substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call with respect to this provision.

⁴⁰⁰ The EPA is in this final action making a finding of substantial inadequacy and issuing a SIP call for Kern County Rule 111 Equipment Breakdown in the California SIP as it applies in each the Eastern Kern APCD and the San Joaquin Valley Unified APCD.

In this final action, the EPA is granting the Petition with respect to Wash. Admin. Code § 173–400–107. Accordingly, the EPA is finding that this provision is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in February 2013 as revised in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Washington SIP that the EPA received and considered during the development of this rulemaking.

5. Washington: Energy Facility Site Evaluation Council

The Petitioner did not identify any provisions in the SIP for the state of Washington that specifically apply to the Energy Facility Site Evaluation Council (EFSEC) area, which is why this area was not explicitly addressed in the February 2013 proposal.

Subsequently, for reasons explained fully in the SNPR, the EPA identified affirmative defense provisions in the SIP for the state of Washington that relate to the EFSEC, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for these provisions in Wash. Admin. Code § 463–39–005. In the EFSEC portion of the SIP, Wash. Admin. Code § 463–39–005 adopts by reference Wash. Admin. Code § 173–400–107, thereby incorporating the affirmative defenses applicable to startup, shutdown, scheduled maintenance and “upsets” that the EPA is also finding substantially inadequate in Wash. Admin. Code § 173–400–107 (see section IX.K.4 of this document).

In this final action, the EPA is finding that Wash. Admin. Code § 463–39–005 is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Washington SIP that the EPA received and considered during the development of this rulemaking.

6. Washington: Southwest Clean Air Agency

The Petitioner did not identify any provisions in the SIP for the state of Washington that specifically apply in the portion of the state regulated by the Southwest Clean Air Agency

(SWCAA),⁴⁰¹ which is why this area was not explicitly addressed in the February 2013 proposal.

Subsequently, for reasons explained fully in the SNPR, the EPA identified affirmative defense provisions in the SIP for the state of Washington that apply in the portion of the state regulated by SWCAA, and the EPA proposed to make a finding of substantial inadequacy and to issue a SIP call for these provisions. The affirmative defenses are included in the SIP in SWAPCA “400–107 Excess Emissions.” This SIP section provides an affirmative defense available to sources for excess emissions that occur during startup and shutdown, maintenance and “upsets” (*i.e.*, malfunctions). It is identical to Wash. Admin. Code § 173–400–107 in all respects except that SWAPCA 400–107(3) contains a more stringent requirement for the reporting of excess emissions.

In this final action, the EPA is finding that SWAPCA “400–107 Excess Emissions” in the Washington SIP applicable in the area regulated by SWCAA is substantially inadequate to meet CAA requirements and the EPA is thus issuing a SIP call with respect to this provision. This action is fully consistent with what the EPA proposed in the SNPR. Please refer to the Response to Comment document available in the docket for this rulemaking concerning any comments specific to the Washington SIP that the EPA received and considered during the development of this rulemaking.

X. Implementation Aspects of EPA’s SSM SIP Policy

A. Recommendations Concerning Alternative Emission Limitations for Startup and Shutdown

In response to a SIP call concerning an existing automatic or discretionary exemption for excess emissions during SSM events, the EPA anticipates that a state may elect to create an alternative emission limitation that applies during startup and shutdown events (or during any other normal mode of operation during which the exemption may have applied) as a revised element or component of the existing emission limitation. The EPA emphasizes that states have discretion to revise the identified deficient provisions by any means they choose, so long as the revised provision is consistent with

CAA requirements for SIP provisions. If a state elects to create an alternative emission limitation to replace an existing exemption, there are several issues that the state should consider.

First, as explained in sections VII.B and XI of this document, the EPA has longstanding guidance that provides recommendations to states concerning the development of alternative emission limitations applicable during startup and shutdown to replace exemptions in existing SIP provisions. The EPA first provided this guidance in the 1999 SSM Guidance but has reiterated and clarified its guidance in this action. The EPA recommends that states consider the seven clarified criteria described in sections VII.B and XI of this document when developing new alternative emission limitations to replace automatic or discretionary exemptions, in order to assure that the revised provisions submitted to the EPA for approval meet basic CAA requirements for SIP emission limitations.

Second, the EPA reiterates that SIP emission limitations that are expressed as numerical limitations do not necessarily have to require the same numerical level of emissions during all modes of normal source operation. Under appropriate circumstances consistent with the criteria that the EPA recommends for alternative emission limitations, it may be appropriate to have a numerical emission limitation that has a higher numerical level applicable during specific modes of source operation, such as during startup and shutdown. For example, if a rate-based NO_x emission limitation in the SIP applies to a specific source category, then it may be appropriate for that emission limitation to have a higher numerical standard applicable during defined periods of startup or shutdown. Such an approach can be consistent with SIP requirements, so long as that higher numerical level for startup or shutdown is properly established and is legally and practically enforceable, and so long as other overarching CAA requirements are also met. However, alternative emission limitations applicable during startup and shutdown cannot be inappropriately high or an effectively unlimited or uncontrolled level of emissions, as those would constitute impermissible *de facto* exemptions for emissions during certain modes of operation.

Third, the EPA reiterates that SIP emission limitations do not necessarily have to be expressed in terms of a numerical level of emissions. There are many sources for which a numerically expressed emission limitation will be the most appropriate and will result in

⁴⁰¹ The EPA notes that the SWCAA was formerly named, and in some places in the SIP still appears, as the “Southwest Air Pollution Control Authority” or “SWAPCA.” The EPA anticipates that the name will be updated in the SIP in due course as the state revises the SIP.

the most legally and practically enforceable SIP requirements.⁴⁰² However, the EPA recognizes that for some source categories, under some circumstances, it may be appropriate for the SIP emission limitation to include a specific technological control requirement or specific work practice requirement that applies during specified modes of source operation such as startup and shutdown. For example, if the otherwise applicable numerical SO₂ emission limitation in the SIP is not achievable, and the otherwise required SO₂ control measure is not effective during startup and shutdown and/or measurement of emissions during startup and shutdown is not reasonably feasible, then it may be appropriate for that emission limitation to impose a different control measure, such as use of low sulfur coal, applicable during defined periods of startup and shutdown in lieu of a numerically expressed emission limitation. Such an approach can be consistent with SIP requirements, so long as that alternative control measure applicable during startup and shutdown is properly established and is legally and practically enforceable as a component of the emission limitation, and so long as other overarching CAA requirements are also met.

Fourth, the EPA notes that revisions to replace existing automatic or discretionary exemptions for SSM events with alternative emission limitations applicable during startup and shutdown also need to meet the applicable overarching CAA requirements with respect to the SIP emission limitation at issue. For example, if the emission limitation is in the SIP to meet the requirement that the source category be subject to RACT level controls for NO_x for purposes of the ozone NAAQS, then the state should assure that the higher numerical level or other control measure that will apply to NO_x emissions during startup and shutdown does constitute a RACT level of control for such sources for such pollutant during such modes of operation.

Finally, the EPA notes that states should not replace automatic or discretionary exemptions for excess emissions during SSM events with alternative emission limitations that are

a generic requirement such as a “general duty to minimize emissions” provision or an “exercise good engineering judgment” provision.⁴⁰³ While such provisions may serve an overarching purpose of encouraging sources to design, maintain and operate their sources correctly, such generic clauses are not a valid substitute for more specific emission limitations that apply during normal modes of operation such as startup and shutdown.

B. Recommendations for Compliance With Section 110(l) and Section 193 for SIP Revisions

In response to a SIP call for any type of deficient provision, the EPA anticipates that each state will determine the best way to revise its SIP provisions to bring them into compliance with CAA requirements. In this action the EPA is only identifying the provisions that need to be revised because they violate fundamental requirements of the CAA and providing guidance to states in the SSM Policy concerning the types of provisions that are and are not permissible with respect to the treatment of excess emissions during SSM events. The EPA recognizes that one important consideration for air agencies as they evaluate how best to revise their SIP provisions in response to this SIP call is the nature of the analysis that will be necessary for the resulting SIP revisions under section 110(l) and section 193. The EPA is therefore providing in this document general guidance on this important issue in order to assist states with SIP revisions in response to the SIP call.

Section 110(k)(3) directs the EPA to approve SIP submissions that comply with applicable CAA requirements and to disapprove those that do not. Under section 110(l), the EPA is prohibited from approving any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress or any other requirements of the CAA. To illustrate different ways in which section 110(l) and section 193 may apply in the evaluation of future SIP submissions in response to the SIP call, the EPA anticipates that there are several common scenarios that states may wish to consider when revising their SIPs:

Example 1: A state elects to revise an existing SIP provision by removing an existing automatic exemption provision, director’s discretion provision, enforcement discretion provision or

affirmative defense provision, without altering any other aspects of the SIP provision at issue (e.g., elects to retain the emission limitation for the source category but eliminate the exemption for emissions during SSM events). Although the EPA must review each SIP submission for compliance with section 110(l) and section 193 on the facts and circumstances of the revision, the Agency believes in general that this type of SIP revision should not entail a complicated analysis to meet these statutory requirements. Presumably, removal of the impermissible components of preexisting SIP provisions would not constitute backsliding, would in fact strengthen the SIP and would be consistent with the overarching requirement that the SIP revision be consistent with the requirements of the CAA. Accordingly, the EPA believes that this type of SIP revision should not entail a complicated analysis for purposes of section 110(l). If the SIP revision is also governed by section 193, then elimination of the deficiency will likewise presumably result in equal or greater emission reductions and thus comply with section 193 without the need for a more complicated analysis. The EPA has recently evaluated a SIP revision to remove specific SSM deficiencies in this manner.⁴⁰⁴

Example 2: A state elects to revise its SIP provision by replacing an automatic exemption for excess emissions during startup and shutdown events with an appropriate alternative emission limitation (e.g., a different numerical limitation or different other control requirement) that is explicitly applicable during startup and shutdown as a component of the revised emission limitation. Although the EPA must review each SIP revision for compliance with section 110(l) and section 193 on the facts and circumstances of the revision, the Agency believes in general that this type of SIP revision should not entail a complicated analysis to meet these statutory requirements. Presumably, the replacement of an automatic exemption applicable to startup and shutdown with an appropriate alternative emission limitation would not constitute backsliding, would strengthen the SIP and would be consistent with the overarching requirement that the SIP revision be consistent with the

⁴⁰² The EPA notes that in the CAA there is a presumption in favor of numerical emission limitations for purposes of section 112 and section 169, but section 110(a) does not include such an explicit presumption. However, there may be sources for which a numerically expressed emission limitation is the one that is most legally and practically enforceable, even during startup and shutdown, and for which a numerically expressed emission limitation is thus most appropriate.

⁴⁰³ The EPA notes that the “general duty” imposed under CAA section 112(r) is a separate standard, in addition to the otherwise applicable emission limitations and is not in lieu of those requirements.

⁴⁰⁴ See “Approval and Promulgation of Implementation Plans; Kentucky; Approval of Revisions to the Jefferson County Portion of the Kentucky SIP; Emissions During Startups, Shutdowns, and Malfunctions,” proposed at 78 FR 29683 (May 21, 2013), finalized at 79 FR 33101 (June 10, 2014).

requirements of the CAA. The state should develop that alternative emission limitation in accordance with the EPA's guidance recommendations for such provisions to assure that it would meet CAA requirements.⁴⁰⁵ In addition, that alternative emission limitation would both need to meet the overarching CAA applicable requirements that the emission limitation is designed and intended to meet (e.g., RACT-level controls for the source category in an attainment area for a NAAQS) and need to be legally and practically enforceable (e.g., have adequate recordkeeping, reporting, monitoring or other features requisite for enforcement). If a state has developed the alternative emission limitation consistent with these criteria, then the EPA anticipates that the revision of the emission limitation to replace the exemption with an alternative emission limitation applicable to startup and shutdown would not be backsliding, would be a strengthening of the SIP and would be consistent with the requirement of section 110(l) that a SIP revision be consistent with the requirements of the CAA. Similarly, if section 193 applies to the emission limitation that the state is revising, then the replacement of an exemption applicable to emissions during startup and shutdown with an appropriately developed alternative emission limitation that explicitly applies during startup and shutdown would presumably result in equal or greater emission reductions and thus should meet the requirements of section 193 without the need for a more complicated analysis.

Example 3: A state elects to revise an existing SIP provision not merely by removal of an existing automatic exemption provision, director's discretion provision, enforcement defense provision, but by the removal of the deficiency combined with a total revision of the emission limitation. The EPA anticipates that there may be emission limitations for which a state may elect to do such a wholesale revision of the SIP provision as part of eliminating an impermissible component of the existing provision (e.g., removal of an automatic exemption applicable to emissions during SSM events through a complete revision of the emission limitation to create a different emission limitation that applies at all times, including during SSM events). In developing a completely revised SIP provision, the

state should assure that the replacement provision meets the applicable overarching CAA requirements that the provision is designed and intended to meet, is legally and practically enforceable and is not less stringent than the prior SIP provision. The EPA believes in general that this type of SIP revision may require a more in-depth analysis to meet these statutory requirements of section 110(l) and section 193. To the extent that there is any concern that the revised SIP provision is less stringent than the provision it replaces, then there will need to be a careful evaluation as to whether the revised provision would interfere with any applicable requirement concerning attainment and reasonable further progress and with any other applicable requirement of the CAA. Presumably, however, so long as the state has properly developed the revised emission limitation to assure that it meets the overarching CAA requirements and to assure that it will not result in a less stringent emission limitation, then the complete revision of the emission limitation would not constitute backsliding, would be a strengthening of the SIP and thereby would comply with section 110(l). If the SIP revision is also governed by section 193, then there will also need to be an analysis to assure that the revision will result in equal or greater emission reductions and thus comply with section 193. To the extent that there is concern that the revision would result in a less stringent emission limitation than the preexisting emission limitation, then a more complex analysis would likely be required.

The EPA emphasizes that each SIP revision must be evaluated for compliance with section 110(l) and section 193 on the facts and circumstances of the specific revision, but these examples are intended to provide general guidance on the considerations and the nature of the analysis that may be appropriate for different types of SIP revisions. States should contact their respective EPA Regional Offices (see the **SUPPLEMENTARY INFORMATION** section of this document) for further recommendations and assistance concerning the analysis appropriate for specific SIP revisions in response to this SIP call.

XI. Statement of the EPA's SSM SIP Policy as of 2015

The EPA's longstanding interpretation of the CAA is that SIP provisions cannot include exemptions from emission limitations for emissions during SSM events. In order to be permissible in a

SIP, an emission limitation must be applicable to the source continuously, *i.e.*, cannot include periods during which emissions from the source are legally or functionally exempt from regulation. Regardless of its form, a fully approvable SIP emission limitation must also meet all substantive requirements of the CAA applicable to such a SIP provision, e.g., the statutory requirement of section 172(c)(1) for imposition of RACM and RACT on sources located in designated nonattainment areas.

This section of the document provides more specific guidance on the appropriate treatment of emissions during SSM events in SIP provisions, replacing the EPA's prior guidance issued in memoranda of 1982, 1983, 1999 and 2001. The more extended explanations and interpretations provided in other sections of this document are also applicable, should a situation arise that is not sufficiently covered by this section's more concise policy statement. This SSM Policy as of 2015 is a policy statement and thus constitutes guidance. As guidance, this SSM Policy as of 2015 does not bind states, the EPA or other parties, but it does reflect the EPA's interpretation of the statutory requirements of the CAA. The EPA's evaluation of any SIP provision, whether prospectively in the case of a new provision in a SIP submission or retrospectively in the case of a previously approved SIP submission, must be conducted through a notice-and-comment rulemaking in which the EPA will determine whether a given SIP provision is consistent with the requirements of the CAA and applicable regulations.

A. Definitions

The term *alternative emission limitation* means, in this document, an emission limitation in a SIP that applies to a source during some but not all periods of normal operation (e.g., applies only during a specifically defined mode of operation such as startup or shutdown). An alternative emission limitation is a component of a continuously applicable SIP emission limitation, and it may take the form of a control measure such as a design, equipment, work practice or operational standard (whether or not numerical). This definition of the term is independent of the statutory use of the term "alternative means of emission limitation" in sections 111(h)(3) and 112(h)(3), which pertain to the conditions under which the EPA may pursuant to sections 111 and 112 promulgate emission limitations, or components of emission limitations,

⁴⁰⁵ These recommendations are discussed in detail in section VII.B.2 of this document.

that are not necessarily in numeric format.

The term *automatic exemption* means a generally applicable provision in a SIP that would provide that if certain conditions existed during a period of excess emissions, then those exceedances would not be considered violations of the applicable emission limitations.

The term *director's discretion provision* means, in general, a regulatory provision that authorizes a state regulatory official unilaterally to grant exemptions or variances from otherwise applicable emission limitations or control measures, or to excuse noncompliance with otherwise applicable emission limitations or control measures, which would be binding on the EPA and the public.

The term *emission limitation* means, in the context of a SIP, a legally binding restriction on emissions from a source or source category, such as a numerical emission limitation, a numerical emission limitation with higher or lower levels applicable during specific modes of source operation, a specific technological control measure requirement, a work practice standard, or a combination of these things as components of a comprehensive and continuous emission limitation in a SIP provision. In this respect, the term *emission limitation* is defined as in section 302(k) of the CAA. By definition, an emission limitation can take various forms or a combination of forms, but in order to be permissible in a SIP it must be applicable to the source continuously, *i.e.*, cannot include periods during which emissions from the source are legally or functionally exempt from regulation. Regardless of its form, a fully approvable SIP emission limitation must also meet all substantive requirements of the CAA applicable to such a SIP provision, *e.g.*, the statutory requirement of section 172(c)(1) for imposition of reasonably available control measures and reasonably available control technology (RACM and RACT) on sources located in designated nonattainment areas.

