

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

IN THE MATTER OF:	)	
	)	
PETITION OF MARATHON PETROLEUM	)	AS ____ - ____
COMPANY, LLC FOR AN ADJUSTED	)	(Adjusted Standard – Air)
STANDARD FROM 35 ILL. ADM. CODE	)	
PART 201 AND SECTION 216.361	)	

**NOTICE OF FILING**

TO: Mr. Don A. Brown	Division of Legal Counsel
Clerk of the Board	Illinois Environmental Protection Agency
Illinois Pollution Control Board	1021 North Grand Avenue East
60 E. Van Buren Street,	PO Box 19276
Suite 630	Springfield, Illinois 62794-9276
Chicago, Illinois 60605	<a href="mailto:epa.dlc@illinois.gov">epa.dlc@illinois.gov</a>
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**VIA ELECTRONIC MAIL**

**(SEE PERSONS ON ATTACHED SERVICE LIST)**

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board, the **APPEARANCE OF MELISSA S. BROWN, APPEARANCE OF ANDREA QUADE**, and **MARATHON PETROLEUM COMPANY, LLC’S PETITION FOR AN ADJUSTED STANDARD** on behalf Marathon Petroleum, LLC, copies of which are hereby served upon you.

Respectfully submitted,

Marathon Petroleum Company, LLC

Dated: August 14, 2023

By: /s/ Melissa S. Brown  
Attorney

Melissa S. Brown  
Andrea Quade  
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**CERTIFICATE OF SERVICE**

I, the undersigned, on oath state the following: **APPEARANCE OF MELISSA S. BROWN, APPEARANCE OF ANDREA QUADE, and MARATHON PETROLEUM COMPANY, LLC'S PETITION FOR AN ADJUSTED STANDARD** that I have served the attached, via electronic mail upon:

Mr. Don A. Brown  
Clerk of the Board  
Illinois Pollution Control Board  
60 E. Van Buren Street  
Suite 630  
Chicago, Illinois 60605  
[don.brown@illinois.gov](mailto:don.brown@illinois.gov)

Division of Legal Counsel  
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That my email address is [Melissa.Brown@heplerbroom.com](mailto:Melissa.Brown@heplerbroom.com)

That the number of pages in the email transmission is 127.

That the email transmission took place before 5:00 p.m. on August 14, 2023.

Date: August 14, 2023

/s/ Melissa S. Brown  
Melissa S. Brown

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STANDARD FROM 35 ILL. ADM. CODE )  
PART 201 AND SECTION 216.361 )

**ENTRY OF APPEARANCE OF MELISSA S. BROWN**

NOW COMES Melissa S. Brown of the law firm HEPLERBROOM, LLC, and hereby enters her appearance in this matter on behalf of MARATHON PETROLEUM COMPANY, LLC.

Respectfully submitted,

Dated: August 14, 2023

By: /s/ Melissa S. Brown

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PART 201 AND SECTION 216.361	)	

**ENTRY OF APPEARANCE OF ANDREA QUADE**

NOW COMES Andrea Quade of the law firm HEPLERBROOM, LLC, and hereby enters her appearance in this matter on behalf of MARATHON PETROLEUM COMPANY, LLC.

Respectfully submitted,

Dated: August 14, 2023

By: /s/ Andrea Quade

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**PART 201 AND SECTION 216.361** )

**MARATHON PETROLEUM COMPANY, LLC’S**  
**PETITION FOR AN ADJUSTED STANDARD**

Marathon Petroleum Company, LLC (“Marathon”), through its counsel and pursuant to 415 ILCS 5/28.1 and 35 Ill. Adm. Code Part 104, Subpart D, submits this Petition for an Adjusted Standard to the Illinois Pollution Control Board (“Board”), seeking an adjusted standard from 35 Ill. Adm. Code Part 201 and Section 216.361. Specifically, Marathon requests an adjusted standard from the requirements for carbon monoxide emissions for petroleum and petrochemical processes as a result of the Board’s recent removal of the startup, malfunction, and breakdown relief provisions. Marathon seeks this adjusted standard for its petroleum refinery located in Robinson, Crawford County, Illinois. An adjusted standard is needed to allow for compliance with an alternative emission limitation in lieu of the Section 216.361 carbon monoxide standards during periods of startup of its fluid catalytic cracking unit. In support of this Petition, Marathon states as follows:

**I. INTRODUCTION**

On July 20, 2023, the Board adopted amendments to Parts 201, 202, and 212 of the Board’s air regulations, amending and removing provisions governing applying for and obtaining startup, malfunction, and breakdown (“SMB”) relief in air operating permits. Opinion and Order, PCB R 23-18 (July 20, 2023). Prior to these amendments, Marathon had previously applied for and obtained SMB relief conditions in its Clean Air Act Permit Program (“CAAPP”) permit

pursuant to Part 201, authorizing carbon monoxide (“CO”) emissions from the refinery’s fluid catalytic cracking unit (“FCCU”) to exceed the CO standards in Section 216.361 during periods of SMB. The Board’s amendments adopted in PCB R 23-18, particularly the amendment and removal of the SMB provisions in Part 201, adversely impacts Marathon’s ability to continuously comply with the CO standards in Section 216.361 during all modes of operation of the FCCU. The SMB relief provisions in Part 201 were a foundational part of adopting the CO standards in Section 216.361. Removal of the SMB relief provisions adversely impacts Marathon’s ability to continuously comply with Section 216.361.

Marathon petitions for an adjusted standard from Part 201 and Section 216.361. The adjusted standard relief requested by Marathon is an alternative emission limitation (“AEL”) that would apply during periods of startup of the FCCU in lieu of the CO standards in Section 216.361. The proposed AEL consists of incorporating by reference provisions containing alternative standards applicable to periods of startup from the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units at 40 CFR Part 63, Subpart UUU. In promulgating NESHAP Subpart UUU, the United States Environmental Protection Agency (“USEPA”) recognized the unique operating conditions that FCCUs must follow during periods of startup to ensure safe operation and to minimize emissions. These unique operating conditions are discussed in detail in this Petition and in the Technical Support Document (“TSD”) attached hereto as Exhibit 1. Marathon respectfully requests that the Board accept Marathon’s proposed Adjusted Standard.

## II. BACKGROUND

### A. SMB in Illinois

Provisions addressing SMB have been present in the Board's air regulations since 1972.<sup>1</sup> The SMB provisions were adopted in a rulemaking for new regulations for emission control of sulfur dioxide, nitrogen oxides, CO, hydrocarbons, and particulate matter. Final Order and Opinion, PCB R 71-23, at 1 (April 13, 1972). In that rulemaking, the Board adopted the initial 200 ppm CO standard applicable to petroleum and petrochemical processes now in Section 216.361(a). *Id.* at 4-255.<sup>2</sup> In PCB R 71-23, the Board recognized that sources were unable to immediately meet many of the emission limitations and standards being adopted. *Id.* at 8 (“Many of the substantive limitations adopted today impose stringent new requirements which cannot be met immediately without closing down large numbers of existing facilities. While it is important that the new standards be met as soon as is practicable, we have no wish to obtain clean air at the cost of closing down society.”) The Board also acknowledged, in adopting the original SMB provisions in Part 201 (then Rule 105), that “[n]o machine works perfectly all the time” and “startup conditions may result in less than optimum emission control.” *Id.* at 9. In describing the SMB provisions, the Board explained that they place “case-by-case discretion in the Agency under its permit powers, providing that . . . if irreducible startup emissions will somewhat exceed the general standards, EPA may *grant permission for such emissions* upon application and proof. *Id.* (emphasis added).

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<sup>1</sup> Opinion and Order of the Board, *In the Matter of: Emission Standards*, PCB R 71-23 (Apr. 13, 1972) (adopting Section 201.149 (then Rule 105(a)), Section 201.157 (then Rule 103(b)(3)), Sections 201.261 – 201.265 (then Rules 105(b) – (f)), Section 201.301 (then Rule 107(a)), and Section 212.124 (then Rule 202(c)).

<sup>2</sup> As adopted in PCB R 71-23, Rule 206(c) provided: “No person shall cause or allow the emission of a carbon monoxide waste gas stream into the atmosphere from a petroleum or petrochemical process unless such waste gas stream is burned in a direct flame afterburner or carbon monoxide boiler so that the resulting concentration of carbon monoxide in such waste gas stream is less than or equal to 200 ppm corrected to 50 per cent excess air, or such waste gas stream is controlled by other equivalent air pollution control equipment approved by the Agency according to the provisions of Part 1 of this Chapter.”

The Board recognized fifty years ago that sources may be unable to comply with the general emission limitations or standards being adopted in PCB R 71-23 (including the original 200 ppm CO standard applicable to petroleum and petrochemical processes) during startup due to the conditions of startup. The Board then recognized that, if irreducible startup emissions would exceed the general limitations or standards, then the Illinois Environmental Protection Agency (“Illinois EPA” or “Agency”) had the authority, through the SMB provisions in Part 201, to grant permission for such emissions. Because both the general emission standards and SMB provisions were adopted in the same rulemaking, it is clear that the SMB relief provisions were a foundational part of the development of the general emission standards. Removal of the SMB relief provisions adversely affects a source’s ability to comply with the general emissions startups during periods of SMB. Despite great advances in technology and control equipment, there are still instances where emissions units cannot meet generally applicable emission limitations during periods of SMB. The reasons for originally adopting the SMB provisions still hold true today.

The Board removed the SMB relief provisions from Part 201 on July 20, 2023 in PCB R 23-18. Final Opinion and Order, PCB R 23-18 (July 20, 2023) (amending Sections 201.149, 201.157, and 201.301, and repealing Sections 201.261 through 201.201.265). The amendments became effective on July 25, 2023. 47 Illinois Register 12089 (Aug. 11, 2023). The amendments amended and/or removed all SMB provisions from Part 201 that related to establishing a *prima facie* defense for exceedances during SMB events and that effectively established permit-based exemptions for periods of SMB. Per the Board, the amendments removed “provisions allowing for advance permission to continue operation during a malfunction or to violate emission limitations during startup.” *Id.* The adopted amendments did not include any AELs, or alternative

SMB provisions, as the Board declined to adopt the AELs proposed by industry in PCB R 23-18. Second Notice Opinion and Order, PCB R 23-18, at 22 (Apr. 6, 2023); Final Opinion and Order, PCB R 23-18, at 5 (July 20, 2023).<sup>3</sup>

Throughout the rulemaking proceeding in PCB R 23-18, Illinois EPA maintained that SMB provisions only provided a *prima facie* defense for violations of applicable standards during SMB events. *Id.* at 6 (“IEPA ‘still considers excess emissions during SSM to be violations, and the advance permissions granted in the operating permit under Part 201 simply allows a source to assert a *prima facie* defense should those violations be the subject of an enforcement proceeding.”). Marathon disagrees with Illinois EPA’s position. Section 201.149 previously provided Illinois EPA the authority to issue permits with provisions that allowed violation, i.e., exceedances, of standards or limitations during startup. In adopting the SMB provisions, the Board explained that “if irreducible startup emissions will somewhat exceed the general standards, EPA may *grant permission for such emissions* upon application and proof.” Final Order and Opinion, PCB R 71-23, at 9 (April 13, 1972) (emphasis added).

Additionally, in the 2015 State Implementation Plan (“SIP”) Call concerning startup, shutdown, and malfunction (“SSM”), discussed more below, USEPA analyzed the various state SSM provisions at issue. As to Illinois’ SMB provisions, USEPA explained:

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<sup>3</sup> In the Board’ Second Notice Opinion and Order, the Board directed the Clerk to open a sub-docket rulemaking to consider any proposed AELs. Second Notice Opinion and Order, PCB R 23-18, at 22 (Apr. 6, 2023). On August 7, 2023, the American Petroleum Institute (“API”) filed a rulemaking proposal in the sub-docket, PCB R 23-18(A), proposing an AEL concerning Section 216.361. Proposal for Regulations of General Applicability of behalf of API, PCB R 23-18(A) (Aug. 7, 2023). Marathon acknowledges that the relief requested in this Petition is also requested in API’s Proposal, except API’s requested AEL proposes to apply to all four refineries that are regulated under Section 216.361. Marathon has filed this Adjusted Standard Petition in order to avail itself of the option to obtain regulatory relief specific to Marathon. Marathon cannot anticipate how the proceeding in PCB R 23-18(A) will progress or if API’s proposed AEL language will ultimately be revised and/or adopted. Therefore, Marathon petitions for an Adjusted Standards specific to Marathon’s Robinson refinery and, in order for Marathon to avail itself of the stay pursuant to Section 28.1(f) of the Act, Marathon was required to file this Petition within 20 days of the effective date of the rule of general applicability (here, the amendments in PCB R 23-18 that became effective on July 25, 2023).

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. 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. . . . 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 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.

*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 Fed. Reg. 12460, 12514-15 (Feb. 22, 2013)<sup>4</sup> (internal citations removed) (emphasis added).<sup>5</sup> USEPA recognized that the SMB provisions in Part 201 are at best ambiguous and could be read as providing an exemption from otherwise applicable emission limitations. It was Marathon's position, as well as the position of many other regulated sources, that applying for and obtaining SMB conditions in their air permits would authorize emissions in excess of the generally applicable emission limitations or standards.

Illinois EPA has historically used the SMB provisions in Part 201 as a basis to include broad SMB conditions in construction and operating permits. Marathon's CAAPP Permit contains SMB relief provisions. Per these conditions, CO emissions from the FCCU in excess of the Section 216.361 standard were authorized during periods of startup as long as Marathon followed its startup plan and minimized the duration of the startup. Excerpts of Marathon's CAAPP Permit are attached as Exhibit 2 hereto.<sup>6</sup>

**B. Federal SSM**

On June 12, 2015, USEPA published in the Federal Register a final rule clarifying, restating, and updating USEPA's national policy regarding SSM provisions in SIPs. *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 Fed. Reg. 33840 (June 12, 2015).<sup>7</sup> USEPA announced in the 2015 final action its SSM policy,

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<sup>4</sup> This Federal Register is publicly available on the U.S. Government's "GovInfo" website at <https://www.govinfo.gov/content/pkg/FR-2013-02-22/pdf/2013-03734.pdf>.

<sup>5</sup> USEPA then goes on to explain that, even if the Illinois SIP provisions cited *intended* to provide only an affirmative defense to enforcement, the *prima facie* mechanism is not an acceptable affirmative defense provision. *Id.* at 12515 (emphasis added).

<sup>6</sup> A full copy of Marathon's CAAPP Permit is publicly available on Illinois EPA's Document Explorer website at: <https://webapps.illinois.gov/EPA/DocumentExplorer/Documents/Index/170000066372>.

<sup>7</sup> This Federal Register is publicly available on the U.S. Government's "GovInfo" website at <https://www.govinfo.gov/content/pkg/FR-2015-06-12/pdf/2015-12905.pdf>.

which concluded that broad SSM exemption provisions and affirmative defense SIP provisions are generally viewed as inconsistent with the requirements of the Clean Air Act (“CAA”). *Id.* at 33851. However, USEPA also recognized that there are approaches to addressing emissions during SSM events that are consistent with the requirements of the CAA. *Id.* at 33844. USEPA explained:

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 . . . . 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.

*Id.* (emphasis added). USEPA then restated its seven criteria for developing AELs. The seven criteria are addressed in the TSD, attached as Exhibit 1 to this Petition. If Marathon’s proposed Adjusted Standard is adopted by the Board, it is Marathon’s understanding that the adopted Adjusted Standard will be submitted by Illinois EPA to USEPA for approval as a revision to the Illinois SIP. Marathon’s proposed Adjusted Standard was drafted in order to address USEPA’s seven AEL criteria.

In the 2015 SIP Call, USEPA issued findings of substantial inadequacy for SIP provisions applying to excess emissions during SSM periods for 36 states/air agencies, including Illinois, and issued a SIP Call to each of those states/air agencies, requiring them to adopt and submit revisions to USEPA to correct identified SSM-related deficiencies by November 22, 2016. *Id.* at 33840,

33848, and 33930. After legal challenges and a series of revisions to USEPA's SSM policy, on January 12, 2022, USEPA published in the Federal Register a final rule finding that 12 States or local air pollution control districts, including Illinois, failed to submit SIP revisions required by the CAA in a timely manner to address USEPA's 2015 findings of substantial inadequacy and SIP Call. *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*, 87 Fed. Reg. 1680 (Jan. 12, 2022).<sup>8</sup> The 2022 final action became effective on February 11, 2022 and required the impacted states to submit SIP revisions addressing the findings of inadequacy relating to SSM within 18 months from the effective date (i.e., by August 11, 2023). *Id.* at 1682.

### **III. APPLICATION OF AUTOMATIC STAY**

Marathon is seeking an adjusted standard from Part 201 and Section 216.361. Marathon seeks an AEL that would apply during periods of startup in lieu of the CO standards in Section 216.361 as a result of the Boards' removal of the SMB relief provisions in Part 201. As a direct result of the Board's recent amendments in PCB R 23-18, Marathon will likely be unable to continuously comply with the CO standards in Section 216.361 during periods of startup of the FCCU.

Pursuant to Section 28.1(f) of the Illinois Environmental Protection Act ("Act"), if within 20 days after the effective date of any regulation that implements in whole or part the requirements of the CAA any person files a petition for an individual adjusted standard in lieu of complying with the regulation, the source will be exempt from the regulation until the Board

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<sup>8</sup> This Federal Register is publicly available on the U.S. Government's "GovInfo" website at <https://www.govinfo.gov/content/pkg/FR-2022-01-12/pdf/2022-00138.pdf>.

makes a final determination on the petition for adjusted standard. 415 ILCS 5/28.1(f).<sup>9</sup> Section 28.1(f) of the Act provides for an automatic stay of underlying regulations if those regulations implement in whole or part the requirements of the CAA and if the adjusted standard petition is filed within 20 days after the effective date of the regulation. *Id.*

On July 20, 2023, the Board issued its Opinion and Order amending the SMB provisions in Part 201, specifically removing the provisions that authorized exceedances of applicable standards during periods of SMB. Final Opinion and Order, PCB R 23-18 (July 20, 2023). Per the Board, the removal of the SMB provisions was required to comply with the findings of deficiencies of Illinois' SIP under the CAA. In the Illinois Register publishing the final amendments, the Board provided the following explanation of the amendments:

Summary and Purpose of Rulemaking: This proposal amends 35 Ill. Adm. Code 201, 202, and 212 to remove provisions allowing for advance permission to continue operating during a malfunction or to violate emission limitations during start-up. The removal of the provisions is required to comply with the United States Environmental Protection Agency (USEPA) findings of deficiencies in the Illinois State Implementation Plan under the Clean Air Act (CAA) 42 U.S.C. §4701, et seq.

This proposal is intended to meet obligations of the State of Illinois under CAA and was filed pursuant to Section 28.5 of the Act (415 ILCS 5/28.5(2020)). Section 28.5 of the Act requires the Board to proceed toward adoption of the proposed regulation by meeting a series of strict deadlines.

47 Illinois Register 12089-90 (Aug. 11, 2023). Per the Board, the amendments were promulgated “to meet the obligations of the State of Illinois under CAA” and the amendments were required to comply with the findings of deficiencies under the CAA. *Id.* Because the amendments were

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<sup>9</sup> In response to the American Petroleum Institute's (“API”) June 12, 2023 Motion for Relief and/or Clarify, Illinois EPA stated that Section 28.1(e) would be applicable to API's request to clarify the stay provision under the adjusted standard provisions. Agency's Response to API's Motion for Relief and/or Clarify, PCB R 23-18(A), 4 (June 22, 2023). Because the Board's amendments in PCB R 23-18 implement requirements of the CAA, the applicable stay provision here is Section 28.1(f) of the Act. However, if the Board agrees with Illinois EPA's statement that Section 28.1(e) is the applicable stay provision, a stay would then apply under Section 28.1(e) because this Petition is filed within 20 days of the Board's amendments in PCB R 23-18.

adopted to meet the obligations of the CAA, the amendments in PCB R 23-18 implemented “in whole or in part the requirements of the Clean Air Act.” Additionally, this Petition has been filed within 20 days of the effective date of the Board’s amendments in PCB R 23-18. The effective date of the Board’s amendments is July 25, 2023. 47 Illinois Register 12089 (Aug. 11, 2023).

Because Marathon has filed this Petition within 20 days after the effective date of the regulation of general applicability at issue and that regulation implements in whole or part the requirements of the CAA, an automatic stay of those regulations is in effect throughout the pendency of this proceeding pursuant to Section 28.1(f) of the Act. 415 ILCS 5/28.1(f). Pursuant to Section 28.1(f), “[i]f the regulation adopted by the Board from which the individual adjusted standard is sought replaces a previously adopted Board regulation, the source shall be subject to the previously adopted Board regulation until final action is taken by the Board on the petition.” 415 ILCS 5/ 28.1(f). Therefore, in effect, the SMB provisions in Part 201 would revert back to the language that was in place before they were amended in PCB R 23-18 during the pendency of this proceeding. Marathon therefore can continue to rely upon the prior SMB relief provisions in Part 201 as well as the SMB permit conditions in its CAAPP Permit applicable to compliance with Section 216.361 during periods of startup.

#### **IV. ANALYSIS AND PETITION CONTENT REQUIREMENTS**

Marathon is unable to guarantee continuous compliance with the generally applicable CO standards in Section 216.361 during periods of startup of the FCCU. Prior to the Board’s amendments in PCB R 23-18, Marathon relied upon the SMB conditions in its permit, which authorized CO emissions exceeding the Section 216.361 standards during startup of the FCCU. Marathon is now unable to avail itself of the SMB conditions, leaving Marathon in a position of facing likely noncompliance with the CO standards in Section 216.361 during periods of startup

of the FCCU. Marathon requests an adjusted standard, which provides that Marathon would be able to comply with an AEL during periods of startup of the FCCU.

**A. Standard From Which an Adjusted Standard is Sought [35 IAC 104.406(a)]**

The rule of general applicability for which Marathon requests an adjusted standard is 35 Ill. Adm. Code Part 201 and Section 216.361 as a result of the Board's amendments to Part 201 in PCB R 23-18 (specifically the amendments to 35 Ill. Adm. Code 201.149, 201.157, and 201.301, and the repeal of 35 Ill. Adm. Code 201.261 through 201.265). Because the Board's amendments to Part 201 removing the SMB relief provisions will likely adversely impact Marathon's continuous compliance with Part 216.361 during periods of startup, Marathon is requesting that the Board grant an adjusted standard providing an AEL for CO emissions during startup that would be applicable in lieu of Section 216.361.

As to Part 201, the Board's amendments to Part 201 are included in Exhibit 3 attached hereto. Exhibit 3 is an excerpt of the August 11, 2023 Illinois Register that shows the Board's final amendments to Part 201. As amended, Sections 201.149, 201.157 and 201.301 now state:

**Section 201.149 Operation During Malfunction, Breakdown or Startups**

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.

**Section 201.157 Contents of Application for Operating Permit**

An application for an operating permit must contain the data and information specified in Section 201.152. Each application must list all individual emission units and air pollution equipment for which a permit is sought. Any applicant may seek to obtain from the Agency a permit for each emission unit, or such

emission units as are similar in design or principle of operation or function, or for all emission units encompassed in an identifiable operating unit, unless subject to the provisions of Section 201.169 of this Subpart or required to obtain an operating permit with federal enforceable conditions in compliance with Section 39.5 of the Act. To the extent that the above specified data and information has previously been submitted to the Agency in compliance with this Subpart, the data and information need not be resubmitted, but the applicant must certify that the data and information previously submitted remains true, correct and current. An application for an operating permit must contain a description of the startup procedure for each emission unit, the duration and frequency of startups, the types and quantities of emissions during startup, and the applicant's efforts to minimize any such startup emissions, duration of individual startups, and frequency of startups. The Agency may adopt procedures that require data and information in addition to and in amplification of the matters specified in the first sentence of this Section, that are reasonably designed to determine compliance with this Chapter and ambient air quality standards, and that specify the format by which all data and information must be submitted.

#### Section 201.301 Records

The owner or operator of any emission source or air pollution control equipment must maintain: records detailing all activities under any compliance program and project completion schedule in compliance with Subpart H; records of all monitoring and testing conducted in compliance with Subpart J, plus records of all monitoring and testing of any type whatsoever conducted with respect to specified air contaminants. All records must be made available to the Agency at any reasonable time.

a) The Agency may adopt procedures which:

1) Require additional records be maintained consistent with this Part; and

2) Specify the format in which all records must be maintained.

b) The procedures and formats, and revisions, will not become effective until filed with the Secretary of State as required by the Illinois Administrative Procedure Act [5 ILCS 100].

35 Ill. Adm. Code 201.149, 201.157, and 201.301. As amended, Sections 201.261 through 201.265 have been repealed in their entirety. 35 Ill. Adm. Code 201.261-201.265. The effective date of the Board's amendments to Part 201 is July 25, 2023. 47 Illinois Register 12089 (Aug. 11, 2023).

Section 216.361 of the Board's regulations states:

Section 216.361 Petroleum and Petrochemical Processes

- a) No person shall cause or allow the emission of a carbon monoxide waste gas stream into the atmosphere from a petroleum or petrochemical process unless such waste gas stream is burned in a direct flame afterburner or carbon monoxide boiler so that the resulting concentration of carbon monoxide in such waste gas stream is less than or equal to 200 ppm corrected to 50 percent excess air, or such waste gas stream is controlled by other equivalent air pollution control equipment approved by the Agency according to the provisions of 35 Ill. Adm. Code 201.
- b) Notwithstanding subsection (a), any existing petroleum or petrochemical process using catalyst regenerators of fluidized catalytic converters equipped for in situ combustion of carbon monoxide, may emit a carbon monoxide waste gas stream into the atmosphere if the carbon monoxide concentration of such waste gas stream is less than or equal to 750 ppm corrected to 50 percent excess air.
- c) Notwithstanding subsection (a), any new petroleum or petrochemical process using catalyst regenerators of fluidized catalytic converters equipped for in situ combustion of carbon monoxide, may emit a carbon monoxide waste gas stream into the atmosphere if the carbon monoxide concentration of such waste gas stream is less than or equal to 350 ppm corrected to 50 percent excess air.

35 Ill. Adm. Code 216.361. Section 216.361(a) (then Rule 206(c)) was adopted in PCB R 71-23 with an effective date of April 14, 1972. Final Order and Opinion, PCB R 71-23, at 4-255 (April 13, 1972). Sections 216.361(b) and (c) (then Rules 206(c)(2) and (3)) were adopted in PCB R 73-10. Opinion of the Board, PCB R 73-10, at 16-260 (March 26, 1975); Order of the Board, PCB R 73-10, at 16-256 (March 26, 1975). The documents available on the Board's online docket for PCB R 73-10 do not address an effective date for such amendments, but it is Marathon's understanding that the amendments were effective upon adoption.

**B. Whether the Regulation of General Applicability was Promulgated to Implement the Requirements of the CWA, Safe Drinking Water Act, Comprehensive Environmental Response, Compensation and Liability Act, CAA, or the State Programs Concerning RCRA, UIC, or NPDES [35 IAC 104.406(b)]**

As addressed in Section III above, the Board's amendments to Part 201 adopted in PCB R 23-18 were promulgated to implement the requirements of the CAA. Per the Board, the removal of the SMB provisions was required to comply with the findings of deficiencies of Illinois' SIP under the CAA. In the Illinois Register publishing the final amendments, the Board provided the following explanation of the amendments:

Summary and Purpose of Rulemaking: This proposal amends 35 Ill. Adm. Code 201, 202, and 212 to remove provisions allowing for advance permission to continue operating during a malfunction or to violate emission limitations during start-up. The removal of the provisions is required to comply with the United States Environmental Protection Agency (USEPA) findings of deficiencies in the Illinois State Implementation Plan under the Clean Air Act (CAA) 42 U.S.C. §4701, et seq.

This proposal is intended to meet obligations of the State of Illinois under CAA and was filed pursuant to Section 28.5 of the Act (415 ILCS 5/28.5(2020)). Section 28.5 of the Act requires the Board to proceed toward adoption of the proposed regulation by meeting a series of strict deadlines.