The term *excess emissions* means the emissions of air pollutants from a source that exceed any applicable SIP emission limitation. In particular, this term includes those emissions above the otherwise applicable SIP emission limitation that occur during startup, shutdown, malfunction or other modes of source operation, *i.e.*, emissions that would be considered violations of the applicable emission limitation but for an impermissible automatic or discretionary exemption from such emission limitation.

The term *malfunction* means a sudden and unavoidable breakdown of process or control equipment.

The term *shutdown* means, generally, the cessation of operation of a source for any reason. In this document, the EPA uses this term in the generic sense. In individual SIP provisions it may be appropriate to include a specifically tailored definition of this term to address a particular source category for a particular purpose.

The term *SSM* refers to startup, shutdown or malfunction at a source. It does not include periods of maintenance at such a source. An SSM event is a period of startup, shutdown or malfunction during which there are exceedances of the applicable emission limitations and thus excess emissions.

The term *startup* means, generally, the setting in operation of a source for any reason. In this document, the EPA uses this term in the generic sense. In an individual SIP provision it may be appropriate to include a specifically tailored definition of this term to address a particular source category for a particular purpose.

B. Emission Limitations in SIPs Must Apply Continuously During All Modes of Operation, Without Automatic or Discretionary Exemptions or Overly Broad Enforcement Discretion Provisions That Would Bar Enforcement by the EPA or by Other Parties in Federal Court Through a Citizen Suit

In accordance with CAA section 302(k), SIPs must contain emission limitations that “limit the quantity, rate, or concentration of emissions of air pollutants on a continuous basis.” All of the specific requirements of a SIP emission limitation must be discernible in the SIP, for clarity preferably within a single section or provision; must meet the applicable substantive and stringency requirements of the CAA; and must be legally and practically enforceable.

To the extent that a SIP provision allows any period of time when a source is *not* subject to any requirement that limits emissions, the requirements limiting the source’s emissions by definition cannot do so “on a continuous basis.” Such a source would not be subject to an “emission limitation,” as required by the definition of that term under section 302(k). However, the CAA allows SIP provisions that include numerical limitations, specific technological control requirements and/or work practice requirements that limit emissions during startup and shutdown as components of a continuously applicable emission limitation, as

discussed in section XI.C of this document.

Accordingly, automatic or discretionary exemption provisions applicable during SSM events are impermissible in SIPs. This impermissibility applies even for “brief” exemptions from limits on emissions, because such exemptions nevertheless render the limitation noncontinuous. Furthermore, the fact that a SIP provision includes prerequisites to qualifying for an SSM exemption does not mean those prerequisites are themselves an “alternative emission limitation” applicable during SSM events.

Automatic exemptions. A typical SIP provision that includes an impermissible automatic exemption would provide that a source has to meet a specific emission limitation during all modes of operation except startup, shutdown and malfunction; by definition any excess emissions during such events would not be violations and thus there could be no enforcement based on those excess emissions. With respect to automatic exemptions from emission limitations in SIPs, the EPA’s longstanding interpretation of the CAA is that such exemptions are impermissible because they are inconsistent with the fundamental requirements of the CAA. Automatic exemptions from otherwise applicable emission limitations render those emission limitations less than continuous as required by CAA sections 302(k), 110(a)(2)(A) and 110(a)(2)(C), thereby inconsistent with a fundamental requirement of the CAA and thus substantially inadequate as contemplated in CAA section 110(k)(5).

Discretionary exemptions. A typical SIP provision that includes an impermissible “director’s discretion” component would purport to authorize air agency personnel to modify existing SIP requirements under certain conditions, *e.g.*, to grant a variance from an otherwise applicable emission limitation if the source could not meet the requirement in certain circumstances.⁴⁰⁶ Director’s discretion provisions operate to allow air agency personnel to make unilateral decisions on an *ad hoc* basis, up to and including the granting of complete exemptions for

⁴⁰⁶ The EPA notes that problematic “director’s discretion” provisions are not limited only to those that purport to authorize alternative emission limitations from those required in a SIP. Other problematic director’s discretion provisions include those that purport to provide for discretionary changes to other substantive requirements of the SIP, such as applicability, operating requirements, recordkeeping requirements, monitoring requirements, test methods or alternative compliance methods.

emissions during SSM events, thereby negating any possibility of enforcement for what would be violations of the otherwise applicable emission limitation. With respect to such director's discretion provisions in SIPs, the EPA interprets the CAA to prohibit these if they provide unbounded discretion to allow what would amount to a case-specific revision of the SIP without meeting the statutory requirements of the CAA for SIP revisions. In particular, the EPA interprets the CAA to preclude SIP provisions that provide director's discretion authority to create discretionary exemptions for violations when the CAA would not allow such exemptions in the first instance.

If an air agency elects to have SIP provisions that contain a director's discretion feature, then to be consistent with CAA requirements the provisions must be structured so that any resulting variances or other deviations from the emission limitation or other SIP requirements have no federal law validity, unless and until the EPA specifically approves that exercise of the director's discretion as a SIP revision. Barring such a later ratification by the EPA through a SIP revision, the exercise of director's discretion is only valid for state (or tribal) law purposes and would have no bearing in the event of an action to enforce the provision of the SIP as it was originally approved by the EPA.

Adoption of the EPA's NSPS or NESHAP that have not yet been revised. The EPA has recently begun revising and will continue to revise NSPS and NESHAP as needed, to make the EPA's regulations consistent with CAA requirements by removing exemptions and affirmative defense provisions applicable to SSM events, and generally on the same legal basis as for this action. A state should not submit an NSPS or NESHAP for inclusion into its SIP as an emission limitation (whether through incorporation by reference or otherwise) unless either: (i) That NSPS or NESHAP does not include an exemption or affirmative defense for SSM events; or (ii) the state takes action as part of the SIP submission to render such exemption or affirmative defense inapplicable to the SIP emission limitation. Because SIP provisions must apply continuously, including during SSM events, the EPA can no longer approve SIP submissions that include any emission limitations with such exemptions, even if those emission limitations are NSPS or NESHAP regulations that the EPA has not yet revised to make consistent with CAA requirements. Alternatively, states may elect to adopt an existing NSPS or

NESHAP as a SIP provision, so long as the SIP provision excludes the exemption or affirmative defense applicable to SSM events.⁴⁰⁷ States may also wish to replace the SSM exemption in NSPS or NESHAP regulations with appropriately developed alternative emission limitations that apply during startup and shutdown in lieu of the SSM exemption. Otherwise, the EPA's approval of the deficient SSM exemption provisions into the SIP would contravene CAA requirements for SIP provisions and would potentially result in misinterpretation or misapplication of the standards by regulators, regulated entities, courts and members of the public. The EPA emphasizes that the inclusion of an NSPS or NESHAP as an emission limitation in a state's SIP is different and distinct from reliance on such standards indirectly, such as reliance on the NSPS or NESHAP as a source of emission reductions that may be taken into account for SIP planning purposes in emissions inventories or attainment demonstrations. For those uses, states may continue to rely on the EPA's NSPS and NESHAP regulations, even those that have not yet been revised to remove inappropriate exemptions, in accordance with the requirements applicable to those SIP planning functions.

Other modes of normal operation. SIPs also may not create automatic or discretionary exemptions from otherwise applicable emission limitations during periods such as "maintenance," "load change," "soot-blowing," "on-line operating changes" or other similar normal modes of operation. Like startup and shutdown, the EPA considers all of these to be modes of normal operation at a source, for which the source can be designed, operated and maintained in order to meet an applicable emission limitations and during which the source should be expected to control and minimize emissions. Excess emissions that occur during planned and predicted periods should be treated as violations of applicable emission limitations. Accordingly, exemptions for emissions during these periods of normal source operation are not consistent with CAA requirements.

⁴⁰⁷ Under CAA section 116, states have the explicit general authority to regulate more stringently than the EPA. Indeed, under section 116 states can regulate sources subject to EPA regulations promulgated under section 111 or section 112 so long as they do not regulate them less stringently. According, the EPA believes that states may elect to adopt EPA regulations under section 111 or section 112 as SIP provisions and expressly eliminate the exemptions for emissions during SSM events.

It may be appropriate for an air agency to establish an alternative numerical limitation or other form of control measure that applies during these modes of source operation, as for startup and shutdown events, but any such alternative emission limitation should be developed using the same criteria that the EPA recommends for alternative emission limitations applicable during startup and shutdown. Similarly, any SIP provision that includes an emission limitation for sources that includes alternative emission limitations applicable to modes of operation such as "maintenance," "load change," "soot-blowing" or "on-line operating changes" must also meet the applicable level of stringency for that type of emission limitation and be practically and legally enforceable.

C. Emission Limitations in SIPs May Contain Components Applicable to Different Modes of Operation That Take Different Forms, and Numerical Emission Limitations May Have Differing Levels and Forms for Different Modes of Operation

There are approaches other than exemptions that would be consistent with CAA requirements for SIP provisions that states can use to address excess emissions during certain events. While automatic exemptions and director's discretion exemptions from otherwise applicable emission limitations for SSM events are not consistent with the CAA, SIPs may include criteria and procedures for the use of enforcement discretion by air agency personnel, as described in section XI.E of this document. Similarly, SIPs may, rather than exempt excess emissions, include emission limitations that subject those emissions to alternative numerical limitations or other control requirements during startup and shutdown events or other normal modes of operation, so long as those components of the emission limitations meet applicable CAA requirements and are legally and practically enforceable.

The EPA does not interpret section 110(a)(2) or section 302(k) to require that an emission limitation in a SIP provision be composed of a single, uniformly applicable numerical emission limitation. The text of section 110(a)(2) and section 302(k) does not require states to impose emission limitations that include a static, inflexible standard. The critical aspect for purposes of section 302(k) is that the SIP provision impose limits on emissions on a continuous basis, regardless of whether the emission

limitation as a whole is expressed numerically or as a combination of numerical limitations, specific control technology requirements and/or work practice requirements applicable during specific modes of operation, and regardless of whether the emission limitation is static or variable. Thus, emission limitations in SIP provisions do not have to be composed solely of numerical emission limitations applicable at all times. For example, so long as the SIP provision meets other applicable requirements, it may impose different numerical limitations for startup and shutdown. Also, for example, SIPs can contain numerical emission limitations applicable only to some periods and other forms of controls applicable only to some periods, with certain periods perhaps subject to both types of limitation. Thus, SIP emission limitations: (i) Do not need to be numerical in format; (ii) do not have to apply the same limitation (*e.g.*, numerical level) at all times; and (iii) may be composed of a combination of numerical limitations, specific technological control requirements and/or work practice requirements, with each component of the emission limitation applicable during a defined mode of source operation. In practice, it may be that numerical emission limitations are the most appropriate from a regulatory perspective (*e.g.*, to be legally and practically enforceable) and thus the emission limitation would need to be established in this form to meet CAA requirements. It is important to emphasize, however, that regardless of how the state structures or expresses a SIP emission limitation—whether solely as one numerical limitation, as a combination of different numerical limitations or as a combination of numerical limitations, specific technological control requirements and/or work practice requirements that apply during certain modes of operation such as startup and shutdown—the emission limitation as a whole must be continuous, must meet applicable CAA stringency requirements and must be legally and practically enforceable.⁴⁰⁸

Startup and shutdown are part of the normal operation of a source and should be accounted for in the design and

operation of the source.⁴⁰⁹ It should be possible to determine an appropriate form and degree of emission control during startup and shutdown and to achieve that control on a regular basis. Thus, sources should be required to meet defined SIP emission limitations during startup and shutdown. However, the EPA interprets the CAA to permit SIP emission limitations that include alternative emission limitations specifically applicable during startup and shutdown. Regarding startup and shutdown periods, the EPA considers the following to be the correct approach to creating an emission limitation: (i) The emission limitation contains no exemption for emissions during SSM events; (ii) the component of any alternative emission limitation that applies during startup and shutdown is clearly stated and obviously is an emission limitation that applies to the source; (iii) the component of any alternative emission limitation that applies during startup and shutdown meets the applicable stringency level for this type of emission limitation; and (iv) the emission limitation contains requirements to make it legally and practically enforceable. Section XI.D of this document contains more specific recommendations to states for developing alternative emission limitations.

In contrast to startup and shutdown, a malfunction is unpredictable as to the timing of the start of the malfunction event, its duration and its exact nature. The effect of a malfunction on emissions is therefore unpredictable and variable, making the development of an alternative emission limitation for malfunctions problematic. There may be rare instances in which certain types of malfunctions at certain types of sources are foreseeable and foreseen and thus are an expected mode of source operation. In such circumstances, the EPA believes that sources should be expected to meet the otherwise applicable emission limitation in order to encourage sources to be properly designed, maintained and operated in order to prevent or minimize any such malfunctions. To the extent that a given type of malfunction is so foreseeable and foreseen that a state considers it a

normal mode of operation that is appropriate for a specifically designed alternative emission limitation, then such alternative should be developed in accordance with the recommended criteria for alternative emission limitations. The EPA does not believe that generic general-duty provisions, such as a general duty to minimize emissions, is sufficient as an alternative emission limitation for any type of event including malfunctions.

States developing SIP revisions to remove impermissible exemption provisions from emissions limitations may choose to consider reassessing particular emission limitations, for example to determine whether limits originally applicable only during non-SSM periods can be revised such that well-managed emissions during planned operations such as startup and shutdown would not exceed the revised emission limitation, while still protecting air quality and meeting other applicable CAA requirements. Such a revision of an emission limitation will need to be submitted as a SIP revision for EPA approval if the existing limitation to be changed is already included in the SIP or if the existing SIP relies on the particular existing emission limitation to meet a CAA requirement.

Some SIPs contain other generic regulatory requirements frequently referred to as “general duty” type requirements, such as a general duty to minimize emissions at all times, a general duty to use good engineering judgment at all times or a general duty not to cause a violation of the NAAQS at any time. To the extent that such other general-duty requirement is properly established and legally and practically enforceable, the EPA would agree that it may be an appropriate separate requirement to impose upon sources in addition to the (continuous) emission limitation. The EPA itself imposes separate general duties of this type in appropriate circumstances. The existence of these generic provisions does not, however, legitimize exemptions for emissions during SSM events in a SIP provision that imposes an emission limitation.

General-duty requirements that are not clearly part of or explicitly cross-referenced in a SIP emission limitation cannot be viewed as a component of a continuous emission limitation. Even if clearly part of or explicitly cross-referenced in the SIP emission limitation, however, a given general-duty requirement may not be consistent with the applicable stringency requirements for SIP provisions that should apply during startup and

⁴⁰⁸ The EPA notes that CAA section 123 explicitly prohibits certain intermittent or supplemental controls on sources. In a situation where an emission limitation is continuous, by virtue of the fact that it has components applicable during all modes of source operation, the EPA would not interpret the components that applied only during certain modes of operation, *e.g.*, startup and shutdown, to be prohibited intermittent or supplemental controls.

⁴⁰⁹ Every source is designed, maintained and operated with the expectation that the source will at least occasionally start up and shut down, and thus these modes of operation are “normal” in the sense that they are to be expected. The EPA uses this term in the ordinary sense of the word to distinguish between such predictable modes of source operation and genuine “malfunctions,” which are by definition supposed to be unpredictable and unforeseen events that could not have been precluded by proper source design, maintenance and operation.

shutdown. In general, the EPA believes that a legally and practically enforceable alternative emission limitation applicable during startup and shutdown should be expressed as a numerical limitation, a specific technological control requirement or a specific work practice applicable to affected sources during specifically defined periods or modes of operation. Accordingly, while states are free to include general-duty provisions in their SIPs as separate additional requirements, for example, to ensure that owners and operators act consistent with reasonable standards of care, the EPA does not recommend using these background standards to bridge unlawful interruptions in an emission limitation.⁴¹⁰

D. Recommendations for Development of Alternative Emission Limitations Applicable During Startup and Shutdown

A state can develop special, alternative emission limitations that apply during startup or shutdown if the source cannot meet the otherwise applicable emission limitation in the SIP. SIP provisions may include alternative emission limitations for startup and shutdown as part of a continuously applicable emission limitation when properly developed and otherwise consistent with CAA requirements. However, if a non-numerical requirement does not itself (or in combination with other components of the emission limitation) limit the quantity, rate or concentration of air pollutants on a continuous basis, then the non-numerical standard (or overarching requirement) does not meet the statutory definition of an emission limitation under section 302(k).

In cases in which measurement of emissions during startup and/or shutdown is not reasonably feasible, it may be appropriate for an emission limitation to include as a component a control for startup and/or shutdown periods other than a numerically expressed emission limitation.

The federal NESHAP and NSPS regulations and the technical materials in the public record for those rules may provide assistance for states as they develop and consider emission limitations and alternative emission limitations for sources in their states,

⁴¹⁰ For example, the EPA has concerns the some general-duty provisions, if at any point relied upon as the sole requirement purportedly limiting emissions, could undermine the ability to ensure compliance with SIP emission limitations relied on to achieve the NAAQS and other relevant CAA requirements at all times. See section 110(a)(2)(A), (C); *US Magnesium, LLC v. EPA*, 690 F.3d 1157, 1161–62 (10th Cir. 2012).

and definitions of startup and shutdown events and work practices for them found in these regulations may be appropriate for adoption by the state in certain circumstances. In particular, the NSPS regulations should provide very relevant information for sources of the same type, size and control equipment type, even if the sources were not constructed or modified within a date range that would make them subject to the NSPS. The EPA therefore encourages states to explore these approaches.