47 Illinois Register 12089-90 (Aug. 11, 2023). Per the Board, the amendments were promulgated "to meet the obligations of the State of Illinois under CAA" and the amendments were required to comply with the findings of deficiencies under the CAA. *Id.* Because the amendments were adopted to meet the obligations of the CAA, the amendments in PCB R 23-18 implemented the requirements of the CAA.

Additionally, the CO emission standards in Section 216.361 were also promulgated to implement the requirements of the CAA. Section 216.361(a), originally adopted as Rule 206(c) in PCB R 71-23, was adopted as part of Illinois' SIP in order to meet the recently adopted federal

air quality standards for CO. Opinion and Order of the Board, PCB R 71-23, 4-299 (Apr. 13, 1972).

**C. Level of Justification as Specified by the Regulation of General Applicability [35 IAC 104.406(c)]**

Neither Part 201, specifically the Board's recent amendments to Part 201, nor Section 216.361 include a specified level of justification for an adjusted standard. Because there is not a specified level of justification, the applicable level of justification are the following factors identified in Section 28.1(c) of the Act and Section 104.426 of the Board's regulations:

- (1) factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to that petitioner;
- (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 rule of general applicability; and
- (4) the adjusted standard is consistent with any applicable federal law.

415 ILCS 5/28.1(c)(1)-(4); 35 Ill. Adm. Code 104.426. The above factors are addressed in detail in the following subsections.

**D. Nature of the Petitioner's Activity that is the Subject of the Proposed Adjusted Standard (35 IAC 104.406(d))**

Marathon owns and operates an integrated petroleum refinery located at 100 Marathon Avenue, Robinson, Crawford County, Illinois ("Refinery"). Marathon currently employs 665 employees at the Refinery and approximately 427 contractors. The Refinery was built in 1906. The FCCU and CO boiler, which are further discussed below, were constructed in 1948 and 1974, respectively. Crawford County is located in a CO attainment area (there are no CO

nonattainment areas in the State). The Refinery is not located in or near an environmental justice (“EJ”) area according to Illinois EPA’s EJ mapping tool “EJ Start.”<sup>10</sup>

The Refinery is a complex, integrated petroleum refinery that produces petroleum-based fuel products to meet consumer demands in this region. The Refinery produces numerous products including gasoline, distillates, propane, anode-grade coke, aromatics, fuel-grade coke, and slurry. The Refinery is in continuous operation, operating 24 hours per day, 7 days per week, 365 days per year. Periodically, various process units will be shut down for both planned and emergency maintenance activities. The Refinery has the capacity to process 245,000 barrels of crude oil per day.

The Refinery uses crude oil as its major raw material. The crude is delivered by pipeline and by tanker trucks to the Refinery. The crude oil is first heated and fractionated in distillation columns to separate it into its various natural petroleum fraction or products. Some of these fractionation products can be marketed after this first step; however, more useful products can be manufactured by further processing in other Refinery process units. Hydrocarbon molecules that are too large (i.e., long-chain hydrocarbons) to be used as high-value fuels are further processed in cracking or conversion units such as the Cokers, FCCU, or Unicracker. Molecules that are too small can be used in the Refinery’s heaters as a fuel gas or can be recombined with other molecules to make liquid fuels in units such as the HF Alkylation Unit. Other process units at the Refinery perform functions such as removing contaminants from intermediate or product streams, increasing fuel octane value, or blending products to customer specification. The various process units at the Refinery are “fueled” by either natural gas or refinery fuel gas.

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<sup>10</sup> Illinois EPA’s EJ Start mapping tool is publicly available on Illinois EPA’s website at <https://illinois-epa.maps.arcgis.com/apps/webappviewer/index.html?id=f154845da68a4a3f837cd3b880b0233c>.

Additional energy is provided from steam produced by the Refinery and electricity purchased off the grid.

FCCUs are complex process areas within refineries. They take heavy feedstock, and in the presence of catalyst and heat, produce lighter products. Upon starting up an FCCU, it is necessary to heat up the regenerator and the catalyst to facilitate the reaction and prevent damage to process equipment.

While each FCCU is unique in design, a typical start up can require refractory dry out. During this time, heat must be introduced slowly to prevent spalling of refractory caused from the rapid expansion of water entrained in the refractory media. API 936 and the refractory manufacturer guidance must be followed to prevent failure of the refractory and damage to the process equipment. Temperatures during this process are controlled using the fired air heater prior to catalyst being loaded into the regenerator. Typical heating rate during this process is 100°F/hour, however, this may differ based on the manufacturer's guidance.

Use of the air heater continues until the threshold temperature for catalyst loading is achieved. This temperature threshold is typically around 800°F in order to minimize air viscosity and catalyst loading to the cyclones. Once the catalyst loading is completed, the catalyst dense bed temperatures must reach around 800°F at a typical heating rate of 100°F/hour.

Air heaters for FCCUs produce and transfer heat to the regenerator by introducing air to fuel to support combustion with the oxygen in the air serving as the oxidant and the fuel serving as the reductant. Combustion can be complex in that the reaction equilibrium is influenced by factors including available oxygen, fuel, thermal properties, and temperature. When the air heater is started, the thermal efficiency is low due to the temperature within the regenerator. This results in CO formation since the combustion process cannot be completed. As the surrounding

temperature increases, the heat capacity of the fuel and combustion intermediates increase, and combustion equilibrium is achieved.

Torch oil is then introduced into the regenerator to heat the system to temperatures required to facilitate the cracking reactions after the CO boiler is started and available to receive flue gas. Torch oil is typically added to the dense bed at around 800 °F to avoid hydrocarbon saturation of the catalyst which poses a safety risk and can result in coke formation on the catalyst. CO emissions occur at this stage of the startup because of the heat balance and the limited mixing capacity of the torch oil and air in the dense bed.

Once the targeted temperatures are achieved for catalyst circulation, the available air for combustion improves. Torch oil continues to be used to heat the regenerator until the minimum feed introduction temperature is achieved in the reactor and regenerator sections. Once feed is introduced, the coke on the catalyst will contribute to the heat balance for the system and torch oil will be removed from the regenerator. The FCCU will continue to be optimized as feed is added to the unit and, as a result, carbon monoxide is reduced.

The FCCU has the capacity to operate in full burn and partial burn modes. When the FCCU is operating in partial burn, the flue gas will continue to be routed to the CO boiler for control. This is necessary because the regenerator operates with no excess oxygen to facilitate complete combustion and CO production remains elevated. The CO destruction occurs within the CO boiler in this mode of operation. When the FCCU is operating in full burn, the regenerator operates with excess oxygen and results in low concentrations of CO. In this mode of operation, the flue gas does not require treatment in the CO boiler and can be routed directly to the Flue Gas Scrubbing System.

There will be no adverse impact on the environment of Marathon's operation if Marathon were to comply with the rule of general applicability as compared to the impact on the environment if Marathon were to comply with the proposed Adjusted Standard. Marathon complies with the applicable CO standards in Section 216.361 during all modes of operation of the FCCU, except that Marathon is unable to guarantee continuous compliance with such standards during each startup of the FCCU. Prior to the Board's amendments to Part 201, during the times that Marathon was likely unable to meet Section 216.361 during a startup period, Marathon would comply with the alternative standards under NESHAP Subpart UUU. The same would occur if Marathon's proposed Adjusted Standard was adopted because Marathon is proposing to incorporate the applicable NESHAP Subpart UUU provisions into its Adjusted Standard. As such, the qualitative and quantitative impact to the environment from Marathon's operation of the FCCU during startup would not change if Marathon's proposed Adjusted Standard was adopted.

The only feasible manner in which to minimize CO during startup is to use good combustion and operating practices to bring the FCCU system up to temperature as quickly and safely as allowed. During this time, CO can exceed 200 ppm for relatively short bursts until startup is exited and the CO boiler temperatures are stabilized. Since January 1, 2017, the Refinery has initiated 20 startup attempts of its FCCU for a total duration of approximately 485 hours. The average startup lasted 25.5 hours during this period of time. This represents <1% of available hours. As explained above and in the TSD, FCCU startups are very complex and complicated events and depend on the reason the unit was shutdown as well as a multitude of other variables. However, the CO concentration varies from very low (<10ppm) to several hundred ppm for short periods of time.

The short spikes of excess CO emissions that are likely to occur during startup of the FCCU do not result in violations of the CO National Ambient Air Quality Standards (“NAAQS”). The TSD attached as Exhibit 1 to this Petition contains data supporting no violations of the CO NAAQS based on Marathon’s prior operation, which will not change if Marathon’s proposed Adjusted Standard is adopted. Therefore, Marathon’s proposed Adjusted Standard would have no negative measurable impact to the environment or health.

**E. Efforts Necessary to Comply with the Regulation of General Applicability [35 IAC 104.406(e)]**

Marathon is seeking an adjusted standard from 35 Ill. Adm. Code Part 201 and Section 216.361 as a result of the Board’s removal of the SMB relief provisions in Part 201. Through the Board’s recent amendments to Part 201, Marathon must comply with the CO standards in Section 216.361 during all modes of operation, including periods of SMB. As such, this section will address Marathon’s efforts to comply with the CO standards in Section 216.361 during startup now that the SMB relief provisions have been removed from Part 201.

There are no known controls for an FCCU that will reduce CO emission to under CO emission standards in Section 216.361 at all times during each startup event. Excess CO is formed and emitted during the startup phase due to the need to ramp temperature up slowly as well as balancing available air as temperatures increase. Typically, CO from FCCUs is controlled by a CO boiler. During startup, flue gas is introduced into the CO boiler just prior to the introduction of torch oil into the FCCU. Supplemental gas is also required to bring the temperature of the CO boiler up to 980°C/1800°F to ensure complete combustion of CO. At these temperatures, very low concentrations of CO are achievable from a CO boiler. However, until the entire FCCU system reaches the steady-state, normal operations as described above and in the TSD, these controls cannot reduce the excess CO to below the CO standards in Section 216.361.

Other controls available for CO, such as oxidation catalysts, offer little to no advantages over a CO boiler. In fact, Marathon is not aware of any FCCU installation which has an oxidation catalyst in place of or in conjunction with a CO Boiler. At very high temperatures and/or ramp rates, oxidation catalysts are subject to catalyst damage and can be fouled. They also require a minimum temperature to be effective. However, unlike a CO boiler which can have supplemental firing, oxidation catalysts are completely dependent upon the heat of the process to bring the catalyst temperature to the point that the oxidation reaction occurs. Due to catalyst changeouts, an oxidation catalyst may actually increase the number of shutdowns and startups of an FCCU. An oxidation catalyst provides no additional CO control advantages over a CO boiler during startup or operation; therefore they would not qualify as an “add-on” control downstream of a CO boiler. In addition, they do not provide the heat recovery in the form of usable steam that a CO boiler provides to a refinery. The steam produced from the heat release of CO combustion reduces the demand for steam from other fired boilers therefore increasing the efficiency of the refinery and offsetting emissions from those sources while controlling CO.

Where oxidation catalysts are used for CO controls (reciprocating internal combustion engines, turbines, etc.), they create a backpressure on the system that has to be overcome. A 2003 document written by USEPA regarding the Combustion Turbine NESHAP stated that installation of an oxidation catalyst would cost \$3,200,000 in initial capital and approximately \$1,000,000 in annual operation and maintenance costs to install on a turbine, using 1998 dollars.<sup>11</sup> A turbine would be a much simpler installation than an FCCU. An FCCU is highly dependent on balancing airflow through the system, therefore, deploying an oxidation catalyst on an FCCU could require

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<sup>11</sup> “Economic Impact Analysis of the Final Stationary Combustion Turbines NESHAP: Final Report,” USEPA, EPA-452/R-03-014 (August 2003), publicly available on USEPA’s website at: [https://www.epa.gov/sites/default/files/2020-07/documents/combustion-turbines\\_eia\\_neshap\\_final\\_08-2003.pdf](https://www.epa.gov/sites/default/files/2020-07/documents/combustion-turbines_eia_neshap_final_08-2003.pdf).

a major reconstruction of the entire process unit, not just adding on controls. The 2003 document appears to be an average across industrial and utility turbines as no sizes are given. Escalating these costs 25 years from 1998 to 2023, particularly given the last 5 years of supply chain and raw materials cost increases and accounting for the balance-of-plant impacts, it would be reasonable to approximate costs in the \$25,000,000 - \$100,000,000 range, or more, along with ongoing operation and maintenance costs in the \$3,000,000 - \$5,000,000 range. These costs are not engineering estimates but are approximations of current values of the costs explained in USEPA's 2003 document concerning the Combustion Turbine NESHAP. However, based on the costs of FCCU projects (i.e., regenerator rebuilds, WGS installation, etc.), the approximations are reasonable and may actually be conservative. Since Marathon is not aware of any other FCCU that has an oxidation catalyst downstream of a CO boiler, it would take months of engineering to determine the factors that would be necessary to estimate a total installed cost (these factors include whether the installation is technically feasible; the size of the oxidation catalyst needed for an FCCU; site specific and balance-of-plant impacts on capital and operation and maintenance costs; and operational impacts and changes). Again, all of the associated costs would result in little to no change in CO emissions during startup and normal operation. Therefore, the cost effectiveness (i.e., dollar per ton of CO removed) would be exorbitant as there would be little to no emission removed in the denominator of that equation. Because of these factors, a CO boiler is the technically viable control option for FCCUs and no other add-on controls are feasible.

The only feasible manner in which to minimize CO during startup is to use good combustion and operating practices to bring the FCCU system up to temperature as quickly and safely as allowed. During this time, CO can exceed 200 ppm for relatively short bursts until

startup is exited and the CO boiler temperatures are stabilized. Therefore, there is no feasible engineering control option during startups to continuously meet the Section 216.361 standards during each startup other than the work practices proposed by this Petition.

**F. Description of Proposed Adjusted Standard and Efforts Necessary to Achieve the Proposed Standard [35 IAC 104.406(f)]**

**1. Proposed Adjusted Standard**

Marathon is seeking an adjusted standard from 35 Ill. Adm. Code Part 201 and Section 216.361 as a result of the Board's removal of the SMB relief provisions in Part 201. Through the Board's recent amendments to Part 201, Marathon must comply with the CO standards in Section 216.361 during all modes of operation, including periods of SMB. Part 216 of the Board's rules addresses CO emissions. 35 Ill. Adm. Code Part 216. The CO standards are organized by categories of sources: fuel combustion emission sources, incinerators, petroleum refining and chemical manufacture, and primary and fabricated metal products. 35 Ill. Adm. Code 216, Subparts B, C, N, and O. The provisions in Part 216 only contain CO standards – they do not contain requirements for monitoring, testing, recordkeeping or reporting. *See id.* The federal NESHAP standards for Industrial, Commercial, and Institutional Boilers and Process Heaters at 40 CFR 63, Subparts UUU are more comprehensive. The standards in Subpart UUU are based on Maximum Achievable Control Technology (“MACT”) and provide requirements for continuous monitoring, testing, recordkeeping and reporting. 40 CFR 63, Subpart UUU. Under NESHAP Subpart UUU, CO is regulated as a surrogate for organic HAP species, as good combustion results in the elimination of CO and organic HAP.

With the removal of the SMB provisions in Part 201, Marathon must comply with the applicable Section 216.361 CO standards at all times, including periods of startup. However, given the unique operating conditions of the FCCU during startup periods, Marathon will likely

be unable to achieve the Section 216.361 standards throughout the entirety of each startup event.

Therefore, Marathon proposes an adjusted standard that would apply during periods of FCCU

startup in lieu of the CO standards in Section 216.361. Marathon proposes the following

language for a Board order to impose an adjusted standard:

1. Pursuant to Section 28.1 of the Environmental Protection Act (“Act”) (415 ILCS 5/28.1), the Board grants Marathon Petroleum Company, LLC (“Marathon”) an adjusted standard from 35 Ill. Adm. Code Part 201 and 216.361, effective \_\_\_\_\_, 202\_\_\_. The adjusted standard applies to the emissions of carbon dioxide (“CO”) into the atmosphere from Marathon’s fluid catalytic cracking unit (“FCCU”) in its petroleum refinery located at 100 Marathon Avenue, Robinson, Crawford County, Illinois (“Refinery”).
2. The CO standards in 35 Ill. Adm. Code 216.361 do not apply during periods of startup of the FCCU.
3. During periods of startup, Marathon must comply with the requirements applicable to FCCUs during startup in 40 CFR 63 Subpart UUU Tables 9, 10, 14, and 41 and 40 CFR 63.1565(a)(5), 40 CFR 63.1570(c) and (f), 40 CFR 63.1572(c) and 40 CFR 63.1576(a)(2) and (d).
4. The definition for “catalytic cracking unit” in 40 CFR 63.1579 applies to this adjusted standard. The definition of “startup” in 40 CFR 63.2 applies to this adjusted standard.

The proposed adjusted standard language incorporates provisions from the NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units at 40 CFR 63, Subpart UUU. As proposed, Marathon would not be subject to the CO standards in Section 216.361 during periods of startup of the FCCU. During startup, the FCCU would be subject to the alternative standards incorporated by reference from NESHAP Subpart UUU. Additionally, the proposed adjusted standard would specify that, for purposes of the adjusted standard, the terms “catalytic cracking unit” and “startup” would be defined as those terms are defined in 40 CFR 63.1579 and 40 CFR 63.2, respectively.

The provisions from NESHAP Subpart UUU that Marathon proposes to incorporate by reference are discussed in the following sections.

i. 40 CFR 63.1565(a)(5)

Section 63.1565(a)(5) provides the requirements for organic HAP emissions from catalytic cracking units during periods of startup, shutdown, and hot standby. Section 63.1565(a)(5)(ii) states:

(a) *What emission limitations and work practice standards must I meet?* You must:

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(5) On or before the date specified in § 63.1563(d), you must comply with one of the two options in paragraphs (a)(5)(i) and (ii) of this section during periods of startup, shutdown and hot standby:

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(ii) You can elect to maintain the oxygen (O<sub>2</sub>) concentration in the exhaust gas from your catalyst regenerator at or above 1 volume percent (dry basis) or 1 volume percent (wet basis with no moisture correction).

By incorporating this provision, Marathon would be subject to the oxygen concentration standard in 40 CFR 63.1565(a)(5)(ii) during startup of the FCCU in lieu of the CO standards currently in 35 Ill. Adm. Code 216.361.

ii. 40 CFR Part 63, Subpart UUU, Table 9

Table 9 of NESHAP Subpart UUU provides the operating limits for organic HAP emissions from catalytic cracking units. Row 3 of Table 9 states:

For each new or existing catalytic cracking unit . . .	For this type of continuous monitoring system . . .	For this type of control device . . .	You shall meet this operating limit . . .
3. During periods of startup,	Any	Any	Meet the requirements in § 63.1565(a)(5).

shutdown or hot standby			
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Row 3 of Table 9 governs periods of startup, shutdown, or hot standby. By incorporating Table 9, Marathon would be subject to the oxygen concentration standard in 40 CFR 63.1565(a)(5)(ii) during startup of the FCCU in lieu of the CO standards currently in 35 Ill. Adm. Code 216.361.

iii. 40 CFR 63.1570(c)

40 CFR 63.1570(c) provides the requirement to operate and maintain the source and associated air pollution control equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions. Section 63.1570(c) states:

(c) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

Marathon proposes to incorporate this provision in order to mirror the SMB permit conditions concerning the duty to minimize emissions during SMB periods. Additionally, USEPA's criteria for developing AELs requires that the AEL include a requirement that the frequency and duration of operation in startup or shutdown mode are minimized to the greatest extent practicable, and that the facility is operated in a manner consistent with good practice for minimizing emissions.

iv. 40 CFR 63.1570(f)

40 CFR 63.1570(f) requires the submittal of reports for each instance when the SSM provisions are not met. Section 63.1570(f) states:

(f) You must report each instance in which you did not meet each emission limitation and each operating limit in this subpart that applies to you. This includes periods of startup, shutdown, and malfunction. You also must report each instance in which you did not meet the work practice standards in this subpart that apply to you. These instances are deviations from the emission limitations and work practice standards in this subpart. These deviations must be reported according to the requirements in § 63.1575.

By incorporating this provision, Marathon would be required to submit a report to Illinois EPA Bureau of Air Compliance Section for each instance in which the Refinery did not meet the oxygen concentration standard in 40 CFR 63.1565(a)(5)(ii) and Table 9 during startup.

v. 40 CFR 63.1572(c)

40 CFR 63.1572(c) requires the installation and operation of a continuous parameter monitoring system. Section 63.1572(c) states:

(c) Except for flare monitoring systems, you must install, operate, and maintain each continuous parameter monitoring system according to the requirements in paragraphs (c)(1) through (5) of this section. For flares, on and after January 30, 2019, you must install, operate, calibrate, and maintain monitoring systems as specified in §§ 63.670 and 63.671. Prior to January 30, 2019, you must either meet the monitoring system requirements in paragraphs (c)(1) through (5) of this section or meet the requirements in §§ 63.670 and 63.671.

(1) You must install, operate, and maintain each continuous parameter monitoring system according to the requirements in Table 41 of this subpart. You must also meet the equipment specifications in Table 41 of this subpart if pH strips or colorimetric tube sampling systems are used. You must meet the requirements in Table 41 of this subpart for BLD systems. Alternatively, before August 1, 2017, you may install, operate, and maintain each continuous parameter monitoring system in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

(2) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have

a valid hour of data (or at least two if a calibration check is performed during that hour or if the continuous parameter monitoring system is out-of-control).

(3) Each continuous parameter monitoring system must have valid hourly average data from at least 75 percent of the hours during which the process operated, except for BLD systems.

(4) Each continuous parameter monitoring system must determine and record the hourly average of all recorded readings and if applicable, the daily average of all recorded readings for each operating day, except for BLD systems. The daily average must cover a 24-hour period if operation is continuous or the number of hours of operation per day if operation is not continuous, except for BLD systems.

(5) Each continuous parameter monitoring system must record the results of each inspection, calibration, and validation check.

This provision requires the installation and operation of a continuous parameter monitoring system. Marathon operates a continuous parameter monitoring system, an oxygen content sensor, which demonstrates compliance with the oxygen concentration limit in 40 CFR 63.1565(a)(5)(ii) and Table 9 during startup periods.

vi. 40 CFR Part 63, Subpart UUU, Table 10

NESHAP Subpart UUU, Table 10 provides requirements for the continuous monitoring systems for organic HAP emissions from catalytic cracking units. Table 10, Row 3 states:

For each new or existing catalytic cracking unit . . .	And you use this type of control device for your vent . . .	You shall install, operate, and maintain this type of continuous monitoring system . . .
3. During periods of startup, shutdown or hot standby electing to comply with the operating limit in § 63.1565(a)(5)(ii)	Any	Continuous parameter monitoring system to measure and record the concentration by volume (wet or dry basis) of oxygen from each catalyst regenerator vent. If measurement is made on a wet basis, you must comply with the limit as measured (no moisture correction).

This provision requires the installation and operation of a continuous parameter monitoring system. Marathon operates a continuous parameter monitoring system, an oxygen content sensor, which demonstrates compliance with the oxygen concentration limit in 40 CFR 63.1565(a)(5)(ii) and Table 9 during startup periods.

vii. 40 CFR Part 63, Subpart UUU, Table 14

NESHAP Subpart UUU, Table 14 provides the requirements for continuous compliance with operating limits for organic HAP emissions from catalytic cracking units. Table 14, Row 3 states:

For each new or existing catalytic cracking unit . . .	If you use. . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
3. During periods of startup, shutdown or hot standby electing to comply with the operating limit in § 63.1565(a)(5)(ii).	Any control device	The oxygen concentration limit in § 63.1565(a)(5)(ii)	Collecting the hourly average oxygen concentration monitoring data according to § 63.1572 and maintaining the hourly average oxygen concentration at or above 1 volume percent (dry basis).

The above provision provides how Marathon will demonstrate continuous compliance with the oxygen concentration limit in 40 CFR 63.1565(a)(5)(ii).

viii. 40 CFR 63.1576(d)

40 CFR 63.1576(d) references the continuous compliance requirements during startup, shutdown, and hot standby. Section 63.1576(d) states:

(d) You must keep records required by Tables 6, 7, 13, and 14 of this subpart (for catalytic cracking units); Tables 20, 21, 27 and 28 of this subpart (for catalytic reforming units); Tables 34 and 35 of this subpart (for sulfur recovery units); and Table 39 of this subpart (for bypass lines) to show continuous compliance with each emission limitation that applies to you.

Marathon proposes to incorporate this provision in order to incorporate the continuous compliance requirements of Table 14, Row 3, as discussed in the above subsection.

ix. 40 CFR Part 63, Subpart UUU, Table 41

NESHAP Subpart UUU, Table 41 provides the requirements for installation, operation, and maintenance of continuous parameter monitor systems. Table 41, Row 10 states:

If you use . . .	You shall . . .
3. Oxygen content sensors <sup>2</sup>	Locate the oxygen sensor so that it provides a representative measurement of the oxygen content of the exit gas stream; ensure the sample is properly mixed and representative of the gas to be measured.
	Use an oxygen sensor with an accuracy of at least $\pm 1$ percent of the range of the sensor or to a nominal gas concentration of $\pm 0.5$ percent, whichever is greater.
	Conduct calibration checks at least annually; conduct calibration checks following any period of more than 24 hours throughout which the sensor reading exceeds the manufacturer's specified maximum operating range or install a new oxygen sensor; at least quarterly, inspect all components for integrity and all electrical connections for continuity; record the results of each calibration and inspection.

<sup>2</sup> This does not replace the requirements for oxygen monitors that are required to use continuous emissions monitoring systems. The requirements in this table apply to oxygen sensors that are continuous parameter monitors, such as those that monitor combustion zone oxygen concentration and regenerator exit oxygen concentration.

This provision provides the operation and maintenance requirements for the oxygen content sensors.

x. 40 CFR 63.1576(a)(2)

40 CFR 63.1576(a)(2) requires a variety of records concerning SSM events to be maintained. Section 63.1576(a)(2) states:

(a) You must keep the records specified in paragraphs (a)(1) through (3) of this section.

\*\*\*\*

(2) The records specified in paragraphs (a)(2)(i) through (iv) of this section.

(i) Record the date, time, and duration of each startup and/or shutdown period for which the facility elected to comply with the alternative standards in § 63.1564(a)(5)(ii) or § 63.1565(a)(5)(ii) or § 63.1568(a)(4)(ii) or (iii).

(ii) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time and duration of each failure.

(iii) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(iv) Record actions taken to minimize emissions in accordance with § 63.1570(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

In proposing to incorporate these provisions, Marathon will be required to maintain records of the date, time, and duration of each startup period for which the facility elected to comply with the oxygen concentration limit in Section 63.1565(a)(5)(ii). In the event that the FCCU fails to meet the oxygen concentration limit in Section 63.1565(a)(5)(ii) during startup, the Refinery would be required to record the number of failures, including the date, time, and duration of each failure. Additionally, for each failure to meet the oxygen concentration limit in Section 63.1565(a)(5)(ii) during startup, the Refinery would be required to record and retain a list of the affected sources or equipment (i.e., the FCCU), an estimate of the volume of each

regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions. Lastly, the Refinery would be required to record actions taken to minimize emissions in accordance with 40 CFR 63.1570(c) and any corrective action taken. The inclusion of these recordkeeping requirements is intended to satisfy USEPA's AEL criterion requiring that the owner or operator's actions during startup or shutdown periods are documented by properly signed, contemporaneous operating logs or other relevant evidence.

## **2. Efforts Necessary to Achieve the Proposed Standard**

The efforts necessary to achieve these proposed adjusted standard would not be any different than what Marathon is currently implementing at the Refinery. Marathon currently complies with the provisions from NESHAP Subpart UUU proposed to be incorporated by reference in the proposed Adjusted Standard. Marathon has been subject to the applicable provisions of NESHAP Subpart UUU since its promulgation. Prior to the amendments to Part 201, Marathon was authorized to exceed the CO standards in Section 216.361 during periods of SMB, as long as the permit conditions concerning startup were complied with including minimizing duration of startups and minimizing emissions during these periods. During periods of startup, Marathon would comply and will continue to comply with the NESHAP Subpart UUU provisions applicable during startup in order to minimize emissions during that mode of operation. Because Marathon has been complying with the NESHAP Subpart UUU provisions proposed to be incorporated into the proposed Adjusted Standard, there would be no difference in costs between Marathon's prior compliance actions and Marathon's compliance actions if the proposed Adjusted Standard is adopted.<sup>12</sup>

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<sup>12</sup> In promulgating NESHAP Subpart UUU, USEPA found the rules to be economically justified. Per USEPA, the total capital investment cost of the final amendments and standards was estimated at \$283 million. 80 Fed. Reg. 75178, 75225 (Dec. 1, 2015). USEPA also estimated that all petroleum product refiners would incur annual compliance costs of less than 1% of their sales. *Id.* at 75226.