The EPA recommends that, in order to be approvable (*i.e.*, meet CAA requirements), alternative requirements applicable to the source during startup and shutdown should be narrowly tailored and take into account considerations such as the technological limitations of the specific source category and the control technology that is feasible during startup and shutdown. The EPA recommends the following seven specific criteria as appropriate considerations for developing emission limitations in SIP provisions that apply during startup and shutdown:

- (1) The revision is limited to specific, narrowly defined source categories using specific control strategies (*e.g.*, cogeneration facilities burning natural gas and using selective catalytic reduction);
- (2) Use of the control strategy for this source category is technically infeasible during startup or shutdown periods;
- (3) The alternative emission limitation requires that the frequency and duration of operation in startup or shutdown mode are minimized to the greatest extent practicable;
- (4) As part of its justification of the SIP revision, the state analyzes the potential worst-case emissions that could occur during startup and shutdown based on the applicable alternative emission limitation;
- (5) The alternative emission limitation requires that all possible steps are taken to minimize the impact of emissions during startup and shutdown on ambient air quality;
- (6) The alternative emission limitation requires that, at all times, the facility is operated in a manner consistent with good practice for minimizing emissions and the source uses best efforts regarding planning, design, and operating procedures; and
- (7) The alternative emission limitation requires that the owner or operator's actions during startup and shutdown periods are documented by properly signed, contemporaneous operating logs or other relevant evidence.

If a state elects to create an emission limitation with different levels of

control applicable during specifically defined periods of startup and shutdown than during other normal modes of operation, then the resulting emission limitation must meet the substantive requirements applicable to the type of SIP provision at issue, meet the applicable level of stringency for that type of emission limitation and be legally and practically enforceable. Alternative emission limitations applicable during startup and shutdown cannot allow an inappropriately high level of emissions or an effectively unlimited or uncontrolled level of emissions, as those would constitute impermissible *de facto* exemptions for emissions during certain modes of operation.

E. Enforcement Discretion Provisions

One approach other than exemptions that would be consistent with CAA requirements for SIP provisions that states can use to address excess emissions during SSM events is to include in the SIP criteria and procedures for the use of enforcement discretion by air agency personnel. SIPs may contain such provisions concerning the exercise of discretion by the air agency's own personnel, but such provisions cannot bar enforcement by the EPA or by other parties through a citizen suit.

Pursuant to the CAA, all parties with authority to bring an enforcement action to enforce SIP provisions (*i.e.*, the state, the EPA or any parties who qualify under the citizen suit provision of section 304) have enforcement discretion that they may exercise as they deem appropriate in any given circumstances. For example, if the event that causes excess emissions is an actual malfunction that occurred despite reasonable care by the source operator to avoid malfunctions, then each of these parties may decide that no enforcement action is warranted. In the event that any party decides that an enforcement action is warranted, then it has enforcement discretion with respect to what remedies to seek from the court for the violation (*e.g.*, injunctive relief, compliance order, monetary penalties or all of the above), as well as the type of injunctive relief and/or amount of monetary penalties sought.⁴¹¹

As part of state programs governing enforcement, states can include regulatory provisions or may adopt policies setting forth criteria for how they plan to exercise their own

⁴¹¹ The EPA notes that only the state and the Agency have authority to seek criminal penalties for knowing and intentional violation of CAA requirements. The EPA has this explicit authority under CAA section 113(c).

enforcement authority. Under section 110(a)(2), states must have adequate authority to enforce provisions adopted into the SIP, but states can establish criteria for how they plan to exercise that authority. Such enforcement discretion provisions cannot, however, impinge upon the enforcement authority of the EPA or of others pursuant to the citizen suit provision of the CAA. Such enforcement discretion provisions in a SIP would be inconsistent with the enforcement structure provided in the CAA. Specifically, the statute provides explicit independent enforcement authority to the EPA under CAA section 113 and to citizens under CAA section 304. Thus, the CAA contemplates that the EPA and citizens have authority to pursue enforcement for a violation even if the state elects not to do so. The EPA and citizens, and any federal court in which they seek to pursue an enforcement claim for violation of SIP requirements, must retain the authority to evaluate independently whether a source's violation of an emission limitation warrants enforcement action. Potential for enforcement by the EPA or through a citizen suit provides an important safeguard in the event that the state lacks resources or ability to enforce violations and provides additional deterrence. Accordingly, a SIP provision that operates at the state's election to eliminate the authority of the EPA or the public to pursue enforcement actions in federal court would undermine the enforcement structure of the CAA and would thus be substantially inadequate to meet fundamental requirements of the CAA.

Also, states should not adopt overly broad enforcement discretion provisions for inclusion in their SIPs, even for their own personnel. Section 110(a)(2) requires states to have adequate enforcement authority, and overly broad enforcement discretion provisions would run afoul of this requirement if they have the effect of precluding adequate state authority to enforce SIP requirements. If such provisions are sufficiently specific, provide for sufficient public process and are sufficiently bounded, so that it is possible to anticipate at the time of the EPA's approval of the SIP provision how that provision will actually be applied and the potential adverse impacts thereof, then such a provision might meet basic CAA requirements. In essence, if it is possible to anticipate and evaluate in advance how the exercise of enforcement discretion could affect compliance with other CAA requirements, then it may be possible to determine in advance that the

preauthorized exercise of director's discretion will not interfere with other CAA requirements, such as providing for attainment and maintenance of the NAAQS.

When using enforcement discretion in determining whether an enforcement action is appropriate in the case of excess emissions during a malfunction, satisfaction of the following criteria should be considered:

(1) To the maximum extent practicable the air pollution control equipment, process equipment or processes were maintained and operated in a manner consistent with good practice for minimizing emissions;

(2) Repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;

(3) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

(4) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality; and

(5) The excess emissions are not part of a recurring pattern indicative of inadequate design, operation or maintenance.

F. Affirmative Defense Provisions in SIPs

The EPA believes that SIP provisions that function to alter the jurisdiction or discretion of the federal courts under CAA section 113 and section 304 to determine liability and to impose remedies are inconsistent with fundamental legal requirements of the CAA, especially with respect to the enforcement regime explicitly created by statute. Affirmative defense provisions by their nature purport to limit or eliminate the authority of federal courts to find liability or to impose remedies through factual considerations that differ from, or are contrary to, the explicit grants of authority in section 113(b) and section 113(e). These provisions are not appropriate under the CAA, no matter what type of event they apply to, what criteria they contain or what forms of remedy they purport to limit or eliminate.

Section 113(b) provides courts with explicit jurisdiction to determine liability and to impose remedies of various kinds, including injunctive relief, compliance orders and monetary

penalties, in judicial enforcement proceedings. This grant of jurisdiction comes directly from Congress, and the EPA is not authorized to alter or eliminate this jurisdiction under the CAA or any other law. With respect to monetary penalties, CAA section 113(e) explicitly includes the factors that federal courts and the EPA are required to consider in the event of judicial or administrative enforcement for violations of CAA requirements, including SIP provisions. Because Congress has already given federal courts the jurisdiction to determine what monetary penalties are appropriate in the event of judicial enforcement for a violation of a SIP provision, neither the EPA nor states can alter or eliminate that jurisdiction by superimposing restrictions on that jurisdiction and discretion granted by Congress to the courts. Accordingly, pursuant to section 110(k) and section 110(l), the EPA cannot approve any such affirmative defense provision in a SIP. If such an affirmative defense provision is included in an existing SIP, the EPA has authority under section 110(k)(5) to require a state to remove that provision.

Couching an affirmative defense provision in terms of merely defining whether the emission limitation applies and thus whether there is a "violation," as suggested by some commenters, is also problematic. If there is no "violation" when certain criteria or conditions for an "affirmative defense" are met, then there is in effect no emission limitation that applies when the criteria or conditions are met; the affirmative defense thus operates to create an exemption from the emission limitation. As explained in the February 2013 proposal, the CAA requires that emission limitations must apply continuously and cannot contain exemptions, conditional or otherwise. This interpretation is consistent with the decision in *Sierra Club v. Johnson* concerning the term "emission limitation" in section 302(k).⁴¹² Characterizing the exemptions as an "affirmative defense" runs afoul of the requirement that emission limitations must apply continuously.

The EPA wishes to be clear that the absence of affirmative defense provisions in SIPs does not alter the legal rights of sources under the CAA. In the event of an enforcement action for an exceedance of a SIP emission limitation, a source can elect to assert any common law or statutory defenses that it determines are supported, based upon the facts and circumstances surrounding the alleged violation.

⁴¹² 551 F.3d 1019 (D.C. Cir. 2008).

Under section 113(b), courts have explicit authority to impose injunctive relief, issue compliance orders, assess monetary penalties or fees and impose any other appropriate relief. Under section 113(e), federal courts are required to consider the enumerated statutory factors when assessing monetary penalties, including “such other factors as justice may require.” For example, if the exceedance of the SIP emission limitation occurs due to a malfunction, that exceedance is a violation of the applicable emission limitation but the source retains the ability to defend itself in an enforcement action and to oppose the imposition of particular remedies or to seek the reduction or elimination of monetary penalties, based on the specific facts and circumstances of the event. Thus, elimination of a SIP affirmative defense provision that purported to take away the statutory jurisdiction of the federal court to exercise its authority to impose remedies does not disarm sources in potential enforcement actions. Sources retain all of the equitable arguments they could have made under an affirmative defense provision; they must simply make such arguments to the reviewing court as envisioned by Congress in section 113(b) and section 113(e).

Once impermissible SSM exemptions are removed from the SIP, then any excess emissions during such events may be the subject of an enforcement action, in which the parties may use any appropriate evidence to prove or disprove the existence and scope of the alleged violation and the appropriate remedy for an established violation. Any alleged violation of an applicable SIP emission limitation, if not conceded by the source, must be established by the party bearing the burden of proof in a legal proceeding. The degree to which evidence of an alleged violation may derive from a specific reference method or any other credible evidence must be determined based upon the facts and circumstances of the exceedance of the emission limitation at issue.⁴¹³ Congress vested the federal courts with the authority to judge how best to weigh the evidence in an enforcement action.

⁴¹³ For example, the degree to which data from continuous opacity monitoring systems (COMS) is evidence of violations of SIP opacity or PM mass emission limitations is a factual question that must be resolved on the facts and circumstances in the context of an enforcement action. See, e.g., *Sierra Club v. Pub. Serv. Co. of Colorado, Inc.*, 894 F.Supp. 1455 (D. Colo. 1995) (allowing use of COMS data to prove opacity limit violations).

G. Anti-Backsliding Considerations

The EPA recognizes that one important consideration for air agencies as they evaluate how best to revise their SIP provisions in response to this SIP call is the nature of the analysis that will be necessary for the resulting SIP revisions under section 110(k)(3), section 110(l) and section 193. Under section 110(l), the EPA is prohibited from approving any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress or any other requirements of the CAA. Section 193 prohibits states from modifying regulations in place prior to November 15, 1990, unless the modification ensures equivalent or greater reductions of the pollutant. SIP revision must be evaluated for compliance with section 110(l) and section 193 on the facts and circumstances of the specific revision. Section X of this document provides three example scenarios in which a state might remove an impermissible SSM provision from its SIP, including how sections 110(l) and 193 considerations might apply. These examples are intended to provide general guidance on the considerations and the nature of the analysis that may be appropriate for different types of SIP revisions. Air agencies should contact their respective EPA Regional Offices (see the **SUPPLEMENTARY INFORMATION** section of this document) for further recommendations and assistance concerning the analysis appropriate for specific SIP revisions involving changes in SSM provisions.

XII. Environmental Justice Consideration

The final action restates the EPA’s interpretation of the statutory requirements of the CAA. Through the SIP calls issued to certain states as part of this SIP call action under CAA section 110(k)(5), the EPA is only requiring each affected state to revise its SIP to comply with existing requirements of the CAA. The EPA’s action therefore leaves to each affected state the choice as to how to revise the SIP provision in question to make it consistent with CAA requirements and to determine, among other things, which of the several lawful approaches to the treatment of excess emissions during SSM events will be applied to particular sources. The EPA has not performed an environmental justice analysis for purposes of this action, because it cannot geographically locate or quantify the resulting source-specific emission reductions. Nevertheless, the EPA believes this action will provide

environmental protection for all areas of the country.

XIII. References

The following is a list of documents that are specifically referenced in this document. Some listed documents also include a document ID number associated with the docket for this rulemaking.

1. 1982 SSM Guidance (Memorandum to Regional Administrators, Region I–X from Kathleen M. Bennett, Assistant Administrator for Air, Noise and Radiation, Subject: Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions, dated September 28, 1982), EPA–HQ–OAR–2012–0322–0005.
2. 1983 SSM Guidance (Memorandum to Regional Administrators, Region I–X from Kathleen M. Bennett, Assistant Administrator for Air, Noise and Radiation, Subject: Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions, dated February 15, 1983), EPA–HQ–OAR–2012–0322–0006.
3. 1999 SSM Guidance (Memorandum to EPA Regional Administrators, Regions I–X from Steven A. Herman and Robert Perciasepe, USEPA, Subject: State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown, dated September 20, 1999), EPA–HQ–OAR–2012–0322–0007.
4. 2001 SSM Guidance (Memorandum to EPA Regional Administrators, Regions I–X from Eric Schaeffer, Director, Office of Regulatory Enforcement, Office of Enforcement and Compliance Assurance, and John S. Seitz, Director, Office of Air Quality Planning and Standards, Office of Air and Radiation, dated December 5, 2001), EPA–HQ–OAR–2012–0322–0038.
5. “Action to Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call; Final rule,” 75 FR 77698 (December 13, 2010), EPA–HQ–OAR–2012–0322–0014.
6. *Am. Farm Bureau Fedn v. United States EPA*, 984 F.Supp.2d 289 (M.D. Pa. 2013).
7. *Appalachian Power Co. v. EPA*, 249 F.3d 1032 (D.C. Cir. 2001).
8. *Appalachian Power Co. v. EPA*, 251 F.3d 1026 (D.C. Cir. 2001).
9. “Approval and Disapproval and Promulgation of Air Quality Implementation Plans; Colorado; Revisions to Regulation 1; Notice of proposed rulemaking,” 75 FR 42342 (July 21, 2010), EPA–HQ–OAR–2012–0322–0015, finalized as proposed at 76 FR 4540 (January 26, 2011), EPA–HQ–OAR–2012–0322–0016.
10. “Approval and Promulgation of Air Quality Implementation Plans; New Hampshire; Reasonably Available Control Technology for the 1997 8-Hour Ozone Standard; Direct final rule,” 77 FR 66388 (November 5, 2012).

11. "Approval and Promulgation of Air Quality Implementation Plans; New Hampshire; Reasonably Available Control Technology Update To Address Control Techniques Guidelines Issued in 2006, 2007, and 2008; Direct final rule," 77 FR 66921 (November 8, 2012).
12. "Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Redesignation, Maintenance Plan, and Emissions Inventories for Reading; Ozone Redesignations Policy Change; Final rule," 62 FR 24826 (May 7, 1997).
13. "Approval and Promulgation of Air Quality Implementation Plans; Utah; Redesignation Request and Maintenance Plan for Salt Lake County; Utah County; Ogden City PM₁₀ Nonattainment Area; Proposed rule," 74 FR 62717 (December 1, 2009).
14. "Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; State of Arizona; Redesignation of Phoenix-Mesa Area to Attainment for the 1997 8-Hour Ozone Standard; Final rule," 79 FR 55645 (September 17, 2014).
15. "Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio; Redesignation of the Ohio Portion of the Huntington-Ashland 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment; Final rule," 77 FR 76883 (December 31, 2012).
16. "Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; State of Arizona; Redesignation of the Phoenix-Mesa Nonattainment Area to Attainment for the 1997 8-Hour Ozone Standard; Proposed rule," 79 FR 16734 (March 26, 2014).
17. "Approval and Promulgation of Implementation Plans; Arkansas; Revisions for the Regulation and Permitting of Fine Particulate Matter; Final rule," 80 FR 11573 (March 4, 2015).
18. "Approval and Promulgation of Implementation Plans; Corrections to the Arizona and Nevada State Implementation Plans; Direct final rule," 74 FR 57051 (November 3, 2009), EPA-HQ-OAR-2012-0322-0018.
19. "Approval and Promulgation of Implementation Plans; Designation of Areas for Air Quality Planning Purposes; State of California; PM-10; Revision of Designation; Redesignation of the San Joaquin Valley Air Basin PM-10 Nonattainment Area to Attainment; Approval of PM-10 Maintenance Plan for the San Joaquin Valley Air Basin; Approval of Commitments for the East Kern PM-10 Nonattainment Area; Proposed rule," 73 FR 22307 (April 25, 2008).
20. "Approval and Promulgation of Implementation Plans; Kentucky; Approval of Revisions to the Jefferson County Portion of the Kentucky SIP; Emissions During Startups, Shutdowns, and Malfunctions," proposed at 78 FR 29683 (May 21, 2013) and finalized at 79 FR 33101 (June 10, 2014), EPA-HQ-OAR-2012-0322-0890.
21. "Approval and Promulgation of Implementation Plans; North Dakota; Revisions to the Air Pollution Control Rules; Final rule," 79 FR 63045 (October 22, 2014).
22. "Approval and Promulgation of Implementation Plans; Texas; Excess Emissions During Startup, Shutdown, Maintenance, and Malfunction Activities," 75 FR 68989 (November 10, 2010), EPA-HQ-OAR-2012-0322-0892.
23. "Approval and Promulgation of Implementation Plans; Texas; Revisions to the New Source Review (NSR) State Implementation Plan (SIP); Prevention of Significant Deterioration (PSD), Nonattainment NSR (NNSR) for the 1997 8-Hour Ozone Standard, NSR Reform, and a Standard Permit; Proposed rule," 74 FR 48467 (September 23, 2009).
24. "Approval and Promulgation of Implementation Plans; Wyoming; Revisions to the Air Quality Standards and Regulations," 79 FR 62859 (October 21, 2014).
25. "Approval and Promulgation of State Implementation Plans; Call for Sulfur Dioxide SIP Revisions for Billings/Laurel, MT [Montana]," 58 FR 41430 (August 4, 1993).
26. "Approval and Promulgation of State Implementation Plans; Michigan," 63 FR 8573 (February 20, 1998), EPA-HQ-OAR-2012-0322-0023.
27. *Arizona Public Service Co. v. EPA*, 562 F.3d 1116 (10th Cir. 2009).
28. *ATK Launch Systems, Inc. v. EPA*, 651 F.3d 1194 (10th Cir. 2011).
29. *Auer v. Robbins*, 519 U.S. 452 (1997).
30. CAA of 1970, Pub. L. 91-604, section 4(a), 84 Stat. 1676 (December 31, 1970).
31. *Catawba County, North Carolina v. EPA*, 571 F.3d 20 (D.C. Cir. 2009).
32. *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).
33. "Clean Air Act Full Approval of Partial Operating Permit Program; Allegheny County; Pennsylvania; Direct final rule," 66 FR 55112 (November 1, 2001), EPA-HQ-OAR-2012-0322-0020.
34. *Conn. Light & Power Co. v. NRC*, 673 F.2d 525 (D.C. Cir. 1982).
35. "Correction of Implementation Plans; American Samoa, Arizona, California, Hawaii, and Nevada State Implementation Plans; Notice of proposed rulemaking," 61 FR 38664 (July 25, 1996), EPA-HQ-OAR-2012-0322-0034, finalized at 62 FR 34641 (June 27, 1997), EPA-HQ-OAR-2012-0322-0035.
36. "Corrections to the California State Implementation Plan," 69 FR 67062 (November 16, 2004), EPA-HQ-OAR-2012-0322-0017.
37. "Credible Evidence Revisions; Final rule," 62 FR 8314 (February 24, 1997).
38. "Draft Emissions Inventory Guidance for Implementation of Ozone [and Particulate Matter]* National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," April 11, 2014.
39. *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D.C. Cir. 2012) *rev'd*, 134 S. Ct. 1584 (2014).
40. "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," Appendix B, August 2005, EPA-454/R-05-001.
41. "Federal Implementation Plan for the Billings/Laurel, MT [Montana], Sulfur Dioxide Area," 73 FR 21418 (April 21, 2008), EPA-HQ-OAR-2012-0322-0009.
42. *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502 (2009).
43. February 2013 proposal ("State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction; Proposed rule," 78 FR 12459, February 22, 2013), EPA-HQ-OAR-2012-0322-0055.
44. "Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone," 63 FR 57356 (October 27, 1998), EPA-HQ-OAR-2012-0322-0037.
45. "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 76 FR 21639 (April 18, 2011), EPA-HQ-OAR-2012-0322-0010.
46. "Finding of Substantial Inadequacy of Implementation Plan; Call for Utah State Implementation Plan Revision," 75 FR 70888 (November 19, 2010), EPA-HQ-OAR-2012-0322-0012.
47. "Finding of Substantial Inadequacy of Implementation Plan; Call for Iowa State Implementation Plan Revision," 76 FR 41424 (July 14, 2011).
48. "Finding of Substantial Inadequacy of Implementation Plan; Call for California State Implementation Plan Revision," 68 FR 37746 (June 25, 2003).
49. *Florida Power & Light Co. v. Costle*, 650 F.2d 579 (5th Cir. 1981).
50. *Florida Power & Light Co. v. United States*, 846 F.2d 765 (D.C. Cir. 1988).
51. "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze," April 2007, EPA-454/B-07-002.
52. "Guidelines for Estimating and Applying Rule Effectiveness for Ozone/CO State Implementation Plan Base Year Inventories," November 1992, EPA-4S2JR-92.010.
53. H. Rept. 101-490.
54. H.R. 95-294 (1977).
55. *Howmet Corp. v. EPA*, 614 F.3d 544 (D.C. Cir. 2010).
56. *Industrial Environmental Association v. Browner*, No. 97-71117 (9th Cir. May 26, 2000).
57. *Ky. Res Council v. EPA*, 467 F.3d 986 (6th Cir. 2006).
58. *Luminant Generation v. EPA*, 714 F.3d 841 (5th Cir. 2013) [EPA-HQ-OAR-2012-0322-0881], *cert. denied*, 134 S. Ct. 387 (2013).

59. Memorandum, "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard," from T. Fox, EPA/OAQPS, to Regional Air Division Directors, March 1, 2011.
60. Memorandum, "Estimate of Potential Direct Costs of SSM SIP Calls to Air Agencies," April 28, 2015.
61. Memorandum, "Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Section 110(a)(1) and 110(a)(2)," from Stephen D. Page, Director, OAQPS, to Regional Air Directors, Regions 1–10, September 13, 2013.
62. Memorandum, "Statutory, Regulatory, and Policy Context for this Rulemaking," February 4, 2013, EPA–HQ–OAR–2012–0322–0029 (Background Memorandum).
63. *Mich. Dep't of Env'tl. Quality v. Browner*, 230 F.3d 181 (6th Cir. 2000).
64. *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000).
65. *Mid-Tex Elec. Co-op, Inc. v. FERC*, 773 F.2d 327 (D.C. Cir. 1985).
66. *Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174 (9th Cir. 2012) [EPA–HQ–OAR–2012–0322–0032], *cert. denied*, 133 S. Ct. 409 (2012).
67. *Motor Vehicle Mfrs Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29 (1983).
68. "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Proposed rule," 80 FR 3089 (January 21, 2015).
69. "National Emission Standards for Hazardous Air Pollutants Residual Risk and Technology Review for Flexible Polyurethane Foam Production; Final rule," 79 FR 48073 (August 15, 2014).
70. "National Emission Standards for Hazardous Air Pollutants: Generic Maximum Achievable Control Technology Standards; and Manufacture of Amino/Phenolic Resins; Final rule," 79 FR 60897 (October 8, 2014).
71. *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005).
72. *Nat'l Gypsum v. EPA*, 968 F.2d 40 (D.C. Cir. 1992).
73. *New Hampshire v. Maine*, 532 U.S. 742 (2011).
74. *North Dakota v. EPA*, 730 F.3d 750 (8th Cir. 2013), *cert. denied*, 134 S. Ct. 2662 (2014).
75. *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014), EPA–HQ–OAR–2012–0322–0885.
76. *Oklahoma v. EPA*, 723 F.3d 1201 (10th Cir. 2013), *cert. denied*, 134 S. Ct. 2662 (2014).
77. "Oil and Natural Gas Sector: Reconsideration of Additional Provisions of New Source Performance Standards; Final rule," 79 FR 79017 (December 31, 2014).
78. "Oil and Natural Gas Sector: Reconsideration of Additional Provisions of New Source Performance Standards; Proposed rule," 79 FR 41752 (July 17, 2014).
79. *Omnipoint Corp. v. Fed. Comm'ns Comm'n*, 78 F.3d 620 (D.C. Cir. 1996).
80. Petition ("Petition to Find Inadequate and Correct Several State Implementation Plans under Section 110 of the Clean Air Act Due to Startup, Shutdown, Malfunction, and/or Maintenance Provisions," on behalf of Sierra Club, dated June 30, 2011), EPA–HQ–OAR–2012–0322–0003.
81. "Proposed Settlement Agreement, Clean Air Act Citizen Suit," 76 FR 54465 (September 1, 2011).
82. "Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans; Final rules," 45 FR 52676 (August 7, 1980).
83. "Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971; Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978; Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units; and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units; Final rule," 74 FR 5072 (January 28, 2009).
84. S. Rep No. 91–1196 (1970).
85. "Selection of Sequence of Mandatory Sanctions for Findings Made Pursuant to Section 179 of the Clean Air Act," 59 FR 39832 (August 4, 1994), EPA–HQ–OAR–2012–0322–0033, codified at 40 CFR 52.31.
86. Settlement Agreement executed November 30, 2011, to address a lawsuit filed by Sierra Club and WildEarth Guardians in the United States District Court for the Northern District of California, in *Sierra Club et al. v. Jackson*, No. 3:10–cv–04060–CRB (N.D. Cal.), EPA–HQ–OAR–2012–0322–0039.
87. *Sierra Club v. EPA*, 375 F.3d 537 (7th Cir. 2004).
88. *Sierra Club v. Georgia Power Co.*, 443 F.3d 1346 (11th Cir. 2006).
89. *Sierra Club v. Johnson*, 551 F.3d 1019 (D.C. Cir. 2008), EPA–HQ–OAR–2012–0322–0048.
90. *Sierra Club v. Pub. Serv. Co. of Colorado, Inc.*, 894 F.Supp. 1455 (D. Colo. 1995).
91. SNPR ("State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction; Supplemental Proposal To Address Affirmative Defense Provisions in States Included in the Petition for Rulemaking and in Additional States; Supplemental notice of proposed rulemaking," 79 FR 55919, September 17, 2014), EPA–HQ–OAR–2012–0322–0909.
92. *Southwestern Pennsylvania Growth Alliance v. EPA*, 114 F.3d 984 (6th Cir. 1998).
93. *State Farm Mut. Auto Ins. Co. v. Campbell*, 538 U.S. 408 (2003).
94. "State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction; Notice of extension of public comment period," 78 FR 20855 (April 8, 2013), EPA–HQ–OAR–2012–0322–0126.
95. "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," 57 FR 13498 (April 16, 1992).
96. *Tex Tin Corp. v. EPA*, 992 F.2d 353 (D.C. Cir. 1993).
97. *Texas v. EPA*, No. 10–60961, 2011 WL 710498 (5th Cir. Feb. 24, 2011).
98. *Train v. NRDC*, 421 U.S. 60 (1975).
99. *U.S. v. Ford Motor Co.*, 736 F.Supp. 1539 (W.D. Mo. 1990).
100. *U.S. v. General Motors Corp.*, 702 F.Supp. 133 (N.D. Texas 1988).
101. *Union Elec. Co. v. EPA*, 427 U.S. 246 (1976).
102. *US Magnesium, LLC v. EPA*, 690 F.3d 1157 (10th Cir. 2012), EPA–HQ–OAR–2012–0322–0031.
103. *Virginia v. EPA*, 108 F.3d 1397 (D.C. Cir. 1997).
104. *Wall v. EPA*, 265 F.3d 426 (6th Cir. 2001).
105. *Wyo. Outdoor Council v. U.S. Forest Serv.*, 165 F.3d 43 (D.C. Cir. 1999).

XIV. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is a "significant regulatory action" that was submitted to the Office of Management and Budget (OMB) for review because it raises novel legal or policy issues. Any changes made in response to OMB recommendations have been documented in the docket.

B. Paperwork Reduction Act (PRA)

This action does not impose an information collection burden under the PRA. This action merely reiterates the EPA's interpretation of the statutory requirements of the CAA and does not require states to collect any additional information. Through the SIP calls issued to certain states as part of this action under CAA section 110(k)(5), the EPA is only requiring each affected state to revise its SIP to comply with existing requirements of the CAA.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. Any agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to this rule. This action

will not impose any requirements on small entities. Instead, the action merely reiterates the EPA's interpretation of the statutory requirements of the CAA. Through the SIP calls issued to certain states as part of this SIP call action under CAA section 110(k)(5), the EPA is only requiring each affected state to revise its SIP to comply with existing requirements of the CAA. The EPA's action therefore leaves to each affected state the choice as to how to revise the SIP provision in question to make it consistent with CAA requirements and to determine, among other things, which of the several lawful approaches to the treatment of excess emissions during SSM events will be applied to particular sources.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any federal mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no new enforceable duty on any state, local or tribal governments or the private sector. The regulatory requirements of this action apply to certain states for which the EPA is issuing a SIP call. To the extent that such affected states allow local air districts or planning organizations to implement portions of the state's obligation under the CAA, the regulatory requirements of this action do not significantly or uniquely affect small governments because those governments have already undertaken the obligation to comply with the CAA.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. In this action, the EPA is not addressing any tribal implementation plans. This action is limited to states. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern

environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because, in prescribing the EPA's action for states regarding their obligations for SIPs under the CAA, it implements specific standards established by Congress in statutes.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not a "significant energy action" because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. This action merely prescribes the EPA's action for states regarding their obligations for SIPs under the CAA.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations. The action is intended to ensure that all communities and populations across the affected states, including minority, low-income and indigenous populations overburdened by pollution, receive the full human health and environmental protection provided by the CAA. This action concerns states' obligations regarding the treatment they give, in rules included in their SIPs under the CAA, to excess emissions during startup, shutdown and malfunctions. This action requires that certain states bring their treatment of these emissions into line with CAA requirements, which will lead to certain sources' having greater incentives to control emissions during such events.

K. Determination Under Section 307(d)

Pursuant to CAA section 307(d)(1)(V), the Administrator determines that this action is subject to the provisions of section 307(d). Section 307(d) establishes procedural requirements specific to rulemaking under the CAA. Section 307(d)(1)(V) provides that the provisions of section 307(d) apply to

"such other actions as the Administrator may determine."

L. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

XV. Judicial Review

The Administrator determines that this action is "nationally applicable" within the meaning of section 307(b)(1) of the CAA. This action in scope and effect extends to numerous judicial circuits because the action on the Petition extends to states throughout the country. In these circumstances, section 307(b)(1) and its legislative history authorize the Administrator to find the action to be of "nationwide scope or effect" and thus to indicate the venue for challenges to be in the D.C Circuit. Thus, any petitions for review must be filed in the U.S. Court of Appeals for the District of Columbia Circuit.

In addition, pursuant to CAA section 307(d)(1)(V), the EPA is determining that this rulemaking action is subject to the requirements of section 307(d), which establish procedural requirements specific to rulemaking under the CAA. In the event there is a judicial challenge to this action and a court determines that the EPA has erred with respect to any portion of this action, the EPA intends the components of this action to be severable.

XVI. Statutory Authority

The statutory authority for this action is provided by CAA section 101 *et seq.* (42 U.S.C. 7401 *et seq.*).

List of Subjects in 40 CFR Part 52

Environmental protection, Affirmative defense, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Carbon monoxide, Excess emissions, Greenhouse gases, Hydrofluorocarbons, Incorporation by reference, Intergovernmental relations, Lead, Methane, Nitrogen dioxide, Nitrous oxide, Ozone, Particulate matter, Perfluorocarbons, Reporting and recordkeeping requirements, Startup, shutdown and malfunction, State implementation plan, Sulfur hexafluoride, Sulfur oxides, Volatile organic compounds.

Dated: May 22, 2015.

Gina McCarthy,
Administrator.

[FR Doc. 2015–12905 Filed 6–11–15; 8:45 am]

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Attachment 11

**ENVIRONMENTAL PROTECTION
AGENCY**

40 CFR Part 52

[EPA-R05-OAR-2017-0082; FRL-9976-70—Region 5]

**Air Plan Approval; Illinois; Regional
Haze Progress Report**

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving the regional haze progress report under the Clean Air Act (CAA) as a revision to the Illinois state implementation plan (SIP). Illinois has satisfied the progress report requirements of the Regional Haze Rule. Illinois has also provided a determination of the adequacy of its regional haze plan with the progress report.

DATES: This final rule is effective on May 14, 2018.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2017-0082. All documents in the docket are listed on the www.regulations.gov website. Although listed in the index, some information is not publicly available, *i.e.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available either through www.regulations.gov or at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. We recommend that you telephone Charles Hatten, Environmental Engineer at (312) 886-6031 before visiting the Region 5 office.

FOR FURTHER INFORMATION CONTACT:

Charles Hatten, Environmental Engineer, Control Strategy Section, Air Programs Branch (AR-18), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886-6031, hatten.charles@epa.gov.

SUPPLEMENTARY INFORMATION:

Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA. This supplementary information section is arranged as follows:

I. Background

- II. What is EPA’s response to the comments?
- III. What action is EPA taking?
- IV. Statutory and Executive Order Reviews

I. Background

States are required to submit a progress report every five years that evaluates progress towards the Reasonable Progress Goals (RPGs) for each mandatory Class I Federal area¹ (Class I area) within the state and in each Class I area outside the state which may be affected by emissions from within the state. *See* 40 CFR 51.308(g). States are also required to submit, at the same time as the progress report, a determination of the adequacy of the state’s existing regional haze SIP. *See* 40 CFR 51.308(h). The first progress report must be submitted in the form of a SIP revision and is due five years after the submittal of the initial regional haze SIP. On June 24, 2011, Illinois submitted its first regional haze SIP in accordance with the requirements of 40 CFR 51.308. EPA approved Illinois’ regional haze plan into its SIP on July 6, 2012, 77 FR 39943.