**G. Description of Impact on the Environment of Complying with the Regulation of General Applicability versus Complying with the Adjusted Standard [35 IAC 104.406(g)]**

There will be no adverse impact of Marathon's operation if Marathon were to comply with the rule of general applicability as compared to the impact on the environment if Marathon were to comply with the proposed Adjusted Standard. Marathon complies with the applicable CO standards in Section 216.361 during all modes of operation of the FCCU, except that Marathon is unable to guarantee continuous compliance with such standards during each startup of the FCCU. As discussed above, prior to the Board's amendments to Part 201 removing the SMB relief provisions, during the times that Marathon was likely unable to meet Section 216.361 during a startup period, Marathon would be complying with the alternative standards under NESHAP Subpart UUU. The same would occur if Marathon's proposed Adjusted Standard was adopted by the Board because Marathon is proposing to incorporate the applicable NESHAP Subpart UUU provisions into its Adjusted Standard. As such, the impact to the environment from Marathon's operation of the FCCU during startup would not change if Marathon's proposed Adjusted Standard was adopted.

The only feasible manner in which to minimize CO during startup is to use good combustion and operating practices to bring the FCCU system up to temperature as quickly and safely as allowed. During this time, CO can exceed 200 ppm for relatively short bursts until startup is exited and the CO boiler temperatures are stabilized. Since January 1, 2017, the Refinery has initiated 20 startup attempts of its FCCU for a total duration of approximately 485 hours. The average startup lasted 25.5 hours during this period of time. This represents <1% of available hours. As explained above and in the TSD, FCCU startups are very complex and complicated events and depend on the reason the unit was shutdown as well as a multitude of

other variables. However, the CO concentration varies from very low (<10ppm) to several hundred ppm for short periods of time.

The short spikes of excess CO emissions that sometimes occur during startup of the FCCU do not result in violations of the CO National Ambient Air Quality Standards (“NAAQS”). The TSD attached as Exhibit 1 to this Petition contains data supporting no violations of the CO NAAQS based on Marathon’s prior operation, which will not change if Marathon’s proposed Adjusted Standard is adopted. Therefore, Marathon’s proposed Adjusted Standard would have no negative measurable impact to the environment or health.

**H. Justification of Proposed Adjusted Standard [35 IAC 104.406(h)]**

Neither Part 201 nor Section 216.361 include a specified level of justification for an adjusted standard. Therefore, the applicable level of justification are the factors identified in Section 28.1 of the Act. Each of the Section 28.1 factors is addressed below for the Refinery in relation to Marathon’s proposed Adjusted Standard.

**1. Factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general Regulation applicable to that petitioner [415 ILCS 5/28.1(c)(1)]**

Marathon is unable to guarantee continuous compliance with the generally applicable CO standards in Section 216.361 during periods of startup of the FCCU. Prior to the Board’s amendments in PCB R 23-18, Marathon relied upon the SMB conditions in its permit, which authorized CO emissions exceeding the Section 216.361 standards during startup of the FCCU. Marathon is now unable to avail itself of the SMB conditions, leaving Marathon in a position of facing likely noncompliance with the CO standards in Section 216.361 during periods of startup of the FCCU. Marathon requests an adjusted standard, which provides that Marathon would be able to comply with an AEL during periods of startup of the FCCU.

In adopting the amendments to Part 201, removing the SMB relief provisions, the Board agreed with Illinois EPA's position that "Illinois' SSM provisions never excused sources from the obligation to comply with emission standards during startup or malfunction events." Opinion and Order, PCB R 23-18, at 6 (July 20, 2023). The Board also found that the effect of these proposed amendments is only the ability of a source to seek advance permission for a legal defense to excess emissions through a permit application. *Id.*

However, these factors are substantially and significantly different from the factors that relate to Marathon and Marathon's past compliance with the CO standards in Section 216.361. As explained above, Marathon disagrees with the position taken by Illinois EPA and the Board's findings in PCB R 23-18. For decades, Illinois EPA had been inserting SMB provisions into air operating permits when facilities have applied for such relief. Regardless of the exact language of those permit conditions, the effect of such conditions had been excusing facilities from compliance with the generally applicable emission standard that was the subject of the SMB permit condition. In adopting the SMB provisions, the Board explained that "if irreducible startup emissions will somewhat exceed the general standards, EPA may *grant permission for such emissions* upon application and proof." Final Order and Opinion, PCB R 71-23, at 9 (April 13, 1972) (emphasis added). Additionally, as discussed above, USEPA recognized that the SMB provisions in Part 201 are at best ambiguous and could be read as providing an exemption from otherwise applicable emission limitations. It was Marathon's position, as well as the position of many other regulated sources, that applying for and obtaining SMB conditions in their air permits would authorize emissions in excess of the generally applicable emission limitations or standards.

Illinois EPA has historically used the SMB provisions in Part 201 as a basis to include broad SMB conditions in construction and operating permits. Marathon's CAAPP Permit contains the following SMB condition relating to compliance with the CO standards in Section 216.361 during periods of startup of the FCCU:

j. Startup Provisions

Pursuant to 35 IAC 201.262, the Permittee is authorized to operate the affected FCCU in violation of the applicable board emission limits of 35 IAC 212.381 and 216.361(a) (Conditions 7.3.3(d) and (g)), to the extent necessary to conduct a normal startup of the affected FCCU. The Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

- i. Startup shall be conducted in accordance with a startup plan that includes all reasonable measures to be taken to minimize the quantity of emissions, the length of each startup, and the number of startups, e.g., the regenerator air rates will be adjusted to minimize the carbon level on the circulating catalyst. A description of the startup procedure including time periods for each phase for the fluid catalytic unit, CO Boiler, and associated equipment shall be submitted to the Illinois EPA's Compliance Section for review within 30 days of any change to the startup procedure currently on file with the Illinois EPA. This shall include any proposed venting of emissions to stack not monitored by the continuous opacity monitor.
- ii. If startup of the affected FCCU results in operation in excess of applicable emission standards for 40 hours or more, the Permittee shall immediately notify the Illinois EPA's regional field office by telephone of the additional length of time required to complete the startup, if any.
- iii. Note: This authorization does not apply to Condition 7.3.3(g)(iii) [NSPS for CO], for which startup, shutdown, and malfunction is addressed by 40 CFR 60.8 and 60.11, or for the future NESHAP requirements in Condition 7.3.3(h).
- iv. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 7.3.9(e).

- v. Any startup which exceeds applicable board limits more than the extent necessary to conduct a normal startup, or any startup which does not meet the requirements of this Condition 7.3.3(j) shall be considered an exceedance of the requirements of this permit and subject to the reporting requirements for exceedances in Condition 7.3.10.

CAAPP Permit No. 96010007, Condition 7.3.3(j).<sup>13</sup> Excerpts of Marathon's CAAPP Permit are attached as Exhibit 2 hereto. Per this condition, CO emissions from the FCCU in excess of the Section 216.361 standard were authorized during periods of startup as long as Marathon followed its startup plan and minimized the duration of the startup.

In removing the SMB relief provisions from Part 201, and therefore removing the underlying authority for the SMB permit conditions, Marathon must now comply with the Section 216.361 CO standards during all modes of operation of the FCCU, including startup. However, as explained herein and in the TSD, Marathon is unable to guarantee continuous compliance with the applicable CO standards in Section 216.361 during each startup of the FCCU. The Board did not take into account the impact, in practice, to Marathon's ability to continuously comply with the Section 216.361 standards at all times when adopting the amendments in Part 201. Instead, the Board removed the SMB relief provisions in Parts 201, 202, and 212 solely because they were required to be removed by USEPA per the 2015 and 2022 SSM SIP Calls. Second Notice Opinion and Order of the Board, PCB R 23-18 (Apr. 6, 2023); Final Opinion and Order of the Board, PCB R 23-18 (July 20, 2023). Additionally, because it was a Fast Track rulemaking, the Board did not consider any proposed AELs in PCB R 23-18, or the justifications for such AELs. *Id.* Furthermore, as discussed above, the SMB provisions in Part 201 were a foundational part of the original emissions standards adopted in PCB R 71-23,

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<sup>13</sup> A full copy of Marathon's CAAPP Permit is publicly available on Illinois EPA's Document Explorer website at: <https://webapps.illinois.gov/EPA/DocumentExplorer/Documents/Index/170000066372>.

including the 200 ppm CO standard in Section 216.361 (then Rule 206(c)). Removal of the SMB provisions in Part 201 adversely impacts compliance with Section 216.361 during SMB periods, particularly startup. As such, the factors relating to Marathon described in this Petition and in the TSD are substantially and significantly different from the factors relied upon by the Board in adopting the applicable general regulation.

**2. The existence of those factors justifies an adjusted standard [415 ILCS 5/28.1(c)(2)]**

The existence of the substantially and significantly different factors relating to Marathon justifies that an adjusted standard is needed for Marathon to continuously comply with the applicable CO standards in Section 216.361 during the entirety of each startup of the FCCU. Marathon can no longer rely on the SMB provisions in Part 201 or in its CAAPP Permit and, therefore, Marathon must comply with the applicable CO standards in Section 216.361 at all times, including periods of startup. However, as explained above and in the attached TSD, Marathon is unable to guarantee continuous compliance with the applicable CO standards in Section 216.361 during the entirety of each startup of the FCCU. No other control options exist to ensure continuous compliance with the Section 216.361 standards during each startup. An AEL, as proposed by Marathon, is needed so that Marathon can be in continuous compliance during periods of startup of the FCCU.

In promulgating NESHAP Subpart UUU, USEPA recognized the generally applicable emissions limitations may not be able to be met during periods of startup of FCCUs. The adjusted standard proposed by Marathon is from NESHAP Subpart UUU and were promulgated by USEPA in December 2015. *See Petroleum Refinery Sector Risk and Technology Review and*

*New Source Performance Standards*, 80 Fed. Reg. 75178 (Dec. 1, 2015).<sup>14</sup> The amendments relating to SSM were proposed in response to the Sierra Club Petition and to address USEPA's concerns regarding general SSM exemptions. *Id.* At 75184. Specifically, USEPA removed the SSM exemption provisions or references from NESHAP Subpart UUU and inserted alternative emission standards during periods of SSM. *Id.* USEPA explained:

In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, we are proposing alternate standards for those periods for a few select emission sources. We expect facilities can meet nearly all of the emission standards in Refinery MACT 1 and 2 during startup and shutdown, including the amendments we are proposing in this action. For most of the emission sources, APCD are operating prior to process startup and continue to operate through process shutdown.

For Refinery MACT 1 and 2, we identified three emission sources for which specific startup and shutdown provisions may be needed. First, as noted above, most APCD used to control metal HAP emissions from FCCU under Refinery MACT 2 (e.g., wet scrubber, fabric filter, cyclone) would be operating before emissions are routed to them and would be operating during startup and shutdown events in a manner consistent with normal operating periods, such that the monitoring parameter operating limits set during the performance test are maintained and met. However, we recognize that there are safety concerns associated with operating an ESP during startup of the FCCU, as described in the following paragraphs. Therefore, we are proposing specific PM standards for startup of FCCU controlled with an ESP under Refinery MACT 2.

During startup of the FCCU, "torch oil" (heavy oil typically used as feed to the unit via the riser) is injected directly into the regenerator and burned to raise the temperature of the regenerator and catalyst to levels needed for normal operation. Given the poor mixing of fuel and air in the regenerator during this initial startup, it is difficult to maintain optimal combustion characteristics, and high CO concentrations are common. Elevated CO levels pose an explosion threat due to the high electric current and potential for sparks within the ESP. Consequently, it is common practice to bypass the ESP during startup of the FCCU. Once torch oil is shut off and the regenerator is fueled by catalyst coke burn-off, the CO levels in the FCCU regenerator off-gas will stabilize and the gas can be sent to the ESP safely.

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<sup>14</sup> This Federal Register is publicly available on the U.S. Government Information website at <https://www.govinfo.gov/content/pkg/FR-2015-12-01/pdf/2015-26486.pdf>.

As mentioned previously, “torch oil” is injected directly into the regenerator and burned during FCCU startup to raise the temperature of the regenerator and catalyst to levels needed for normal operation. During this period, CO concentrations often will exceed the 500 ppm emissions limit due to the poor mixing of fuel and air in the regenerator. The emissions limit is based on CO emissions, as a surrogate for organic HAP emissions, and the emission limit is evaluated using a 1-hour averaging period. This 1 hour averaging period does not provide adequate time for short-term excursions that occur during startup to be offset by lower emissions during normal operational periods.

Based on available data during normal operations, ensuring adequate combustion (indicated by CO concentration levels below 500 ppmv) minimizes organic HAP emissions. Low levels of CO in the exhaust gas are consistently achieved during normal operations when oxygen concentrations in the exhaust gas exceed 1-percent by volume (dry basis). Thus, maintaining an adequate level of excess oxygen for the combustion of fuel in the FCCU is expected to minimize organic HAP emissions. Emissions of CO during startup result from a series of reactions with the fuel source and are dependent on mixing, local oxygen concentrations, and temperature. While the refinery owner or operator has direct control over air blast rates, CO emissions may not always directly correlate with the air blast rate. Exhaust oxygen concentrations are expected to be more directly linked with air blast rates and are, therefore, more directly under control of the refinery owner or operator. We are proposing an excess oxygen concentration of 1 volume percent (dry basis) based on a 1-hour average during startup. We consider the 1-hour averaging period for the oxygen concentration in the exhaust gas from the FCCU to be appropriate during periods of FCCU startup because air blast rates can be directly controlled to ensure adequate oxygen supply on a short-term basis.