On February 1, 2017, Illinois submitted a SIP revision consisting of a report on the progress made in the first implementation period towards the RPGs for Class I areas outside of Illinois (progress report). The emissions from Illinois affected 19 Class I areas located out of the state. Illinois does not have any Class I areas within its borders. The Illinois progress report included a determination that the Illinois existing regional haze SIP requires no substantive revision to achieve the established regional haze visibility improvement and emissions reduction goals for 2018. EPA is approving the Illinois progress report on the basis that it satisfies the requirements of 40 CFR 51.308.

EPA published a direct final rule on October 18, 2017 (82 FR 48431), approving the Illinois regional haze progress report as a revision to the Illinois SIP, along with a proposed rule (82 FR 48473) that provided a 30-day public comment period.

In the direct final rule, it states that if EPA received adverse comments, EPA will publish a timely withdrawal of the direct final rule in the **Federal Register** informing the public that the rule will not take effect. EPA received adverse comments during the comment period, and the October 18, 2017 direct final rule approving the Illinois regional haze

¹ Areas designated as mandatory Class I Federal areas consist of national parks exceeding 6000 acres, wilderness areas and national memorial parks exceeding 5000 acres, and all international parks that were in existence on August 7, 1977 (42 U.S.C. 7472(a)). Listed at 40 CFR part 81, subpart D.

progress report was withdrawn on December 8, 2017 (82 FR 57836). The adverse comments received are addressed below.

II. What is EPA’s response to the comments?

EPA received two anonymous comments on the proposed approval of the Illinois regional haze progress report.

Comment #1—One commenter stated that the source-specific emissions limits for four sources in the Illinois regional haze SIP are not enforceable as the emission limits were not included in the state’s plan but were rather contained in a memorandum of understanding or consent decrees. These four sources are the City of Springfield City Water, Light, and Power electric generating facility (CWLP), the Dominion Kincaid power plant (Kincaid), CITGO Petroleum Corporation (CITGO) Lemont petroleum refinery, and Exxon Mobil Corporation (Exxon Mobil) Joliet petroleum refinery. The commenter raised concern that these limits cannot be enforced by citizens.

EPA’s Response to the Comment

The source-specific emission limits for CWLP and Kincaid are contained in federally enforceable permits, as well as in the Illinois’ regional haze SIP. Illinois issued joint construction and operating air permits to CWLP and Kincaid pursuant to authority in the Illinois SIP. The two permits were incorporated into the Illinois’ regional haze SIP (77 FR 39948). Illinois’ progress report confirms that these permits, setting nitrogen oxide (NO_x) and sulfur dioxide (SO₂) emission limits, and operating conditions to meet the Regional Haze Rule requirements of the CAA, are federally enforceable. Additionally, the permits state that they “establish limits for NO_x and SO₂ for the affected units that are directly enforceable and permanent and that are not contingent upon commencement of construction by the Permittee of additional emission control equipment for the affected units. This is because the emission limits for the affected units are legally required pursuant to section 169A of the CAA and these limits are enforceable.” Similarly, Illinois incorporated emission limits and operating conditions from two consent decrees (for CITGO and Exxon Mobil) into minor new source review construction permits issued pursuant to authority in the Illinois SIP. As such, these are federally enforceable permits potentially subject to enforcement through action by citizens. *See* 42 U.S.C. 7604.

Comment #2—Another commenter stated that EPA is incorrect in saying that Illinois did not rely on the Cross-State Air Pollution Rule (CSAPR) for its regional haze goals. The commenter notes that in its submittal, Illinois lists the “Transport Rule (Part 1)” under the “on-the books” control measures the state is relying on for the years 2002–2018.

EPA’s Response to the Comment—In our direct final rule, EPA noted that Illinois did not rely on the Clean Air Interstate Rule (CAIR) or CSAPR in its regional haze SIP. 82 FR 48432. EPA’s position reflects the statement made by Illinois in its regional haze progress report that “Illinois does *not* rely on the use of the Clean Air Interstate Rule (CAIR) or CSAPR to satisfy its regional haze requirements.” Instead, Illinois used state rules and other measures to satisfy the Regional Haze Rule requirements for Best Available Retrofit Technology (BART) in 40 CFR 51.308(e).

The progress report does contain a list of modeled “on-the-books” control measures used in the analysis for the Illinois regional haze plan. The progress report states, “that these control measures were used in the future year modeling prepared by the Midwest Regional Planning Organization (MRPO) prior to the Illinois SIP submittal and are expected to be implemented between 2002 and 2018.” The modeling analysis prepared by MRPO included reductions from CAIR, as well as other existing federal measures, to assess anticipated future visibility conditions. (See 77 FR 3971; January 26, 2012). Illinois did not rely on emission reductions from CAIR or CSAPR to satisfy the BART requirements because the state demonstrated that the benefits of Illinois’ alternative control strategy satisfied the regional haze BART requirements.

We also note that CSAPR is being implemented at this time in Illinois and other states. Given this, it is unclear how the commenter’s concerns are relevant to the approvability of Illinois’ progress report.

EPA evaluated the Illinois progress report which indicates that implementation of the control measures in its regional haze plan is on track to achieve the established regional haze visibility improvement goals for the first implementation period. EPA finds that the Illinois progress report satisfies 40 CFR 51.308.

III. What action is EPA taking?

EPA is approving the regional haze progress report submitted on February 1, 2017, as a revision to the Illinois SIP

on the basis that it satisfies the requirements of 40 CFR 51.308. The progress report includes an adequate discussion of the implementation of the regional haze SIP measures and of the significant emission reductions achieved. The progress report also includes a determination that the Illinois existing regional haze SIP is sufficient to achieve the established regional haze visibility improvement and emissions reduction goals for the first implementation period. EPA also finds that Illinois has met the requirements for a determination of adequacy of its regional haze plan with the progress report.

IV. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA’s role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and

- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by June 11, 2018. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2)).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

Dated: April 3, 2018.
 Cathy Stepp,
 Regional Administrator, Region 5.

40 CFR part 52 is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 2. In § 52.720, the table in paragraph (e) is amended by adding the entry

“Regional Haze Progress Report” immediately following the entry for “Regional haze plan” to read as follows:

§ 52.720 Identification of plan.

* * * * *
 (e) * * *

EPA-APPROVED ILLINOIS NONREGULATORY AND QUASI-REGULATORY PROVISIONS

Name of SIP provision	Applicable geographic or nonattainment area	State submittal date	EPA approval date	Comments
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
Regional Haze Progress Report.	Statewide	02/01/17	April 12, 2018, [insert Federal Register citation].	
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *

[FR Doc. 2018-07519 Filed 4-11-18; 8:45 am]
 BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R10-OAR-2016-0749; FRL-9976-71—Region 10]

Approval and Promulgation of State Implementation Plans; Alaska: Regional Haze Progress Report

AGENCY: Environmental Protection Agency (EPA).
ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving a revision to the Alaska regional haze State Implementation Plan (SIP), submitted by the State of Alaska on March 10, 2016. Alaska submitted its Regional Haze Progress Report (“progress report” or “report”) and a negative declaration stating that further revision of the existing regional haze SIP is not needed at this time. Alaska submitted both the progress report and the negative declaration in the form of implementation plan revisions as required by federal regulations. The progress report addresses the federal Regional Haze Rule requirements under the Clean Air Act to submit a report describing progress in achieving reasonable progress goals established for regional haze and a determination of the adequacy of the state’s existing plan addressing regional haze. We are also approving minor updates to the Enhanced Smoke Management Plan, Long-Term Strategy, and Commitment to Future 308 Plan Revision sections of

the regional haze SIP, submitted concurrently with the progress report. **DATES:** This final rule is effective May 14, 2018.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA-R10-OAR-2016-0749. All documents in the docket are listed on the <https://www.regulations.gov> website. Although listed in the index, some information may not be publicly available, *i.e.*, Confidential Business Information or other information the disclosure of which is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and is publicly available only in hard copy form. Publicly available docket materials are available at <https://www.regulations.gov> and at EPA Region 10, Office of Air and Waste, 1200 Sixth Avenue, Seattle, Washington 98101. The EPA requests that you contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office’s official hours of business are Monday through Friday, 8:30 to 4:30, excluding federal holidays.

FOR FURTHER INFORMATION CONTACT: Jeff Hunt, Air Planning Unit, Office of Air and Waste (OAW-150), EPA Region 10, 1200 Sixth Ave Suite 900, Seattle, WA 98101; telephone number: (206) 553-0256; email address: hunt.jeff@epa.gov.

SUPPLEMENTARY INFORMATION:

Table of Contents

- I. Background Information
- II. Final Action
- III. Statutory and Executive Orders Review

I. Background Information

On February 16, 2018, the EPA proposed to approve Alaska’s Regional Haze Progress Report, as well as minor

updates to the Enhanced Smoke Management Plan, Long-Term Strategy, and Commitment to Future 308 Plan Revision sections of the regional haze SIP, submitted concurrently with the progress report (83 FR 7002). An explanation of the Clean Air Act requirements, a detailed analysis of the submittal, and the EPA’s reasons for proposing approval were provided in the notice of proposed rulemaking, and will not be restated here. The public comment period for the proposal ended March 19, 2018. We received no adverse comments.¹

II. Final Action

The EPA is approving the Alaska Regional Haze Progress Report submitted on March 10, 2016, as meeting the applicable requirements of the Clean Air Act and the federal Regional Haze Rule, as set forth in 40 CFR 51.308(g). The EPA has determined that the existing regional haze SIP is adequate to meet the state’s visibility goals and requires no substantive revision at this time, as set forth in 40 CFR 51.308(h). We have also determined that Alaska fulfilled the requirements in 40 CFR 51.308(i) regarding state coordination with Federal Land Managers. Lastly, we are approving updates to the Enhanced Smoke Management Plan, Long-Term Strategy, and Commitment to Future 308 Plan Revision sections of the regional haze SIP, submitted concurrently with the Alaska Regional Haze Progress Report.

¹ We received two comments in support of the proposed approval. We also received five comments that were not germane to the regional haze program or the Alaska submission. See “AK RH 5 year progress_Memo to File reComment” included in the docket for this action.

Attachment 12

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-HQ-OAR-2021-0863; FRL-9250-01-OAR]

Findings of Failure To Submit State Implementation Plan Revisions in Response to the 2015 Findings of Substantial Inadequacy and SIP Calls To Amend Provisions Applying To Excess Emissions During Periods of Startup, Shutdown, and Malfunction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final action.

SUMMARY: The Environmental Protection Agency (EPA) is taking final action to find that 12 States and local air pollution control agencies failed to submit State Implementation Plan (SIP) revisions required by the Clean Air Act (CAA) in a timely manner to address EPA's 2015 findings of substantial inadequacy and "SIP calls" for provisions applying to excess emissions during periods of startup, shutdown, and malfunction (SSM). This action triggers certain CAA deadlines for the EPA to impose sanctions if a State does not submit a complete SIP revision addressing the outstanding requirements and to promulgate a Federal Implementation Plan (FIP) if the EPA does not approve the State's submission as a SIP revision.

DATES: This action is effective February 11, 2022.

FOR FURTHER INFORMATION CONTACT:

General questions concerning this notice should be addressed to, Erin Lowder, Office of Air Quality Planning and Standards, Air Quality Policy Division, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711; by telephone (919) 541-5421; or by email at lowder.erin@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. How is the preamble organized?

The information presented in this preamble is organized as follows:

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I. General Information

- A. How is the preamble organized?
- B. Notice and Comment Under the Administrative Procedure Act (APA)
- C. How can I get copies of this document and other related information?
- D. Where do I go if I have specific air agency questions?
- II. Background
- III. Consequences of Findings of Failure To Submit
- IV. Findings of Failure To Submit for Air Agencies That Failed To Make a SIP Submittal To Address EPA's 2015 SIP Calls for Provisions Applying To Excess Emissions During SSM Periods
- V. Environmental Justice Considerations
- VI. Statutory and Executive Order Reviews
 - A. Executive Order 12866: Regulatory Planning and Executive Order 13563: Improving Regulation and Regulatory Review
 - B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs
 - C. Paperwork Reduction Act (PRA)
 - D. Regulatory Flexibility Act (RFA)
 - E. Unfunded Mandates Reform Act of 1995 (UMRA)
 - F. Executive Order 13132: Federalism
 - G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments
 - H. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks
 - I. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution or Use
 - J. National Technology Transfer and Advancement Act (NTTAA)
 - K. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority and Low Income Populations
 - L. Congressional Review Act (CRA)
 - M. Judicial Review

B. Notice and Comment Under the Administrative Procedure Act (APA)

Section 553(b)(3)(B) of the Administrative Procedure Act (APA), 5 U.S.C. 553(b)(3)(B), provides that, when an agency for good cause finds that notice and public procedures are impracticable, unnecessary, or contrary to the public interest, the agency may issue a rule without providing notice and an opportunity for public comment. The EPA has determined that there is good cause for making this final agency action without prior proposal and opportunity for comment because no significant EPA judgment is involved in making findings of failure to submit SIPs, or elements of SIPs, required by

the Clean Air Act (CAA), where states have made no submissions to meet the requirement. As is discussed in further detail later, pursuant to CAA section 110(k)(1)(B), the EPA "shall determine" no later than 6 months after the date by which a state is required to submit a SIP whether a state has made a submission that meets the minimum completeness criteria established pursuant to CAA section 110(k)(1)(A). EPA exercises no significant judgment in making a determination that a state failed to make a submission and subsequently issuing a finding of failure to submit. Thus, notice and public procedures are unnecessary to take this action. The EPA finds that this constitutes good cause under 5 U.S.C. 553(b)(3)(B).

C. How can I get copies of this document and other related information?

The EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2021-0863. Publicly available docket materials are available either electronically through <http://www.regulations.gov> or in hard copy at the EPA Docket Center, EPA/DC, William Jefferson Clinton Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC. Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room are closed to the public, with limited exceptions, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. The telephone number for the Public Reading Room is (202) 566-1744 and the telephone number for the Office of Air and Radiation Docket and Information Center is (202) 566-1742. For further information on EPA Docket Center services and the current status, please visit us online at <https://www.epa.gov/dockets>.

D. Where do I go if I have specific air agency questions?

For questions related to specific air agencies mentioned in this notice, please contact the appropriate EPA Regional Office:

Regional offices	Air agencies
EPA Region 1: Mr. John Rogan, Chief, Air Program Branch, EPA Region 1, 5 Post Office Square, Boston, MA 02109. rogan.john@epa.gov .	Rhode Island.
EPA Region 3: Mr. Mike Gordon, Chief, Planning and Implementation Branch, EPA Region 3, 1650 Arch Street, Philadelphia, PA 19103. gordon.mike@epa.gov .	District of Columbia.

Regional offices	Air agencies
EPA Region 4: Ms. Lynorae Benjamin, Chief, Air Planning and Implementation Branch, EPA Region 4, 61 Forsyth Street SW, Atlanta, GA 30303. <i>benjamin.lynorae@epa.gov</i> .	Alabama; North Carolina—Forsyth; Tennessee—Shelby (Memphis).
EPA Region 5: Mr. Doug Aburano, Manager, Air Program Branch, EPA Region 5, 77 West Jackson Boulevard, Chicago, IL 60604. <i>aburano.douglas@epa.gov</i> .	Illinois; Ohio.
EPA Region 6: Mr. Guy Donaldson, Chief, Air Program Branch, EPA Region 6, 1201 Elm Street, Dallas, TX 75270. <i>donaldson.guy@epa.gov</i> .	Arkansas.
EPA Region 8: Mr. Scott Jackson, Chief, Air Quality Planning Branch, EPA Region 8, Mailcode 8ARD-QP, 1595 Wynkoop Street, Denver, CO 80202. <i>jackson.scott@epa.gov</i> .	South Dakota.
EPA Region 9: Ms. Doris Lo, Manager, Rules Office, Air and Radiation Division, EPA Region 9, 75 Hawthorne Street, San Francisco, CA 94105. <i>lo.doris@epa.gov</i> .	California—San Joaquin Valley Air Pollution Control District (APCD).
EPA Region 10: Ms. Debra Suzuki, Chief, Air Program Branch, EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101. <i>suzuki.debra@epa.gov</i> .	Washington—Energy Facility Site Evaluation Council (EFSEC); Washington—Southwest Clean Air Agency (SWCAA).