*Petroleum Refinery Sector Risk and Technology Review and New Source Performance*

*Standards*, 79 Fed. Reg. 36880, 36943 (June 30, 2014).<sup>15</sup> As such, the existence of these unique factors and substantially and significantly different factors justifies an adjusted standard here.

**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 rule of general applicability [415 ILCS 5/28.1(c)(3)]**

Marathon’s proposed Adjusted Standard will not result in environmental or health effects more adverse than the effects considered by the Board in adopting the rule of general

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<sup>15</sup> This Federal Register is publicly available on the U.S. Government Information website at <https://www.govinfo.gov/content/pkg/FR-2014-06-30/pdf/2014-12167.pdf>.

applicability. Marathon is unable to guarantee continuous compliance with the applicable CO standards in Section 216.361 during each startup event. Prior to the Board's removal of the SMB provisions in Part 201, Marathon was complying with the alternate standards in NESHAP Subpart UUU that Marathon proposes to incorporate by reference during periods of startup. As to the rule of general applicability, the Board did not consider the proposed AELs or their justifications in PCB R 23-18. Instead, the Board held that the amendments did "not change emission limits or a source's obligations to comply with them" and that they did not "impose any new or additional obligations such as emission limits or control requirements on affected sources." Final Opinion and Order, PCB R 23-18, at 4 (July 20, 2023). Because the Board found that the amendments only affected "a source's ability to request and obtain a 'prima facie' defense," the Board did not consider the impacts to the environment or health in PCB R 23-18. *See id.* However, in practice, there will be no adverse impacts to the environment or health from Marathon's operation of the FCCU during startup under the proposed Adjusted Standard as compared to Marathon's operation prior to the amendments to Part 201. Marathon is likely unable to meet Section 216.361 during startup and, during those times, Marathon will continue to comply with the alternate standards under NESHAP Subpart UUU applicable to startup. Additionally, during all other modes of operation, Marathon will continue to comply with the applicable CO standards in Section 216.361. Therefore, the environmental or health effects will not change with Marathon's proposed Adjusted Standard, which proposes to incorporate by reference the alternate standards of NESHAP Subpart UUU.

**4. The adjusted standard is consistent with any applicable federal law [415 ILCS 5/28.1(c)(4)]**

Marathon's proposed Adjusted Standard is consistent with any applicable federal law. See discussion regarding consistency with federal law in the following section.

**I. Reasons the Board May Grant the Proposed Adjusted Standard Consistent with Federal Law (35 IAC 104.406(i))**

The Board may grant Marathon's proposed Adjusted Standard consistent with federal law. First, the alternative standards that Marathon proposes to incorporate into its Adjusted Standard are from NESHAP Subpart UUU. These federal MACT provisions were promulgated by USEPA in December 2015 pursuant to Section 112 of the CAA, 42 U.S.C. 7412. *See Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards*, 80 Fed. Reg. 75178 (Dec. 1, 2015).<sup>16</sup> The amendments to the NESHAP Subpart UUU relating to SSM were proposed in response to the Sierra Club Petition and to address USEPA's concerns regarding general SSM exemptions. *Id.* At 75184. Specifically, USEPA removed the SSM exemption provisions or references from NESHAP Subpart UUU and inserted alternative emission standards during periods of SSM. *Id.* USEPA explained:

In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, we are proposing alternate standards for those periods for a few select emission sources. We expect facilities can meet nearly all of the emission standards in Refinery MACT 1 and 2 during startup and shutdown, including the amendments we are proposing in this action. For most of the emission sources, APCD are operating prior to process startup and continue to operate through process shutdown.

For Refinery MACT 1 and 2, we identified three emission sources for which specific startup and shutdown provisions may be needed. First, as noted above, most APCD used to control metal HAP emissions from FCCU under Refinery MACT 2 (e.g., wet scrubber, fabric filter, cyclone) would be operating before emissions are routed to them and would be operating during startup and shutdown events in a manner consistent with normal operating periods, such that the monitoring parameter operating limits set during the performance test are maintained and met. However, we recognize that there are safety concerns associated with operating an ESP during startup of the FCCU, as described in the following paragraphs. Therefore, we are proposing specific PM standards for startup of FCCU controlled with an ESP under Refinery MACT 2.

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<sup>16</sup> This Federal Register is publicly available on the U.S. Government's "GovInfo" website at <https://www.govinfo.gov/content/pkg/FR-2015-12-01/pdf/2015-26486.pdf>.

During startup of the FCCU, “torch oil” (heavy oil typically used as feed to the unit via the riser) is injected directly into the regenerator and burned to raise the temperature of the regenerator and catalyst to levels needed for normal operation. Given the poor mixing of fuel and air in the regenerator during this initial startup, it is difficult to maintain optimal combustion characteristics, and high CO concentrations are common. Elevated CO levels pose an explosion threat due to the high electric current and potential for sparks within the ESP. Consequently, it is common practice to bypass the ESP during startup of the FCCU. Once torch oil is shut off and the regenerator is fueled by catalyst coke burn-off, the CO levels in the FCCU regenerator off-gas will stabilize and the gas can be sent to the ESP safely.

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As mentioned previously, “torch oil” is injected directly into the regenerator and burned during FCCU startup to raise the temperature of the regenerator and catalyst to levels needed for normal operation. During this period, CO concentrations often will exceed the 500 ppm emissions limit due to the poor mixing of fuel and air in the regenerator. The emissions limit is based on CO emissions, as a surrogate for organic HAP emissions, and the emission limit is evaluated using a 1-hour averaging period. This 1 hour averaging period does not provide adequate time for short-term excursions that occur during startup to be offset by lower emissions during normal operational periods.

Based on available data during normal operations, ensuring adequate combustion (indicated by CO concentration levels below 500 ppmv) minimizes organic HAP emissions. Low levels of CO in the exhaust gas are consistently achieved during normal operations when oxygen concentrations in the exhaust gas exceed 1-percent by volume (dry basis). Thus, maintaining an adequate level of excess oxygen for the combustion of fuel in the FCCU is expected to minimize organic HAP emissions. Emissions of CO during startup result from a series of reactions with the fuel source and are dependent on mixing, local oxygen concentrations, and temperature. While the refinery owner or operator has direct control over air blast rates, CO emissions may not always directly correlate with the air blast rate. Exhaust oxygen concentrations are expected to be more directly linked with air blast rates and are, therefore, more directly under control of the refinery owner or operator. We are proposing an excess oxygen concentration of 1 volume percent (dry basis) based on a 1-hour average during startup. We consider the 1-hour averaging period for the oxygen concentration in the exhaust gas from the FCCU to be appropriate during periods of FCCU startup because air blast rates can be directly controlled to ensure adequate oxygen supply on a short-term basis.

*Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards*, 79 Fed. Reg. 36880, 36943 (June 30, 2014).<sup>17</sup>

USEPA understood the concerns with meeting the generally applicable MACT standard during periods of startup, shutdown, and hot standby. USEPA therefore promulgated alternative standards to apply during these periods consistent with the CAA. As such, in incorporating by reference these provisions into Marathon's proposed Adjusted Standard, the Board can adopt the proposed Adjusted Standard consistent with the CAA and federal law.

Further, in the June 12, 2015 SSM final action, USEPA recognized that there are approaches to address emissions during SSM events that are consistent with the requirements of the CAA. 80 Fed. Reg. 33840, 33844 (June 12, 2015). USEPA explained that, "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." *Id.* USEPA reiterated that alternative requirements applicable during periods of SSM must 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" in order to be approvable. *Id.* at 33913. USEPA developed seven criteria for developing AELs consistent with the CAA. These seven criteria are discussed in detail in the TSD attached as Exhibit 1 to this Petition. Because Marathon's proposed Adjusted Standard meets the seven AEL criteria, the Board can adopt Marathon's proposed Adjusted Standard consistent with the CAA and federal law.

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<sup>17</sup> This Federal Register is publicly available on the U.S. Government's "GovInfo" website at <https://www.govinfo.gov/content/pkg/FR-2014-06-30/pdf/2014-12167.pdf>.

**J. Hearing on the Petition [35 IAC 104.406(j)]**

Marathon does not request a hearing on this Petition. Marathon believes sufficient information is included in this Petition and the TSD that adequately demonstrates the burden of proof required to grant Marathon's proposed Adjusted Standard.

**K. Cites to Supporting Documents [35 IAC 104.406(k)]**

As required by 35 Ill. Admin. Code 104.406(k), Marathon has provided the citations to relevant supporting documents and legal authorities throughout this Petition.

**L. Additional Information [35 IAC 104.406(l)]**

As required by 35 Ill. Admin. Code 104.406(l), Marathon has provided required information as applicable to its request. There is no additional information that needs to be provided.

**V. CONCLUSION**

For the reasons stated above, Marathon Petroleum Company, LLC requests that the Illinois Pollution Control Board enter an Order granting Marathon's proposed Adjusted Standard as set forth herein.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
REGULATORY GROUP,

By: /s/ Melissa S. Brown  
One of Its Attorneys

Dated: August 14, 2023

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**TECHNICAL SUPPORT DOCUMENT**

**PROPOSED ADJUSTED STANDARD**

*In the Matter of: Petition of Marathon Petroleum Company, LLC for An  
Adjusted Standard from 35 Ill. Adm. Code Part 201 and 216.361*

**August 14, 2023**

**EXHIBIT 1**

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## **EXECUTIVE SUMMARY**

Marathon Petroleum Company, LLC (Marathon) is petitioning for an adjusted standard applicable to petroleum and petrochemical processes at its Robinson Refinery (Refinery) during periods of startup. The petition is a result of the Illinois Pollution Control Board (Board) amending and removing the startup, malfunction, and breakdown (SMB) provisions in the Board's air regulations at 35 Ill. Adm. Code Parts 201, 202, and 212. Prior to the amendments adopted in the PCB R 23-18 rulemaking, fluid catalytic cracking units (FCCUs) at refineries that were unable to comply with the carbon monoxide (CO) standard in 35 Ill. Adm. Code 216.361 were able to apply for and obtain SMB provisions in their permits. The SMB provisions, in practice, would excuse the refinery from compliance with the Section 216.361 standards during SMB events.

With the removal of the SMB provisions, Marathon's Robinson refinery requires an adjusted standard to maintain continuous compliance during each startup period of the FCCU. Marathon is unable to guarantee continuous compliance with the CO standards in Section 216.361 during each period of startup. As proposed, the adjusted standard incorporates by reference provisions providing work practice standard applicable during startup events from the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU). Marathon's proposed adjusted standard is drafted to address and satisfy the seven AEL criteria outlined by the United States Environmental Protection Agency (USEPA).

## **I. INTRODUCTION**

Marathon submits its petition for an adjusted standard in relation to the CO standards applicable to FCCUs in 35 Ill. Adm. Code 216.361 as a result of the Board's removal of the SMB provisions in Part 201 in PCB R 23-18. The Board's removal of the SMB provisions will adversely impact the Refinery's ability to continuously comply with the CO standards in Section 216.361 during each startup event.

Marathon proposes an adjusted standard that states, in lieu complying with Section 216.361 during startup, Marathon must comply with the incorporated by reference provisions of NESHAP Subpart UUU. In promulgating NESHAP Subpart UUU, USEPA recognized the unique operating conditions that FCCUs must follow during startup to ensure safe operations and minimize emissions.

## **II. TECHNICAL DISCUSSION**

### **A. Technical Infeasibility of Complying with Section 216.361**

As discussed in the petition, excess CO formed and emitted during the startup phase of the FCCU is due to the need to ramp temperature up slowly as well as balancing available air as temperatures increase. Typically, CO from FCCUs is controlled by a CO boiler. During startup, flue gas is introduced into the CO boiler just prior to the introduction of torch oil into the FCCU. Supplemental gas is also required to bring the temperature of the CO boiler up to 980°C/1800°F to ensure complete combustion of CO. At these temperatures, very low concentrations are achievable from a CO boiler. However, until the entire FCCU system reaches the steady-state, normal operations as described in the petition, these controls cannot continuously reduce the excess CO to below the 200 ppm standard required in Section 216.361 during each startup event.

Other controls available for CO, such as oxidation catalysts offer little to no advantages over a CO boiler. At very high temperatures and/or ramp rates, oxidation catalysts are subject to catalyst damage and can be fouled. In addition, they do not provide the same heat recovery in the form of usable steam that a CO boiler provides to a refinery. The steam produced from the heat release of CO combustion reduces the demand for steam from other fired boilers therefore increasing the efficiency of the refinery and offsetting emissions from those sources while controlling CO. Because oxidation catalysts still require elevated temperatures, but do not product heat recovery/steam generation, a CO boiler is the most viable control option for FCCUs.

The only feasible manner in which to control CO during startup is to use good combustion and operating practices to bring the FCCU system up to temperature as quickly and safely as allowed. During this time, CO can exceed 200 ppm until startup is exited and the CO boiler temperatures are stabilized. Therefore, there is no viable engineering control option during startups to meet Section 216.31 other than the work practices proposed by the adjusted standard petition.

## **B. Quantification of Excess Emissions**

In general, FCCU startups are infrequent events. An FCCU is the “heart” of a refinery used to process a significant intermediate of crude oil called gasoil. The products of an FCCU are then used in several downstream process units. Coupled with the complexity of an FCCU startup, a refinery has a technical and economic incentive to minimize the time and duration of startups. In the past six-plus years from January 1, 2017 to July 1, 2023, the Refinery has initiated 20 startup attempts of its FCCU for a total duration of approximately 485 hours. The average startup lasted 25.5 hours during this period of time. This represents <1% of available hours.

While no two startups are identical events, in general, excess CO emissions do not last the entire startup period. Usually, what is observed, are relatively brief spikes lasting 1-2 hours in the CO concentration as the facility steps through the startup process.

FCCU startups are very complex and complicated events and depend on what was the original reason the unit was shutdown as well as a multitude of other variables. However, as further evidenced, the CO concentration varies from very low (<10ppm) to several hundred ppm for short periods of time. The impact of the potential excess emissions on the CO National Ambient Air Quality Standards (NAAQS) is discussed in subsection D below.

## **C. Methods Employed to Reduce Emissions During SMB**

The FCCUs and associated air pollution control and monitoring equipment are operated in a manner consistent with safety and good air pollution control practices for minimizing emissions, including periods of startup and malfunction as required by NESHAP Subpart UUU. These practices include following established startup procedures to protect personnel, process equipment, and minimize emissions to the furthest extent possible although it is recognized in the general provisions of MACT that emissions during startup, shutdown, and malfunction may not achieve emission levels that would be required by applicable standards at other times.

Prior to the startup of the FCCU, the Flue Gas Scrubbing System (FGSS) is placed in service and is available for treatment of flue gas from each stage of the startup sequence. During the startup of the FCCU, the regenerator is initially heated with a fired air-preheater. The temperature must be raised slowly and is established by the refractory and air-preheater manufacturers. Combustion is monitored and available air is adjusted based on oxygen samples and analyzer readings during this time to facilitate complete combustion and minimize the formation of carbon monoxide. Flue gas during this stage of the startup is from the air-preheater and is controlled by the FGSS.

To achieve the required temperatures for FCCU operation, torch oil must be introduced to facilitate the heat up of the regenerator. This must be done following the initial heat up from the air-preheater to ensure that the torch oil is able to combust. Prior to torch oil being introduced, the flue gas is directed to the CO boiler for emission control. During this time, the amount of torch oil, air flow, and available oxygen are closely monitored to ensure that the torch oil is achieving complete combustion. Since the initial introduction of torch oil is done at a lower temperature than the normal operating temperature, the CO concentration is typically higher

during this stage of the startup. The emissions are minimized by controlling combustion as much as possible at the regenerator and utilizing the CO boiler for control.

The torch oil will remain in the FCCU regenerator as the catalyst begins to circulate and the reactor is heated. Once temperature thresholds have been achieved, feed will be introduced into the unit and the coke on the catalyst in the regenerator will begin to combust and contribute to the heat balance around the regenerator and reactor. Torch oil will be slowly reduced prior to being removed and as operation stabilizes the heat balance will as well and CO emissions will drop to normal operating levels.

The FCCU has the capacity to operate in full burn and partial burn modes. When the FCCU is operating in partial burn, the flue gas will continue to be routed to the CO boiler for control. This is necessary because the regenerator operates with no excess oxygen to facilitate complete combustion and CO production remains elevated. The CO destruction occurs within the CO boiler in this mode of operation. When the FCCU is operating in full burn, the regenerator operates with excess oxygen and results in low concentrations of CO. In this mode of operation, the flue gas does not require treatment in the CO boiler and can be routed directly to the FGSS.

#### **D. Anti-Backsliding**

The short spikes of CO emissions during startup do not result in NAAQS violations and therefore have little to no negative measurable impact at the facility. During calendar years 2017-2019, the Refinery was required to monitor impacts of its operations at two monitoring stations. Among the pollutants monitored was CO. This allowed for three years of data to be captured, including startup events. During this period, there were 5 startups of the FCCU. This provides site specific monitoring data of startup impacts specific to CO. The following summary table provides CO relevant data in relation to the CO NAAQS:

Parameter	Site #1	Site #2
8 Hr. Running Average	1.2 ppm	0.5 ppm
1 Hr. Average	1.8 ppm	1.3 ppm
2017 Max 1-hour	0.8 ppm (8/1/17)	1.2 ppm (2/1/17)
2017 2 <sup>nd</sup> High 1-hr	0.7 ppm (multiple)	1.0 ppm (5/30/17)
2017 Max 8 hr	0.6 ppm (12/3/17)	0.7 ppm (multiple)
2018 Max 1-hr	0.8 ppm (12/18/2017)	1.9 ppm (1/17/18)
2018 2 <sup>nd</sup> High 1-hr	0.7 ppm (10/18/18 2x and 12/17/18)	1.1 (1/17/18, 1/28/18, 12/17/18)
2018 Max 8 hr	0.5 ppm (multiple)	0.8 ppm (multiple)
2019 Max 1-hr	1.8 ppm (11/10/19)	0.9 ppm (multiple)
2019 2 <sup>nd</sup> high 1-hr	1.7 ppm (11/11/19)	0.8 ppm (4/2/19, 8/1/19)
2019 Max 8 hr	1.2 ppm (11/11/2019 2x)	0.6 ppm (3/18/2019)

For reference, the 8-hr NAAQS for CO is 9 ppm, not to be exceeded more than once per year, and the 1-hour NAAQS is 35 ppm, not to be exceeded more than once per year. In no instance over three years were any readings over 15% of the 8-hour, and the max 1-hour was approx. 5% of the standard. As shown in the table, there is little difference between the 8-hour and 1-hour averages which further demonstrates that periodic operations at the Refinery have little to no effect on the CO concentrations outside of the fence line.

As discussed in the petition, Marathon has been utilizing the alternate standards applicable during startup under NESHAP Subpart UUU, which Marathon proposes to incorporate into its proposed adjusted standard, since their promulgation. The above monitoring data demonstrates that compliance with these proposed alternative standards, in lieu of Section 216.361, will not affect attainment of the CO NAAQS. As such, there will be no backsliding as it relates to the CO NAAQS.

Marathon's operations during startup of the FCCU will not change from Marathon's operations prior to the removal of the SMB provisions in PCB R 23-18 to Marathon's operations if its proposed adjusted standard is adopted. Therefore, the potential excess CO emission from the FCCU during startup periods will not change under the proposed adjusted standard. As such, anti-backsliding is not an issue here.

### **III. USEPA AEL CRITERIA**

Marathon proposes an adjusted CO standard that would apply during periods of FCCU startup in lieu of Section 216.361. During periods of startup, Marathon proposes complying with the requirements applicable to FCCUs during startup in 40 CFR 63 Subpart UUU Tables 9, 10, 14, and 41 and 40 CFR 63.1565(a)(5), 40 CFR 63.1570(c) and (f), 40 CFR 63.1572(c) and 40 CFR 63.1576(a)(2) and (d). The definitions for "catalytic cracking unit" and "startup" in 40 CFR 63.1579 and 40 CFR 63.2, respectively, would apply to the proposed adjusted standard.

Marathon's proposed adjusted standard was drafted to satisfy each of the seven AEL criteria discussed by USEPA in the 2015 startup, shutdown, and malfunction (SSM) final rule. In the following sections, Marathon provides the background on the federal SSM actions, as well as addresses each of USEPA's seven AEL criteria.

#### **A. Background**

On June 12, 2015, USEPA published in the Federal Register a final rule clarifying, restating, and updating USEPA's national policy regarding startup, shutdown, and malfunction ("SSM") provisions in State Implementation Plans (SIP). *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 Fed. Reg. 33840 (June 12, 2015). A Notice of Proposed Rulemaking was first published in the Federal Register for these revisions on February 22, 2013. The revisions were USEPA's response to a 2011 Petition for Rulemaking filed by the Sierra Club.

USEPA announced in the 2015 final action its SSM policy, which concluded that broad SSM exemption provisions and affirmative defense SIP provisions are generally viewed as inconsistent with the requirements of the Clean Air Act (CAA). *Id.* at 33851. Specifically, USEPA granted Sierra Club's Petition "on the request to rescind its SSM Policy element that interpreted the [Clean Air Act] to allow states to elect to create affirmative defense provisions in SIPs." *Id.*

However, USEPA also recognized that there are approaches to address emissions during SSM events that are consistent with the requirements of the CAA. *Id.* at 33844. USEPA explained:

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 . . . . 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.

*Id.*

USEPA also offered additional explanation as to USEPA's recommended criteria for developing alternative emission limitations (AELs) that would be applicable during periods of SSM:

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. . . .

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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.

*Id.* at 33913.<sup>1</sup>

USEPA then restated the seven criteria for developing AELs, which 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.

*Id.* at 33914.

In the 2015 final rule, USEPA issued findings of substantial inadequacy for SIP provisions applying to excess emissions during SSM periods for 36 states/air agencies, including Illinois, and issued a SIP Call to each of those states/air agencies, requiring them to adopt and submit revisions

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<sup>1</sup> USEPA defined an "alternative emission limitation" as "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." 80 Fed. Reg 33842.

to USEPA to correct identified SSM-related deficiencies by November 22, 2016. *Id.* at 33840, 33848, and 33930.

The 2015 SIP final action was then subject to legal challenges. *See Environ. Comm. Fl. Elec. Power v. EPA, et al.*, No. 15-1239 (D.C. Cir.) (consolidated cases). In October 2020, USEPA issued a Memorandum establishing a new SSM policy, which permitted the inclusion of SSM provisions related to exemptions and affirmative defenses. “Inclusion of Provisions Governing Periods of Startup, Shutdown, and Malfunctions in State Implementation Plans,” USEPA Memorandum (October 9, 2020).<sup>2</sup> In September 2021, USEPA issued a Memorandum withdrawing the 2020 Memorandum and announcing USEPA’s intent to return to the 2015 SSM policy. “Withdrawal of the October 9, 2020, Memorandum Addressing Startup, Shutdown, and Malfunctions in State Implementation Plans and Implementation of the Prior Policy,” USEPA Memorandum (Sep. 30, 2021).<sup>3</sup>

On January 12, 2022, USEPA published in the Federal Register a final rule finding that 12 States or local air pollution control districts, including Illinois, failed to submit SIP revisions required by the CAA in a timely manner to address USEPA’s 2015 findings of substantial inadequacy and SIP Call. *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*, 87 Fed. Reg. 1680 (Jan. 12, 2022). The 2022 final action became effective on February 11, 2022 and required the impacted states to submit SIP revisions addressing the findings of inadequacy relating to SSM within 18 months from the effective date (i.e., by August 11, 2023). *Id.* at 1682.

## B. AEL Criteria

**Criterion #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).**

Marathon’s proposed adjusted standard to Part 216 is limited to specific, narrowly defined source categories using specific control strategies. The proposed adjusted standard is limited to the Refinery’s FCCU, which is equipped with a CO boiler. The adjusted standard will apply during periods of startup for which no technically feasible controls are viable to continuously reduce CO to 200 ppm or lower during each and every startup event.

Under NESHAP Subpart UUU, the generally applicable CO standard applicable to FCCUs is CO emissions from the FCCU regenerator or CO boiler serving the FCCU must not exceed 500 ppmv (dry 1-hour basis). 40 CFR 63.1565(a)(1); 40 CFR 63, Subpart UUU Table 8. During periods of startup, shutdown, or hot standby, a source can elect to comply with the alternative standard of maintaining the oxygen concentration in the exhaust gas of the FCCU regenerator at

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<sup>2</sup> The 2020 USEPA Memorandum is publicly available on USEPA’s website at <https://www.epa.gov/system/files/documents/2021-09/2020-ssm-in-sips-guidance-memo.pdf>.

<sup>3</sup> The 2021 USEPA Memorandum is publicly available on USEPA’s website at <https://www.epa.gov/system/files/documents/2021-09/oar-21-000-6324.pdf>.

or above 1 volume percent (dry basis) or 1 volume percent (wet basis with no moisture correction). 40 CFR 63.1565(a)(5).

The Illinois regulations at Section 216.361 provide a more stringent generally applicable CO standard of 200 ppm corrected to 50% excess air. 35 Ill. Adm. Code 216.361(a). As proposed by Marathon, the existing 216.361 standards would continue to be the CO standards applicable during normal operation, i.e., each operating mode other than startup.

**Criterion #2: Use of the control strategy for this source category is technically infeasible during startup or shutdown periods.**

As discussed in the petition, excess CO formed and emitted during the startup phase of the FCCU is due to the need to ramp temperature up slowly as well as balancing available air as temperatures increase. Typically, CO from FCCUs is controlled by a CO boiler. During startup, flue gas is introduced into the CO boiler just prior to the introduction of torch oil into the FCCU. Supplemental gas is also required to bring the temperature of the CO boiler up to 980°C/1800°F to ensure complete combustion of CO. At these temperatures, very low concentrations are achievable from a CO boiler. However, until the entire FCCU system reaches the steady-state, normal operations as described in the petition, these controls cannot continuously reduce the excess CO to below the 200 ppm standard required in Section 216.361 during each startup event.

Other controls available for CO, such as oxidation catalysts offer little to no advantages over a CO boiler. At very high temperatures and/or ramp rates, oxidation catalysts are subject to catalyst damage and can be fouled. In addition, they do not provide the same heat recovery in the form of usable steam that a CO boiler provides to a refinery. The steam produced from the heat release of CO combustion reduces the demand for steam from other fired boilers therefore increasing the efficiency of the refinery and offsetting emissions from those sources while controlling CO. Because oxidation catalysts still require elevated temperatures, but do not product heat recovery/steam generation, a CO boiler is the most viable control option for FCCUs.

The only feasible manner in which to control CO during startup is to use good combustion and operating practices to bring the FCCU system up to temperature as quickly and safely as allowed. During this time, CO can exceed 200 ppm until startup is exited and the CO boiler temperatures are stabilized. Therefore, there is no viable engineering control option during startups to meet Section 216.31 other than the work practices proposed by the adjusted standard petition.

Marathon's FCCU uses a CO boiler to control CO. Concerns with startup for FCCUs equipped with CO boilers were detailed in comments submitted to USEPA during the NESHAP Subpart UUU rulemaking:

*Comment:* Several commenters stated that the EPA should provide alternate standards for startups of FCCU equipped with CO boilers and for any FCCU during periods of shutdown and hot standby. The commenters stated that the EPA incorrectly assumes that refiners are able to safely and reliably start up their

FCCU with flue gas boilers in service and meet the normal operating limit of 500 ppm CO. They claimed that most refiners are unable to reliably start up their FCCU with flue gas boilers in service due to the design of the boiler and the fact that many boilers are not able to safely and reliably handle the transient FCCU operations that can occur during startup, shutdown, and hot standby. One commenter stated that FCCU built with CO boilers experience issues with flame stability due to fluctuating flue gas compositions and rates when starting up and shutting down. Accordingly, the commenter stated, startup and shutdown activities at FCCU using a boiler as an APCD are not currently meeting the Refinery MACT 2 standard of 500 ppm CO on a 1-hour basis, and this level of control does not qualify as the MACT floor. The commenter gave examples of facilities where FCCU, including those equipped with post-combustion control systems, do not consistently demonstrate compliance with a 500 ppm CO concentration standard during all startup and shutdown events.