II. Background

On June 12, 2015, the EPA finalized an action (2015 SSM SIP Action), which clarified, restated, and updated EPA’s national policy regarding SSM provisions in SIPs (2015 Policy).¹ The 2015 Policy explained the EPA’s interpretation of certain CAA requirements, affirming that SSM exemption provisions (e.g., automatic exemptions, discretionary exemptions, and overly broad enforcement discretion provisions) and affirmative defense SIP provisions are generally viewed as inconsistent with CAA requirements. At the same time, pursuant to CAA section 110(k)(5), the EPA issued findings of substantial inadequacy for SIP provisions applying to excess emissions during SSM periods for 36 states that were applicable in 45 statewide and local jurisdictions (air agencies).² As part of the 2015 SSM SIP Action, the EPA also issued a “SIP call” (2015 SIP Call) to each of those 45 air agencies. The 2015 SIP Call required air agencies to adopt and submit revisions to the EPA to correct identified SSM-related deficiencies in their SIPs by November 22, 2016. The 2015 SSM SIP Action also responded to a petition for rulemaking alleging specific deficiencies related to SSM provisions in existing SIPs. On July 27, 2015, the 2015 SSM SIP Action was challenged in the United States

Court of Appeals for the District of Columbia Circuit.³ In 2017, the EPA requested that the pending litigation on the final 2015 SSM SIP Action be held in abeyance to allow the new administration time to review the action. In 2020, Regions 4, 6, and 7 took final actions that were inconsistent with the 2015 Policy and the EPA withdrew the corresponding SIP calls previously issued to Texas, North Carolina, and Iowa. These state-specific actions are the subject of pending litigation.⁴ Moreover, in alignment with the SIP call withdrawals for Texas, North Carolina, and Iowa, the EPA issued a Memorandum in October 2020 (2020 Memorandum), which established a new national policy that permitted the inclusion of certain provisions governing SSM periods in SIPs, including those related to exemptions and affirmative defenses. Importantly, the 2020 Memorandum was not a regulatory action and did not alter or withdraw the 2015 SIP Call for any of the 45 air agencies identified in the 2015 SSM SIP Action. The 2020 Memorandum did, however, indicate the EPA’s intent at the time to review the remaining SIP calls that were issued in the 2015 SSM SIP Action to determine whether the EPA should maintain, modify, or withdraw particular SIP calls through future agency actions.

On September 30, 2021, the EPA issued a Memorandum (2021 Memorandum) that announced a withdrawal of the 2020 Memorandum and EPA’s intent to return to the 2015 Policy and implement it fully. As previously articulated in the 2015

Policy, the 2021 Memorandum states that SSM exemption provisions and affirmative defense provisions included in SIPs will generally be viewed as inconsistent with CAA requirements.

As part of the reinstatement of the 2015 Policy, the EPA intends to implement the pending SIP calls, which remain in place from the 2015 SSM SIP Action. Pursuant to CAA section 110(k)(1)(B), the EPA must determine no later than 6 months after the date by which a state is required to submit a SIP whether a state has made a submission that meets the minimum completeness criteria established pursuant to CAA section 110(k)(1)(A). These criteria are set forth at 40 CFR part 51, appendix V. The EPA refers to the determination that a state has not submitted a SIP submission that meets the minimum completeness criteria, or has not submitted a SIP at all, as a “finding of failure to submit.”

For the 2015 SIP Call, as previously discussed, SIP submissions were due by November 22, 2016. The EPA’s determinations of whether air agencies made submittals were therefore due on May 22, 2017. The EPA has neither made such determinations nor issued findings of failure to submit. Accordingly, the EPA is now issuing findings of failure to submit to the 12 air agencies that, as of the date of this action, had not submitted SIPs responding to the SIP call: Alabama, Arkansas, California—San Joaquin Valley Air Pollution Control District (APCD), District of Columbia, Illinois, Ohio, North Carolina—Forsyth County, Rhode Island, South Dakota, Tennessee—Shelby County, Washington—Energy Facility Site Evaluation Council (EFSEC), and Washington—Southwest Clean Air Agency (SWCAA). The EPA also notes that on September 8, 2021, a group of non-governmental organizations filed suit in the Northern District of

¹ State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA’s SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction, 80 FR 33840 (June 12, 2015).

² For convenience, the EPA refers to “air agencies” in this action collectively when meaning to refer in general to states, the District of Columbia, and local air permitting authorities that are currently administering, or may in the future administer, EPA-approved implementation plans.

³ *Environ. Comm. Fl. Elec. Power v. EPA, et al.*, No. 15–1239 (D.C. Cir.) (and consolidated cases).

⁴ *Sierra Club, et al. v. EPA, et al.*, No. 20–1115 (D.C. Cir. Apr. 7, 2020); *Sierra Club, et al. v. EPA, et al.*, No. 20–1229 (D.C. Cir. June 29, 2020); *Sierra Club, et al. v. EPA, et al.*, No. 21–1022 (D.C. Cir. January 2021).

California alleging that the EPA is in violation of its mandatory duty to issue findings of failure to submit for those states that have not yet responded to the 2015 SIP Call.⁵

III. Consequences of Findings of Failure To Submit

If the EPA finds that a state has failed to make the required SIP submittal or that a submitted SIP is incomplete, then CAA section 179(a) establishes specific consequences, after a period of time, including the imposition of mandatory sanctions under CAA section 179(b) for the affected areas or states. The two applicable sanctions enumerated in CAA section 179(b) are: (1) The 2-to-1 emission offset requirement for all new and modified major sources subject to the nonattainment NSR program, and (2) restrictions on highway funding. Additionally, a finding that a state has failed to submit a complete SIP triggers an obligation under CAA section 110(c) for the EPA to promulgate a FIP no later than 2 years after issuance of the finding of failure to submit if the affected state has not submitted, and the EPA has not approved, the required SIP submittal.

With respect to mandatory sanctions, if the EPA has not affirmatively determined that a state has made the required complete SIP submittal within 18 months⁶ of the effective date of this final action, then, pursuant to CAA section 179(a) and (b) and 40 CFR 52.31, the offset sanction identified in CAA section 179(b)(2) will apply in the affected nonattainment area or state. If the EPA has not affirmatively determined that the state has made the required complete SIP submittal within 6 months after the offset sanction is imposed, then the highway funding sanction will apply in the affected nonattainment area(s), in accordance with CAA section 179(b)(1) and 40 CFR 52.31.⁷ The sanctions will not take effect if, within 18 months after the effective date of these findings, the EPA affirmatively determines that the state has made a complete SIP submittal addressing the deficiency for which the finding was made. Additionally, if the state makes the required SIP submittal and the EPA takes final action to approve the submittal within 2 years of the effective date of these findings, the EPA is not required to promulgate a FIP.

⁵ *Sierra Club et al. v. Regan et al.*, No. 4:21-cv-06956 (N.D. Cal. Sept 8, 2021).

⁶ C.A.A. 110(k)(5).

⁷ Such highway sanctions would only apply in nonattainment areas. If a state jurisdictional area does not contain any nonattainment areas, then the highway sanctions would not apply in that state.

IV. Findings of Failure To Submit for Air Agencies That Failed To Make a SIP Submittal in Response to EPA's 2015 SIP Call for Provisions Applying to Excess Emissions During SSM Periods

Based on a review of SIP submittals received and deemed complete as of the date of signature of this action, the EPA finds that 12 air agencies have failed to submit SIP revisions in response to the 2015 SSM SIP Call that were statutorily due no later than November 22, 2016. These affected air agencies are Alabama, Arkansas, California—San Joaquin Valley APCD, District of Columbia, Illinois, Ohio, North Carolina—Forsyth County, Rhode Island, South Dakota, Tennessee—Shelby County, Washington—EFSEC, and Washington—SWCAA.

V. Environmental Justice Considerations

The purpose of this action is to make findings that the named air agencies failed to provide the identified SIP submissions to the EPA that are required under the CAA. As such, this action, in and of itself, does not adversely affect the level of protection provided for human health or the environment. Moreover, it is intended that the actions and deadlines resulting from this notice will promote greater protection for U.S. citizens, including minority, low-income, or indigenous populations, by ensuring that air agencies meet their statutory obligation to develop and submit SIPs to ensure that areas make progress toward reducing excess emissions during periods of SSM.

VI. Statutory and Executive Order Reviews

A. Executive Orders 12866: Regulatory Planning and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs

This action is not an Executive Order 13771 regulatory action because this action is not significant under Executive Order 12866.

C. Paperwork Reduction Act (PRA)

This action does not impose an information collection burden under the provisions of the PRA. This final action does not establish any new information

collection requirement apart from what is already required by law. This action relates to the requirement in the CAA for states to submit SIPs in response to findings of substantial inadequacy under section 110(k)(5).

D. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. The action is a finding that the named air agencies have not made the necessary SIP submission in response to findings of substantial inadequacy under section 110(k)(5) of the CAA.

E. Unfunded Mandates Reform Act of 1995 (UMRA)

This action does not contain any unfunded mandate as described in UMRA 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local or tribal governments, or the private sector.

F. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. This action finds that several air agencies have failed to submit SIP revisions in response to findings of substantial inadequacy under section 110(k)(5) of the CAA. No tribe is subject to the requirement to submit an implementation plan under the findings of inadequacy relevant to this action. Thus, Executive Order 13175 does not apply to this action.

H. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because it is a finding that several air agencies failed to submit SIP revisions

in response to findings of substantial inadequacy under section 110(k)(5) of the CAA and does not directly or disproportionately affect children.

I. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

J. National Technology Transfer and Advancement Act (NTTAA)

This final action does not involve technical standards.

K. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations. In finding that several air agencies have failed to submit SIP revisions in response to findings of substantial inadequacy under section 110(k)(5) of the CAA, this action does not directly affect the level of protection provided to human health or the environment.

L. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

M. Judicial Review

Section 307(b)(1) of the CAA governs judicial review of final actions by the EPA. This section provides, in part, that petitions for review must be filed in the United States Court of Appeals for the District of Columbia Circuit: (i) When the agency action consists of "nationally applicable regulations promulgated, or final actions taken, by the Administrator," or (ii) when such action is locally or regionally applicable, but "such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination." For locally or regionally applicable final actions, the CAA reserves the EPA complete discretion whether to invoke the exception in (ii).

This final action is "nationally applicable" within the meaning of CAA section 307(b)(1). In the alternative, to the extent a court finds this final action to be locally or regionally applicable,

the Administrator is exercising the complete discretion afforded to him under the CAA to make and publish a finding that this action is based on a determination of "nationwide scope or effect" within the meaning of CAA section 307(b)(1).⁸ This final action consists of findings of failure to submit required SIPs from areas within 10 states and the District of Columbia, located in 8 of the 10 EPA regions, and in 8 different federal judicial circuits.⁹ This final action is also based on a common core of factual findings concerning the receipt and completeness of the relevant SIP submittals. For these reasons, this final action is nationally applicable or, alternatively, the Administrator is exercising the complete discretion afforded to him by the CAA and hereby finds that this final action is based on a determination of nationwide scope or effect for purposes of CAA section 307(b)(1) and is hereby publishing that finding in the **Federal Register**.

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit within 60 days from the date this final action is published in the **Federal Register**. Filing a petition for reconsideration by the Administrator of this final action does not affect the finality of the action for the purposes of judicial review, nor does it extend the time within which a petition for judicial review must be filed, and shall not postpone the effectiveness of such rule or action.

Janet G. McCabe,

Deputy Administrator.

[FR Doc. 2022-00138 Filed 1-11-22; 8:45 am]

BILLING CODE 6560-50-P

⁸ In deciding whether to invoke the exception by making and publishing a finding that this final action is based on a determination of nationwide scope or effect, the Administrator has also taken into account a number of policy considerations, including his judgment balancing the benefit of obtaining the D.C. Circuit's authoritative centralized review versus allowing development of the issue in other contexts and the best use of Agency resources.

⁹ In the report on the 1977 Amendments that revised section 307(b)(1) of the CAA, Congress noted that the Administrator's determination that the "nationwide scope or effect" exception applies would be appropriate for any action that has a scope or effect beyond a single judicial circuit. See H.R. Rep. No. 95-294 at 323, 324, reprinted in 1977 U.S.C.C.A.N. 1402-03.

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2021-0438; FRL-8773-02-R9]

Limited Approval and Limited Disapproval of California Air Quality Implementation Plan Revisions; Amador Air District; Stationary Source Permits

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is finalizing a limited approval and limited disapproval of a revision to the Amador Air District's (AAD or "District") portion of the California State Implementation Plan (SIP). This revision governs the District's issuance of permits for stationary sources, and focuses on the preconstruction review and permitting of major sources and major modifications under part D of title I of the Clean Air Act (CAA or "Act"). Under the authority of the CAA, this action simultaneously approves a local rule that regulates these emission sources and directs the District to correct rule deficiencies.

DATES: This rule is effective February 11, 2022.

ADDRESSES: The EPA has established a docket for this action under Docket No. EPA-R09-OAR-2021-0438. All documents in the docket are listed on the <https://www.regulations.gov> website. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available through <https://www.regulations.gov>, or please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section for additional availability information. If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. **FOR FURTHER INFORMATION CONTACT:** Amber Batchelder, EPA Region IX, 75 Hawthorne St., San Francisco, CA 94105; by phone: (415) 947-4174, or by email to batchelder.amber@epa.gov.

Attachment 13

regulated area by other federal, state, and local agencies.

(e) *Enforcement periods.* This section will be enforced from 8 a.m. to 6 p.m. on July 15, 2023, and, if necessary due to inclement weather on July 15, 2023, from 8 a.m. to 6 p.m. on July 16, 2023.

Dated: June 9, 2023.

David E. O'Connell,

Captain, U.S. Coast Guard, Captain of the Port Maryland-National Capital Region.

[FR Doc. 2023-12749 Filed 6-14-23; 8:45 am]

BILLING CODE 9110-04-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R10-OAR-2019-0647; FRL-10975-01-R10]

Air Plan Approval; WA; Excess Emissions, Startup, Shutdown, and Malfunction Revisions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve State Implementation Plan (SIP) revisions submitted by the State of Washington, through the Department of Ecology on November 12, 2019. The revisions were submitted by Washington in response to an EPA's June 12, 2015 "SIP call" in which EPA found a substantially inadequate Washington SIP provision providing affirmative defenses that operate to limit the jurisdiction of the Federal court in an enforcement action related to excess emissions during startup, shutdown, and malfunction (SSM) events. EPA is proposing approval of the SIP revisions and proposing to determine that removal of the substantially inadequate provision corrects the deficiency identified in the June 12, 2015, SIP call.

DATES: Comments must be received on or before July 17, 2023.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R10-OAR-2019-0647, at <https://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.regulations.gov). EPA may publish any comment received to its public docket. Do not electronically submit any information you consider to be Confidential Business Information (CBI) or other information the disclosure of which is restricted by statute. Multimedia submissions (audio, video, etc.) must be

accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT:

Randall Ruddick, EPA Region 10, 1200 Sixth Avenue (Suite 155), Seattle, WA 98101, (206) 553-1999; or email ruddick.randall@epa.gov.

SUPPLEMENTARY INFORMATION:

Throughout this document whenever "we," or "our," is used, it refers to EPA.

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I. Background

On February 22, 2013, the EPA issued a **Federal Register** notice of proposed rulemaking outlining EPA's policy at the time with respect to SIP provisions related to periods of SSM. EPA analyzed specific SSM SIP provisions and explained how each one either did or did not comply with the Clean Air Act (CAA) with regard to excess emission events.¹ For each SIP provision that EPA determined to be inconsistent with the CAA, EPA proposed to find that the existing SIP provision was substantially inadequate to meet CAA requirements and thus proposed to issue a SIP call under CAA section 110(k)(5).² On September 17, 2014, EPA issued a supplemental proposal revising what the Agency had previously proposed on February 22, 2013, in light of a D.C. Circuit decision that determined EPA

does not have authority under the CAA to create or approve affirmative defense provisions applicable to private civil suits.³ EPA outlined its updated policy that affirmative defense SIP provisions are not consistent with CAA requirements. EPA proposed in the supplemental proposal document to apply its revised interpretation of the CAA to specific affirmative defense SIP provisions and proposed SIP calls for those provisions where appropriate.⁴

On June 12, 2015, pursuant to CAA section 110(k)(5), EPA finalized "State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction," (80 FR 33840, June 12, 2015), hereinafter referred to as the "2015 SSM SIP Action." The 2015 SSM SIP Action clarified, restated, and updated EPA's interpretation that SSM exemption and affirmative defense SIP provisions are inconsistent with CAA requirements. The 2015 SSM SIP Action found that certain SIP provisions in 36 states (including Washington State) were substantially inadequate to meet CAA requirements and issued a SIP call to those states to submit SIP revisions to address the inadequacies. EPA established an 18-month deadline by which the affected states had to submit such SIP revisions. States were required to submit corrective revisions to their SIPs in response to the SIP calls by November 22, 2016.

In October 2020, EPA issued a SSM Memorandum (2020 Memorandum).⁵ Importantly, the 2020 Memorandum stated that it "did not alter in any way the determinations made in the 2015 SSM SIP Action that identified specific state SIP provisions that were substantially inadequate to meet the requirements of the Act." Accordingly, the 2020 Memorandum had no direct impact on the SIP call issued to Washington in 2015. The 2020 Memorandum did, however, indicate EPA's intent at the time to review SIP

³ The term *affirmative defense provision* means a state law provision in a SIP that specifies particular criteria or preconditions that, if met, would purport to preclude a court from imposing monetary penalties or other forms of relief for violations of SIP requirements in accordance with CAA section 113 or CAA section 304. 80 FR 33839, June 12, 2015.

⁴ See 79 FR 55920, September 17, 2014.

⁵ October 9, 2020, memorandum "Inclusion of Provisions Governing Periods of Startup, Shutdown, and Malfunctions in State Implementation Plans," from Andrew R. Wheeler, Administrator.

¹ State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction, 78 FR 12460 (Feb. 22, 2013).

² The term "SIP Call" refers to the requirement for a revised SIP in response to a finding by the EPA that a SIP is "substantially inadequate" to meet CAA requirements pursuant to CAA section 110(k)(5), titled "Calls for plan revisions."

calls that were issued in the 2015 SSM SIP Action to determine whether EPA should maintain, modify, or withdraw particular SIP calls through future agency actions.

On September 30, 2021, EPA withdrew the 2020 Memorandum and announced EPA's return to the policy articulated in the 2015 SSM SIP Action (2021 Memorandum).⁶ As articulated in the 2021 Memorandum, SIP provisions that contain exemptions or affirmative defense provisions are not consistent with CAA requirements and, therefore, generally are not approvable if contained in a SIP submission. This policy approach is intended to ensure that all communities and populations, including overburdened communities, receive the full health and environmental protections provided by the CAA.⁷ The 2021 Memorandum also retracted the prior statement from the 2020 Memorandum of EPA's plans to review and potentially modify or withdraw particular SIP calls. That statement no longer reflects EPA's intent. EPA intends to implement the principles laid out in the 2015 SSM SIP Action as the agency takes action on SIP submissions, including the November 12, 2019 SIP submittal provided by Washington in response to the 2015 SIP call.

The 2015 SSM SIP Action clarified, restated, and updated EPA's interpretation that SSM exemption and affirmative defense SIP provisions are inconsistent with CAA requirements. With regard to the Washington SIP, EPA determined that, to the extent that Wash. Admin. Code (WAC) 173-400-107 was intended to be an affirmative defense, it was not consistent with the requirements of the CAA. Therefore, EPA issued a SIP call with respect to this provision. Washington subsequently submitted a SIP revision on November 12, 2019, in response to the SIP Call issued in the 2015 SSM SIP Action. In its submission, Washington removed WAC 173-400-107 from the SIP in its entirety.

Washington also included SIP revisions that are not subject to the 2015 SSM SIP in the 2019 SIP submittal. These additional SIP revisions set alternate emission standards for short-term modes of operations of sources such as startup, shutdown, and scheduled maintenance for some source categories; establish the process for

⁶ September 30, 2021, memorandum "Withdrawal of the October 9, 2020, Memorandum Addressing Startup, Shutdown, and Malfunctions in State Implementation Plans and Implementation of the Prior Policy," from Janet McCabe, Deputy Administrator.

⁷ See 80 FR 33840 (June 12, 2015).

defining facility-specific alternate emission standards; remove excess emission provisions not consistent with EPA's 2015 SSM policy; revise cross-references as necessary to align with updates to the analogous Federal laws or EPA's 2015 SSM policy; and remove some provisions in deference to equally or more stringent relevant Federal laws. Many of the revisions are conditioned to only take effect upon the effective date of EPA's removal of WAC 173-400-107 from the Washington SIP.

II. Analysis of SIP Submission

A. Geographic Applicability

EPA's analysis and proposed actions related to WAC 173-400 in the 2019 SIP submittal similarly apply to geographic areas and source categories under the direct jurisdiction of Ecology and Benton Clean Air Agency (BCAA), a local air agency in Washington, because BCAA's SIP-approved regulations state, in Article 1, Section 1.03, that BCAA implements and enforces WAC 173-400 "as in effect now and including all future amendments, except where specific provisions of BCAA Regulation 1 apply." The 2019 SIP submittal contains no substantive changes to the minor differences between the two agencies' jurisdictional applicability of subparts of WAC 173-400.

B. The Provision Subject to the 2015 SIP Call

In the 2015 SSM SIP Action, EPA identified WAC 173-400-107 as inconsistent with CAA requirements because it contained affirmative defense provisions. Washington then submitted a SIP revision on November 12, 2019, that removed WAC 173-400-107 from the SIP.

We are proposing to find that the removal of WAC 173-400-107 from the Washington SIP will satisfy the 2015 SIP Call because the removal of WAC 173-400-107 from the SIP will no longer provide for an affirmative defense.

C. Additional SIP Revisions Submitted But Not Specified in the 2015 SIP Call

Washington adopted additional revisions to the State's excess emissions provisions that were not specified in the 2015 SSM SIP Call. These revisions were adopted in three different state rulemaking actions, two in 2018 for provisions in WAC 173-400, General Air Regulations for Air Pollution Sources, and one additional rulemaking in 2019 revising WAC 173-405, Kraft Pulping Mills; WAC 173-410, Sulfite Pulping mills; and WAC 173-415, Primary Aluminum Plants.

WAC 173-400, General Air Regulations for Air Pollution Sources.

In its November 12, 2019 SIP submission, Washington requests approval of revisions to WAC 173-030, Definitions; WAC 173-400-040, General Standards for maximum emissions; WAC 173-400-070, Emission standards for certain source categories; WAC 173-400-081, Startup and Shutdown; WAC 173-400-082, Alternative emission limit that exceeds an emission standard in the SIP; WAC 173-400-107, Excess emissions; and WAC 173-400-171, Public involvement. Many of the revisions are non-substantive changes.

WAC 173-400-030, Definitions.

Washington revised this section to aid in implementation of provisions such as those addressing transient (short-term) modes of operation—including startup and shutdown, and to clarify commonly used 'terms of art' (such as "hog fuel").⁸ Most definitions in WAC 173-400-030 remain unchanged since our last approval;⁹ however, the addition of new definitions resulted in changes to the numbering sequence. Even though the text of those definitions remains as approved, the state effective date changed to reflect the numbering sequence changes. Therefore, Washington requested EPA approve all of WAC 173-400-030 as submitted on November 12, 2019, except definition (96) related to toxic air pollutants or odors, because it is outside the scope of CAA section 110 requirements for SIPs.¹⁰ A complete redline/strikeout analysis of the updated definitions in WAC 173-400-030 is included in the docket for this action.¹¹ Updating the state effective date for those definitions in WAC 173-400-030 previously approved into Washington's SIP that remain unchanged will have no effect on emissions.

The two revisions to existing definitions in WAC 173-400-030 were to:

(32)¹² "Excess emissions": to clarify that the term also includes emissions

⁸ For more details, see Chapter 2 of Washington's November 12, 2019, submission, included in the docket for this action as *102 state submittal SIP_SSM_400_405_410_415.pdf*.

⁹ EPA reviewed those definitions and approved them in a previous action (85 FR 10302, February 24, 2020).

¹⁰ Definition (96) was excluded for the same reasons in our February 24, 2020 approval.

¹¹ See *102 state submittal SIP_SSM_400_405_410_415.pdf*, included in the docket for this action.

¹² "Excess Emissions" was previously codified as WAC 173-400-030(30), state effective December 29, 2012. EPA approved the December 29, 2012 versions of Washington's definitions of "excess emissions" and "federally enforceable" in a November 3, 2014 action (79 FR 59653). Since that action, EPA has approved more recent versions of

above limits established in permits or orders, including alternative emission limits. This definition comports with our 2015 SSM Policy;¹³ and

(38)¹⁴ “Federally enforceable”: to include emission limitations during startup and shutdown.

Washington also adopted several new definitions which are discussed below:

“‘Alternative emission limit’ or ‘limitation’”: to clarify implementation of the provisions for transient (short-term) modes of operation such as startup and shutdown provisions in WAC 173-400-040(2), 081 and 082, 107, 108 and 109. This definition is defined substantively the same as in our 2015 SSM Policy.¹⁵

“Hog fuel” to define what has been used as a ‘term of art’ for wood waste especially hogged wood waste, utilized for burning and to clarify implementation of emissions standards for boilers in WAC 173-400-040-(2) and WAC 173-400-070(2). This definition, while narrower, is generally in keeping with the Federal definition for *biomass or bio-based solid fuel* for boilers and process heaters in EPA’s National Emission Standard for Hazardous Air Pollutants (NESHAP) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, codified at 40 C.F.R. Part 63, Subpart DDDDD (hereinafter “Subpart DDDDD”);¹⁶

(83) “Shutdown” and (89) “Startup:” to clarify the general meanings of the terms¹⁷ for purposes of implementation of WAC 173-400. the meaning of these terms is further clarified in WAC 173-400-040-(2) in the context of startup and shutdown requirements for boilers, similar to these those terms are used in Subpart DDDDD;

(97) “Transient mode of operation”: to include short-term operating periods, including periods of startup and shutdown. This term is used for facilitating development of alternative emission limitations (AELs) for startup and shutdown periods, as well as other short-term modes of operations such as soot blowing (also known as boiler lancing), grate cleaning, and refractory curing, during which a source is unable

Washington’s definitions rule, but explicitly excluded the definitions for “excess emissions” and federally enforceable” from those actions. This means the 2012 versions of these definitions are currently effective for purposes of the Washington SIP, and it is those versions that EPA is proposing to revise in this action.

¹³ See 80 FR 33840, specifically page 33842.

¹⁴ “Federally enforceable” was previously codified as WAC 173-400-030(36), state effective December 29, 2012.

¹⁵ See 80 FR 33840, especially page 33912.

¹⁶ See specifically 40 CFR 63.7575.

¹⁷ 40 CFR 63.7575.

to meet otherwise applicable emissions limits;

(100) “Useful thermal energy”: to clarify implementation of WAC 173-400-040(2)(e). The definition is nearly verbatim from, and is substantively the same as, EPA’s Boiler NESHAP.¹⁸

(103) “Wigwam” or “silo burner”: This definition clarifies the types of units that are now prohibited under WAC 173-400-070(1)¹⁹

(104) “Wood-fired boiler”: to clarify implementation of regulations tailored specifically for this unique subset of boilers. This definition is similar to, but more narrowly defined than, “boiler” in 40 CFR 63.7575 and in as much as it is used to regulate boilers, comports with the Federal CAA.

For the reasons stated above, EPA is proposing to approve the above changes to Washington’s definitions under WAC 173-400-030.

WAC 173-400-040, General Standards for Maximum Emissions.

Washington made numerous revisions to WAC 173-400-040, many of which are non-substantive typographical and stylistic changes that are not specifically identified in this preamble. Several revisions are conditioned to only take effect upon EPA’s removal of WAC 173-400-107 from the SIP, which as mentioned above, we are proposing to do in this action. In other words, the redline/strike through version of Washington’s SIP rules included in the submittal set forth in some cases two versions of the same rule, one of which is intended to become effective upon EPA removal of -107 from the SIP, and the other intended to be automatically rendered ineffective as a matter of state law.

Substantive changes were made to -040(2) Visible emissions. That provision establishes a general limit on visible emissions, prohibiting emissions greater than twenty percent opacity for more than three minutes during any one-hour period, except as specified in the rule. The effect of the State’s November 12, 2019 submittal is to remove some exemptions from WAC 173-400-040(2) and replace them with AELs that apply during transient modes of operation. In the 2015 SSM SIP Action, EPA recommended states consider seven criteria when developing AELs to replace automatic or

¹⁸ See specifically 40 CFR 63.7575 and 63.11237.

¹⁹ Adding these definitions to WAC 173-400-030 does not constitute a prohibition, rather it is for clarification purposes as the terms were not defined elsewhere in WAC 173-400. However, the terms are used in WAC 173-400-070(1) which previously allowed the use of these units for disposal burning of waste wood. Revisions in the 2019 SIP submittal prohibit their use as of January 1, 2020.

discretionary exemptions from otherwise applicable SIP requirements. These recommended criteria assure the alternative emission limitations meet basic CAA requirements. The AELs in Washington’s submittal are specific to visible emissions (opacity) from certain pre-existing biomass boilers²⁰ during soot blowing, grate cleaning, and planned startups and shutdowns as well as boilers and lime kilns during refractory curing.

EPA evaluated whether the alternative requirements provided by Washington’s 2019 SIP submission are consistent with the Agency’s 2015 SSM SIP Action, including the seven criteria recommended therein.²¹ In its 2019 submittal, Washington provided an analysis of these criteria as applied to the SIP revisions. For the reasons explained below, EPA finds that the proposed AELs in WAC 173-400-040(2)²² are consistent with the recommended criteria set forth in that policy. We are therefore proposing to approve these provisions into the Washington SIP.

Washington’s 2019 submittal includes detailed analyses of potential impacts from the proposed SIP revisions, which EPA finds show compliance with NAAQS and other CAA requirements such as visibility should not be negatively affected. This is, in part, because the AELs do not equate to a relaxation of limits or an increase in emissions. Rather, provisions in Washington’s SIP that serve to exempt or otherwise excuse excess emissions entirely (de facto unlimited emissions) are being replaced with more stringent emissions limitations. We find that particulate matter (PM) emissions will not increase as a result of the revisions for two reasons: (1) Washington’s revised rules require compliance with AELs during transient modes of operations, whereas the prior version of the rules (including the SIP-called version of WAC 173-400-107) allowed sources to routinely avoid penalties for excess emissions; and (2) the pre-existing emissions limits remain in place for non-transient modes of operation for these sources.

²⁰ Notably, applicability is limited to only hog fuel or wood-fired boilers (defined in WAC 173-400-030) that utilize only dry particulate matter controls such as multiclone, fabric filter or dry electrostatic precipitator (DESP).

²¹ See, “State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA’s SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction” 80 FR 33840, section XI.D.

²² As provided in Washington’s 2019 SIP submittal.

As explained above, Washington's November 12, 2019 submittal includes AELs applicable to three narrow circumstances: soot blowing or grate cleaning at hog fuel or wood-fired boilers; emissions from startup or shutdown at hog fuel or wood-fired boilers; and curing of furnace refractory in a lime kiln or boiler. EPA's analysis of each of the seven criteria as they apply to these AELs is set forth below.

(1) *The revision is limited to specific, narrowly defined source categories using specific control strategies (e.g., cogeneration facilities burning natural gas and using selective catalytic reduction).*

WAC 173-400-040(2)(a), Soot blowing and grate cleaning. The applicability of this AEL for visible emissions [opacity] is limited to hog fuel or wood-fired boilers that use only dry particulate controls. In addition, soot blowing and grate cleaning are work practice activities that decrease emissions. If these activities are not conducted, heat transfer efficiency decreases resulting in stoichiometric increases in emissions as more fuel combustion is required per unit of heat transferred. In addition, the increased combustion shortens the expected useful life of both the unit and control device.

WAC 173-400-040(2)(e), Planned startups and shutdowns. The applicability of AELs for visible emissions (opacity) is limited to hog fuel or wood-fired boilers in operation before January 24, 2018, that use only dry particulate matter controls.

WAC 173-400-040(2)(f), Furnace refractory curing. The applicability of this AEL is limited to furnace refractory in lime kilns and boilers. The AEL does not specify a control strategy. However, EPA believes control strategy specificity is unnecessary because the requirement to engage emission controls as soon as possible, -040(2)(f)(v), is likewise unspecific to type of control strategy.

(2) *Use of the control strategy for this source category is technically infeasible during startup or shutdown periods.*

WAC 173-400-040(2)(a), Soot blowing and grate cleaning. During soot blowing and grate cleaning activities, it is not technically feasible to meet the SIP's general 20% opacity limit due to operational and control device limitations as permitted in compliance with the CAA. EPA also notes this AEL is not specific to startup or shutdown, but instead applies to activities that are themselves work practices and serve to decrease emissions. If soot blowing and grate cleaning activities are not conducted, heat transfer efficiency decreases resulting in stoichiometric

increases in emissions as more fuel combustion is required per unit of heat transferred. In addition, the increased combustion shortens the expected useful life of both the unit and control device. The control devices are not designed to handle these activities in a manner ensuring opacity is limited to 20%.

WAC 173-400-040(2)(e), Planned startups and shutdowns. It is technically infeasible, as reflected in (5)(c)(1) of Table 3 in Subpart DDDDD, to engage dry particulate control devices during boiler startup and shutdown. Engaging these controls risks damaging them as per manufacturer's instructions.

WAC 173-400-040(2)(f), Furnace refractory curing. This AEL is not specific to startup or shutdown. However, the applicability of the AEL is limited to only those periods when compliance with the 20% opacity limit would be impracticable due to the inherent nature of conducting the curing process consistent with manufacturer's instructions.

(3) *The alternative emission limitation requires that the frequency and duration of operation in startup or shutdown mode are minimized to the greatest extent practicable.*

WAC 173-400-040(2)(a), Soot blowing and grate cleaning. This AEL is limited in both duration and frequency. Specifically, the AEL is limited to no more than one fifteen-minute period in any eight consecutive hours. The AEL also requires the source schedule the activity for the same approximate time(s) each day and notify the permitting authority in writing of the schedule before using the AELs.

EPA also notes that this AEL is not specific to startup or shutdown, but instead applies to activities that are themselves work practices and serve to decrease emissions. If these activities are not conducted, heat transfer efficiency decreases resulting in stoichiometric increases in emissions as more fuel combustion is required per unit of heat transferred. In addition, the increased combustion shortens the expected useful life of both the unit and control device.

WAC 173-400-040(2)(e), Planned startups and shutdowns. The durations of these AELs are modeled after the Federal AELs required for these types of boilers under Subpart DDDDD. Washington's AELs do not impose a frequency limit, but frequency is intrinsically limited as affected types of sources are mainly industrial or commercial boilers operated to facilitate production. Therefore, EPA anticipates that operators will work to maximize

total operational hours and minimize downtime as a practical matter.

WAC 173-400-040(2)(f), Furnace refractory curing. This AEL is not specific to startup or shutdown, but duration is limited by the requirement to engage the emissions controls as soon as possible during the curing process while following manufacturers' instructions, and in no event more than 36 hours from the commencement of refractory curing. Frequency is also limited as a practical matter to the installation or repair of refractory.

(4) *As part of its justification of the SIP revision, the state analyzes the potential worst-case emissions that could occur during startup and shutdown based on the applicable alternative emission limitation.*

WAC 173-400-040(2)(e), Planned startups and shutdowns. Washington's submittal estimates the potential worst-case emission scenario from this AEL based on the potential for startup or shutdown of a boiler coinciding with the maximum four-hourly PM_{2.5} concentrations over a three-year period from monitoring data, which was 130 µg/m³. In this scenario, Washington estimates the probability of the AELs resulting in an exceedance of the PM_{2.5} 24-hour NAAQS is once in 810 days. Washington also provides evidence in its submittal demonstrating that the assumed high value of 130 µg/m³ used for this estimate is likely attributable to wildfires and not anthropogenic sources. Therefore, it is likely this probability is an overestimate. The State also noted that the estimates are based on data from a time representing source operations when emissions were likely higher than would be expected under the amended rules because less stringent requirements applied during these periods than would now be required by the AELs. The results of these conservative scenarios are that it is unlikely the AELs will cause or contribute to a violation of the PM_{2.5} 24-hour NAAQS.²³

²³ Given PM_{2.5} 24-hour NAAQS is calculated based on the 3-year average of the 98th percentile of valid data concentrations (see 40 CFR Appendix N to Part 50 4.04.2(a)), exceeding up to 7 days per year (if all 365 days are validated) in all three years would not constitute a violation. Therefore, potential to exceed once every 810 days is unlikely to result in a violation that is calculated on a 1,095-day cycle. Note: the 1 in 810 days probability is based on a 4-hour average that is likely higher than those caused by startups and shutdowns occurring when exceptions that equated to no limit were easy to obtain. Those exceptions are being removed from the SIP and there is no reasonable expectation that sources will increase emissions during these transient modes of operation since the pre-existing exceptions pathway offers no protection from Federal enforcement.

WAC 173-400-040(2)(a), Soot blowing and grate cleaning, and WAC 173-400-040(2)(f), Furnace refractory curing. The State explained in its submittal that these events should not increase and emissions under the AEL are likely to be lower than emissions during the worst-case boiler startup and shutdown scenario analyzed above. In other words, EPA believes the results are also representative of a worst-case scenario for these AELs and indicate it is unlikely the AELs will cause or contribute to a violation of the PM_{2.5} 24-hour NAAQS.

(5) The alternative emission limitation requires that all possible steps are taken to minimize the impact of emissions during startup and shutdown on ambient air quality.

WAC 173-400-040(2)(a), Soot blowing and grate cleaning. The AEL is limited in both duration and frequency as discussed under criteria (3) above. The AEL also requires sources schedule the activity for the same approximate time(s) each day and notify the permitting authority in writing of the schedule before using the AEL. Additionally, any source utilizing the AEL is required to maintain contemporaneous records sufficient to demonstrate compliance. EPA also notes that soot blowing and grate cleaning are relatively straightforward, but necessary maintenance activities for the continued operation of control equipment. In this context, EPA believes the AEL requirements represent all practically available steps to minimize emissions during these events.

WAC 173-400-040(2)(e), Planned startups and shutdowns. This AEL provides two options: comply with a temporary forty percent opacity limit for a period not exceeding three minutes in any hour ((2)(e)(vi)(A)); or comply with each of the management practices in (2)(e)(vi)(B)(I) through (V). EPA agrees that allowing sources to increase opacity to forty percent for short periods during startup and shutdown represents a reasonable application of this criterion. Additionally, the option in (2)(e)(vi)(B) requires developing and implementing a plan to minimize startup and shutdown according to manufacturer's recommended procedure, (2)(e)(vi)(B)(V).

WAC 173-400-040(2)(f), Furnace refractory curing. In addition to the forty percent opacity limit, the AEL requires all practical steps be taken to minimize emissions. Specifically, sources must engage emissions controls as soon as possible while following manufacturers' instructions and using clean fuel.

(6) The alternative emission limitation requires that at all times, the facility is

operated in a manner consistent with good practice for minimizing emissions and the source uses best efforts regarding planning, design, and operating procedures.

WAC 173-400-040(2)(a), Soot blowing and grate cleaning. This AEL applies to activities that are themselves work practices for maximizing efficiency while minimizing emissions and are conducted in part to facilitate compliance with the otherwise applicable emissions limitation. If these activities are not conducted, heat transfer efficiency decreases resulting in stoichiometric increases in emissions as more fuel combustion is required per unit of heat transferred. In addition, the increased combustion shortens the expected useful life of both the unit and control device. As discussed above, the AEL is limited in both duration and frequency and requires the source schedule the activity for the same approximate time(s) each day and notify the permitting authority in writing of that schedule before using the AEL. EPA also notes that soot blowing and grate cleaning are relatively straightforward, but necessary maintenance activities for the continued operation of control equipment. In this context, EPA believes the soot blowing and grate cleaning AEL requirements represent all practically available steps to minimize emissions during these events.

WAC 173-400-040(2)(e), Planned startups and shutdowns. The AEL includes a requirement that a source develop and implement a written startup and shutdown plan that minimizes the AEL period according to manufacturer's recommended procedures, operate all continuous monitoring systems, as well as document how compliance conditions were met.

WAC 173-400-040(2)(f), Furnace refractory curing. The AEL requires good practices for minimizing emissions throughout the duration of the refractory curing process. Specifically, sources must engage emissions controls as soon as possible while following manufacturers' instructions and using clean fuel. Frequency of refractory curing is also limited as a practical matter to the installation or repair of refractory.

(7) The alternative emission limitation requires that the owner or operator's actions during startup and shutdown periods are documented by properly signed, contemporaneous operating logs, or other relevant evidence.

WAC 173-400-040(2)(a), Soot blowing and grate cleaning. Subsection (2)(a)(ii)(C) requires the owner or operator maintain contemporaneous

records sufficient to demonstrate compliance which must include date, start, and stop time of each occurrence, and the results of opacity readings conducted during the occurrence.

EPA also notes that, as stated above, this AEL is not specific to startup or shutdown, but instead applies to activities that are themselves work practices and serve to decrease emissions.

WAC 173-400-040(2)(e), Planned startups and shutdowns. Subsection (2)(e)(vii) requires the facility to maintain records to demonstrate compliance including the start and stop times of individual phases and documentation of which AEL was chosen and how the conditions of that option were met.

WAC 173-400-040(2)(f), Furnace refractory curing. This AEL includes requirements to notify the permitting authority at least one working day prior to commencing the curing process, engage the emissions controls as soon as possible during the curing process, follow manufacturer's instructions including temperature increase rates and holding times, and provide a copy of those instructions to the permitting authority. It is in the source's own interest to follow manufacturer's instructions as failure to do so can cause spalling or catastrophic failure of the refractory resulting in additional operation costs associated to repair or replace the damaged refractory.

*(8) EPA's Proposed Conclusion Regarding the AEL Criteria.*²⁴

Based on the analysis discussed above, EPA is proposing to conclude the three AELs included in Washington's SIP submittal are consistent with the criteria set forth in our 2015 SSM Policy. Therefore, we are proposing to approve these revisions into the Washington SIP.

WAC 173-400-070, *Emission standards for certain source categories*. Washington added language tying effective dates to EPA's removal of -107, updated various cross-references, and made numerous non-substantive typographical, stylistic, and clarifying revisions which we will not detail here. Washington revised the provisions for wigwam and silo burners rendering the operation of them illegal statewide and thereby reducing overall potential emissions. The State also removed visible emissions exemptions for orchard heating devices and hog fuel boilers. The exemption for hog fuel boilers was replaced with the AELs in

²⁴ Regarding the seven criteria analysis above, we note "malfunction" was not mentioned because the State did not submit any AELs for malfunctions.

WAC 173-400-040(2)(a)(ii) by reference. The catalytic cracking unit section was obsolete and subsequently deleted because corresponding Federal regulations, which the State adopts by reference, have more stringent requirements and to reduce unnecessary duplication of Federal requirements.

WAC 173-400-081, *Emission limits during startup and shutdown*. This section establishes a case-by-case technology-based permitting pathway for establishing startup and shutdown AELs. Numerous non-substantive changes were made to clarify applicability and requirements associated with establishing AELs. The most substantive change is the addition of (4)(b) which requires the permitting authority comply with the applicable requirements in WAC 173-400-082. Under WAC 173-400-081(4)(a), if an emission limitation or other parameter created increases allowable emissions over levels already authorized in Washington's SIP, it will not take effect unless it is approved by EPA as a SIP amendment.

WAC 173-400-082 *Alternative emission limit that exceeds an emission standard in the SIP*. This is an entirely new section establishing a process for an owner or operator to request—and the State to approve via a regulatory order—an alternative emission limit that would apply during a specified transient mode of operation. This process was designed to establish AELs that meet the seven criteria discussed above. Any AEL established under this section only applies to the specified emissions units at the facility requesting the regulatory order. Moreover, any such AEL only goes into effect if EPA approves the new limit into the SIP.

WAC 173-400-171 *Public notice and opportunity for public comment*. While many changes were made to this section, the only substantive change is the addition of (3)(o) which requires mandatory public comment periods for orders (permits) establishing AELs under WAC 173-400-081 or -082 that exceed otherwise SIP applicable limits.

The State's 2019 revisions also affect these three source-specific regulations: WAC 173-405, Kraft Pulping Mills; WAC 173-410, Sulfite Pulping Mills; and WAC 173-415, Primary Aluminum Plants. The primary impact of these revisions is to incorporate by reference the AELs described above for hog fuel boilers, wood-fired boilers, and refractory curing into these source-category specific rules. In other words, these revisions do not create additional exemptions or alternatives to the SIP's general opacity limit but reiterate the requirement to comply with applicable

AELs as stated in WAC 173-400-040(2) during corresponding transient modes of operation.

Most of the revisions are analogous to, and in several instances direct adoptions of, the revisions in WAC 173-400 discussed above, including: removing exemptions for excess emissions and references to state enforcement discretion provisions, updating cross-references, AELs for soot blowing, grate cleaning, startup and shutdown of hog-fuel boilers, and refractory curing. The analyses provided in the State's submission as well as EPA's analyses stated above equally apply to the sources regulated under WAC 173-405, -410, and -415. Therefore, EPA is proposing to approve the requested revisions for those reasons.

III. Proposed Action

EPA is proposing to approve and incorporate by reference into the Washington SIP the revisions Washington submitted on November 12, 2019. This action includes removal of the provision WAC 173-400-107—identified as inconsistent with CAA requirements—from the Washington SIP, as well as revisions to WAC 173-400-030, -400-040, -400-070, -400-081, -400-082, -400-171, -405-040, -410-040, -415-030; the addition of WAC 173-415-075; and the removal of 173-405-077, -410-067, and -415-070.

The proposed revisions, upon finalization, will apply specifically to the jurisdictions of Washington Department of Ecology and Benton Clean Air Agency. Under the applicability provisions of WAC 173-405-012, WAC 173-410-012, and WAC 173-415-012, BCAA does not have jurisdiction for kraft pulp mills, sulfite pulping mills, and primary aluminum plants. For these sources, Ecology retains statewide, direct jurisdiction over these sources.

IV. Incorporation by Reference

In this document, EPA proposes to include in a final rule, regulatory text that includes incorporation by reference. In accordance with the requirements of 1 CFR 51.5, EPA proposes to incorporate by reference the provisions described in sections II and III of this document. EPA has made, and will continue to make, these documents generally available through <https://www.regulations.gov> and at the EPA Region 10 Office (please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section of this preamble for more information).

The EPA is also proposing to remove Washington Administrative Code 173-

405-077, -410-067, and -415-070, as described in sections II and III of this document, from the Washington State Implementation Plan, which is incorporated by reference under 1 CFR part 51.

V. Statutory and Executive Orders Review

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 14094 (88 FR 21879, April 11, 2023);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it approves a state program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, February 16, 1994) directs Federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their actions on minority populations and low-income populations to the

greatest extent practicable and permitted by law. EPA defines environmental justice (EJ) as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” EPA further defines the term fair treatment to mean that “no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies.” The air agency did not evaluate environmental justice considerations as part of its SIP submittal; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. EPA did not perform an EJ analysis and did not consider EJ in this action. Due to the nature of the action being taken here, this action is expected to have a neutral to positive impact on the air quality of the affected area. Consideration of EJ is not required as part of this action, and there is no information in the record inconsistent with the stated goal of E.O. 12898 of achieving environmental justice for people of color, low-income populations, and Indigenous peoples.

The SIP is not approved to apply on any Indian reservation land in Washington except as specifically noted below and is also not approved to apply in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law. Washington’s SIP is approved to apply on non-trust land within the exterior boundaries of the Puyallup Indian Reservation, also known as the 1873 Survey Area. Under the Puyallup Tribe of Indians Settlement Act of 1989, 25 U.S.C. 1773, Congress explicitly provided state and local agencies in Washington authority over activities on non-trust lands within the 1873 Survey Area.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping

requirements, Sulfur oxides, Volatile organic compounds.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: June 8, 2023.

Casey Sixkiller,

Regional Administrator, Region 10.

[FR Doc. 2023–12700 Filed 6–14–23; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 300

[Docket No. 230418–0104]

RIN 0648–BJ85

International Affairs; Antarctic Marine Living Resources Convention Act

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; reopening of comment period.

SUMMARY: NMFS announces the reopening of the public comment period for 15 days on the proposed rule to revise its Antarctic Marine Living Resources Convention Act regulations that implement the trade-monitoring program for frozen and fresh *Dissostichus* species, commonly marketed or referred to as Chilean seabass or Patagonian toothfish. The original 30-day comment period ended on June 5, 2023. We received comments in the final days of the comment period requesting an extension. We are therefore reopening the comment period from June 15, 2023 to June 30, 2023 to allow more time for submittal of public comments. Comments previously submitted need not be resubmitted.

DATES: Written comments must be received by June 30, 2023.

ADDRESSES: You may submit comments on this document, identified by NOAA–NMFS–2023–0022, by any of the following methods:

Electronic Submission: Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to <https://www.regulations.gov> and enter NOAA–NMFS–2023–0022 in the Search box. Click on the “Comment” icon, complete the required fields, and enter or attach your comments.

Mail: Submit written comments to Mi Ae Kim, Office of International Affairs, Trade, and Commerce, National Marine Fisheries Service, 1315 East-West

Highway (F/IS5), Silver Spring, MD 20910.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on <https://www.regulations.gov> without change. All personal identifying information (*e.g.*, name, address, *etc.*), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter “N/A” in the required fields if you wish to remain anonymous).

FOR FURTHER INFORMATION CONTACT: Mi Ae Kim, Office of International Affairs, Trade, and Commerce, NMFS (phone 301–427–8365, or email mi.ae.kim@noaa.gov).

SUPPLEMENTARY INFORMATION: On May 5, 2023, NMFS proposed revising regulations that implement the trade-monitoring program for frozen and fresh *Dissostichus* species (88 FR 29043). During the comment period, we received requests to extend the public comment period. As these requests were received too late to allow for an extension notice, we are reopening the comment period from June 15, 2023 to June 30, 2023.

Dated: June 9, 2023.

Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

[FR Doc. 2023–12804 Filed 6–14–23; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[RTID 0648–XC845]

Fisheries of the Exclusive Economic Zone Off Alaska; Snow Crab Rebuilding Plan in the Bering Sea and Aleutian Islands

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of availability of fishery management plan amendment; request for comments.

SUMMARY: The North Pacific Fishery Management Council (Council)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
) AS 23-_____
PETITION OF DYNEGY)
FOR AN ADJUSTED STANDARD FROM) (Adjusted Standard – Air)
35 Ill. Admin. Code Parts 201 and 212)

MOTION TO INCORPORATE DOCUMENTS BY REFERENCE

Petitioners Dynegy Midwest Generation, LLC; Illinois Power Generating Company; and Kinkaid Generation, LLC (collectively, “Dynegy”), by their attorneys and pursuant to 35 Ill. Admin. Code § 101.306, respectfully requests permission to incorporate documents from the records of other Illinois Pollution Control Board (“Board”) dockets into this proceeding, and, in support thereof, state as follows:

1. 35 Ill. Admin. Code § 101.306(a) provides that the Board may incorporate materials from the record of another Board docket into any proceeding upon the written request of any person. The person seeking incorporation must demonstrate that the material to be incorporated is authentic, reliable, and relevant to the proceeding.
2. Dynegy seeks permission to incorporate the following documents into this proceeding:
 - a. Statement of Reasons (Dec. 7, 2022), *In the Matter of: Amendments to 35 Ill. Adm. Code Parts 201, 202, and 212*, R2023-018 (“R23-18”).
 - b. Dynegy’s Pre-filed Testimony of Cynthia Vodopivec (Feb. 6, 2023), R23-18 (including exhibits).
 - c. Joint Post-Hearing Comment of Dynegy and Midwest Generation, P.C. #14 (Mar. 7, 2023), R23-18.

- d. Statement of Reasons of Dynegy and Midwest Generation (Aug. 7, 2023), *In the Matter of: Amendments to 35 Ill. Adm. Code Parts 201, 202, and 212*, R2023-018(A) (“R23-18A”) (including exhibits).
3. All of these materials were filed pursuant to Board rules by the Illinois Environmental Protection Agency (“IEPA”) or by Dynegy in Board Docket R23-18, or the related subdocket R23-18A, and are publicly available on the Board’s website.
4. The above documents are directly relevant to this proceeding for the reasons articulated in the Petition of Dynegy for an Adjusted Standard.
5. For the above reasons, Dynegy respectfully requests that the Board grant permission to incorporate the above documents by reference into this proceeding.

Dated: August 14, 2023

Respectfully submitted,

Dynegy Midwest Generation, LLC; Illinois Power Generating Company; and Kincaid Generation, LLC

/s/ Samuel A. Rasche
One of its Attorneys

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