Commenters stated that reliable boiler operation is critical to the overall refinery steam system and refineries must avoid jeopardizing boiler operation to prevent major upsets of process operations. A major upset or site-wide shutdown could result in flaring and emissions of HAP far in excess of that emitted while bypassing the CO boiler.

Commenters stated that combustion of torch oil in the FCCU regenerator during startup is one of the primary reasons the CO limit cannot be met during these operations. Torch oil is also used during shutdown to control the cooling rate (and potential equipment damage) and during hot standby and, thus, the normal CO standard cannot be met at these times either. Hot standby is used to hold an FCCU regenerator at operating temperature for outages where a regenerator shutdown is not needed and to avoid full FCCU shutdowns. Full cold shutdown also increases personnel exposures associated with removing catalyst and securing equipment. Additionally, this can produce additional emissions over maintaining the unit in hot standby. Commenters claimed that because of the variability of CO during torch oil operations, it is not possible for the EPA to establish a CAA section 112(d) standard for startup and shutdown activities at FCCU because refineries cannot measure a constant level of emissions reductions.

The commenters recommended expansion of the proposed standard of greater than 1-percent hourly average excess regenerator oxygen to all FCCU, including units with fired boilers. These commenters suggested that maintaining an adequate level of excess oxygen for the combustion of fuel in the regenerator is the best way to minimize CO and organic HAP emissions from FCCU during these periods.

*Response:* After reviewing the comments and discussing CO boiler operations with facility operators, we agree that the 1-percent minimum oxygen limit should be more broadly applicable to FCCU startup and shutdown regardless of the control device configuration and have revised the final rule accordingly.

80 Fed. Reg. 75178, 75220-75221 (Dec. 1, 2015).

As explained above and recognized by USEPA, the generally applicable CO limits, such as the CO limits in Section 216.361, are likely not continuously achievable during each startup period.

**Criterion #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.**

FCCUs are the primary gasoline-making units in petroleum refineries and operate year-round to provide essential products. Sources with FCCUs have planned startup and shutdowns for periodic maintenance events (multi-year turnaround cycle). Each startup of a FCCU after a maintenance event is unique, depending on what, if any, other units are down for maintenance.

Marathon is proposing, in its adjusted standard petition, to incorporate the general duty to minimize emissions under NESHAP Subpart UUU, which states, in part:

At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. . . .

40 CFR 63.1570(c).

As such, Marathon's proposed adjusted standard includes a requirement to minimize emissions at all times, including during startup. Furthermore, it is to Marathon's benefit to complete startup as quickly as possible. The FCCU is a critical operating unit for a refinery. When an FCCU is down or not operating normally, refineries typically operate the entire plant at significantly reduced production rates or not at all. Lost production and the economic consequences are a strong incentive to minimum startup time. Therefore, there is an inherent goal to minimize the time of startup as much as is safely practicable, which in turn minimizes emissions during startup. In the last 6 years, the Refinery has initiated 20 FCCU startups. The average time of these startups has been 25 hours, during which time only short 1-2 hour excursions typically occur above 200 ppm. This represents <1% of available time (~0.85%). Duration of startups is highly dependent on the reason for the shutdown and the conditions at the time of startup. For example, the reasons could include significant maintenance to the FCCU itself, equipment trip due to upstream or downstream issue, or other similar situations. Due to the complexity of a FCCU startup, events are highly variable in their duration.

**Criterion #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.**

In the 2015 SIP Call final rule, USEPA included a response to comments that provided further clarity on the information required for an approvable alternative emissions limitation. USEPA explained:

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.

80 Fed. Reg. 33840, 33867 (June 12, 2015).

However, monitoring has shown that the short spikes of CO emissions during startup of Marathon’s FCCU do not result in NAAQS violations and therefore have little to no negative measurable impact at the facility. During calendar years 2017-2019, the Refinery was required to monitor impacts of its operations at two monitoring stations. Among the pollutants monitored was CO. This allowed for three years of data to be captured, including startup events. During this period, there were 5 startups of the FCCU. This provides site specific monitoring data of startup impacts specific to CO. The following summary table provides CO relevant data:

Parameter	Site #1	Site #2
8 Hr. Running Average	1.2 ppm	0.5 ppm
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2018 2 <sup>nd</sup> High 1-hr	0.7 ppm (10/18/18 2x and 12/17/18)	1.1 (1/17/18, 1/28/18, 12/17/18)
2018 Max 8 hr	0.5 ppm (multiple)	0.8 ppm (multiple)
2019 Max 1-hr	1.8 ppm (11/10/19)	0.9 ppm (multiple)
2019 2 <sup>nd</sup> high 1-hr	1.7 ppm (11/11/19)	0.8 ppm (4/2/19, 8/1/19)
2019 Max 8 hr	1.2 ppm (11/11/2019 2x)	0.6 ppm (3/18/2019)

For reference, the 8-hr NAAQS for CO is 9 ppm, not to be exceeded more than once per year, and the 1-hour NAAQS is 35 ppm, not to be exceeded more than once per year. In no instance over three years were any readings over 15% of the 8-hour, and the max 1-hour was approx. 5%

of the standard. As shown in the table, there is little difference between the 8-hour and 1-hour averages which further demonstrates that periodic operations at the Refinery have little to no effect on the CO concentrations outside of the fence line.

Additionally, as explained above, in general, FCCU Startups are infrequent events. A FCCU is the “heart” of a refinery, used to process a significant intermediate of crude oil called gasoil. The products of a FCCU are then used in several downstream process units. Coupled with the complexity of a FCCU startup, a refinery has a technical and economic incentive to minimize the time and duration of startups. From January 1, 2017 to July 1, 2023, the Refinery has initiated 20 startup attempts of its FCCU for a total duration of approximately 485 hours. The average startup lasted 25.5 hours during this period of time. This represents <1% of available hours.

While no two startups are identical events, in general, excess CO emissions do not last the entire startup period. Usually, what is observed, are relatively brief spikes lasting 1-2 hours in the CO concentration as the facility steps through the startup process.

Furthermore, below are a few facts on CO emissions in Illinois based on the most recent Annual Air Quality Report:

- Illinois has never had any portions of the state designated as nonattainment for CO, and has no violating CO monitors for either the 1-hour (35 ppm) or 8-hour (9 ppm) CO NAAQS.
- The CO NAAQS allows for one exceedance per year. 40 CFR 50.8(a)(1)-(2).
- Most recent Illinois data shows the highest monitor’s worst daily high 1-hour and 8-hour CO NAAQS readings are dramatically below the NAAQS.
- The petroleum refinery CO emissions (as described earlier, FCC emissions are monitored and quantified using CO CEMS, including non-steady-state periods of operation) are a small fraction of the Illinois point source inventory, only 4%.

Illinois Air Quality Report, Illinois EPA (2021).<sup>4</sup>

Including mobile source and other inventory sectors, the petroleum refinery CO emissions are an extremely small fraction of the Illinois inventory, only 0.2% (based on 2016 emissions). *See* Lake Michigan Air Directors Consortium (LADCO), “Attainment Demonstration Modeling for the 2015 Ozone NAAQS, Technical Support Document,” Table 4-2 (Sep. 21, 2022).<sup>5</sup> Given the above, Marathon’s proposal would have no impact on “worst case” FCC emissions reported today.

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<sup>4</sup> This report is publicly available on Illinois EPA’s website at: <https://epa.illinois.gov/content/dam/soi/en/web/epa/topics/air-quality/air-quality-reports/documents/2021-Annual-Air-Quality-Report.pdf>.

<sup>5</sup> The Technical Support Document is publicly available on LADCO’s website at [https://www.ladco.org/wp-content/uploads/Projects/Ozone/ModerateTSD/LADCO\\_2015O3\\_ModerateNAASIP\\_TSD\\_21Sep2022.pdf](https://www.ladco.org/wp-content/uploads/Projects/Ozone/ModerateTSD/LADCO_2015O3_ModerateNAASIP_TSD_21Sep2022.pdf).

**Criterion #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.**

USEPA's discussion of the MACT alternative emission limitation in the NESHAP Subpart UUU rulemaking supports this criterion. USEPA explained that bypassing the CO boiler during startup of the FCCU ensures adequate combustion, which minimizes organic hazardous air pollutant (HAP) emissions. 79 Fed. Reg. 36880, 36943 (June 30, 2014). USEPA explained:

Low levels of CO in the exhaust gas are consistently achieved during normal operations when oxygen concentrations in the exhaust gas exceed 1-percent by volume (dry basis). Thus, maintaining an adequate level of excess oxygen for the combustion of fuel in the FCCU is expected to minimize organic HAP emissions.

*Id.* USEPA further explained:

Comment: .... The commenters recommended expansion of the proposed standard of greater than 1-percent hourly average excess regenerator oxygen to all FCCU, including units with fired boilers. These commenters suggested that maintaining an adequate level of excess oxygen for the combustion of fuel in the regenerator is the best way to minimize CO and organic HAP emissions from FCCU during these periods.

Response: After reviewing the comments and discussing CO boiler operations with facility operators, we agree that the 1-percent minimum oxygen limit should be more broadly applicable to FCCU startup and shutdown regardless of the control device configuration and have revised the final rule accordingly.

80 Fed. Reg. 75221.

Marathon is proposing to incorporate by reference the MACT 1% by volume (dry basis or wet basis with no moisture correction) alternative emission limitation into Section 216.361 during periods of startup. Marathon's proposal will minimize the impact of emissions of CO and HAP during startup on ambient air quality.

**Criterion #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.**

Marathon is proposing to incorporate the general duty to minimize emissions under NESHAP Subpart UUU into its proposed adjusted standard. The general duty to minimize emissions under NESHAP Subpart UUU states, in part:

At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner

consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. . . .

40 CFR 63.1570(c).

**Criterion #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.**

The NESHAP Subpart UUU provisions that Marathon is proposing to incorporate into its adjusted standard address this criterion. 40 CFR 63.1572(c) requires the operation of a continuous parametric monitoring system (CPMS) for oxygen in the FCCU regenerator exhaust. The CPMS must meet the requirements of 40 CFR 63.1572(c) and Tables 10 and 41 of NESHAP Subpart UUU (including recording a value at a minimum frequency of 15 minutes). Marathon is also proposing to incorporate the applicable recordkeeping provisions in 40 CFR 63.1576(a)(2) and (d). Specifically, Section 63.1576(a)(2)(i) requires the source to record the date, time, and duration of each startup period for which the source elected to comply with 40 CFR 63.1565(a)(5)(ii).



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

P.O. Box 19506, SPRINGFIELD, ILLINOIS 62794-9506

RENEE CIPRIANO, DIRECTOR

217/782-2113

TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT  
and  
TITLE I PERMIT<sup>1</sup>

RECEIVED: 11/26/03  
ENVIRONMENTAL DEPARTMENT  
MARATHON ASHLAND PETROLEUM LLC  
ILLINOIS REFINING DIVISION  
ROBINSON, ILLINOIS

PERMITTEE

Marathon Ashland Petroleum, LLC  
Attn: Alan Mayo  
100 Marathon Avenue  
Robinson, Illinois 62454

Application No.: 96010007

I.D. No.: 033808AAB

Applicant's Designation:

Date Received: January 5, 1996

Operation of: Petroleum Refinery

Date Issued: November 24, 2003

Expiration Date<sup>2</sup>: November 24, 2008

Source Location: 100 Marathon Avenue, Robinson, Crawford County

Responsible Official: John Swearingen, Division Manager

This permit is hereby granted to the above-designated Permittee to OPERATE a petroleum refinery, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Dan Punzak at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:DGP:psj

cc: Illinois EPA, FOS, Region 3  
CES  
Lotus Notes

1 This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the CAA and regulations promulgated thereunder, including 40 CFR 52.21 - federal PSD and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within this permit.

2 Except as provided in Condition 8.7 of this permit.

**EXHIBIT 2**

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1.0 SOURCE IDENTIFICATION

1.1 Source

Marathon Ashland Petroleum LLC  
100 Marathon Avenue  
Robinson, Illinois 62454  
618/544-2121 Ext. 5434

I.D. No.: 033808AAB  
Standard Industrial Classification: 2911, Petroleum Refinery

1.2 Owner/Parent Company

Marathon Ashland Petroleum LLC  
539 South Main Street  
Findlay, Ohio 45840

1.3 Operator

Marathon Ashland Petroleum LLC  
539 South Main Street  
Findlay, Ohio 45840

Gail Sandiford, ES & S Manager  
618/544-2121 Ext. 5434

1.4 General Source Description

The Marathon Ashland Petroleum LLC (MAP) Robinson, Illinois refinery is a complex, integrated petroleum refinery which produces petroleum-based fuel products to meet consumer demands in this region. The refinery produces numerous product including gasoline, diesel fuel, jet fuel, LPG, petroleum coke, and sulfur.

The refinery uses crude oil as its major raw material. The crude is delivered by pipeline to the refinery. The crude is first heated and fractionated in distillation columns to separate it into its various natural petroleum fractions or products. Some of these products can be marketed after this first step; however, more useful products can be manufactured by further processing in other refinery process units. Hydrocarbon molecules that are too large (i.e., long-chain hydrocarbons) to be used as high value fuels are further processed in cracking or conversion units such as the Cokers, Fluid Catalytic Cracking Unit, or Unicracker. Molecules that are too small can be used in the refinery's heaters as a fuel gas or can be recombined with other molecules to make liquid fuels in units such as the HF Alkylation Unit. Other process units at the refinery perform functions such as removing contaminants from intermediate or product streams, increasing fuel octane value, or blending products to customer specifications.

For the most part, processing equipment at the refinery is pressurized, fully enclosed equipment such as heat exchangers and distillation towers. The only source of emissions from those equipment are fugitive emissions from valves, flanges, pumps, and connectors. The major sources of emissions at the facility are primarily storage tanks (over 100 large hydrocarbon storage tanks) used to store the raw materials, intermediate products, and finished products and combustion devices (approximately 40 heaters and boilers) which provide heat for the petroleum separation and conversion processes.

7.3 Unit: Fluid Catalytic Cracking Unit  
Control: CO Boiler and Flue Gas Scrubber System

7.3.1 Description

The Fluid Catalytic Cracking Unit charges a combined stream of light and heavy vacuum and atmospheric gas oil from the Crude Unit and Tank Farm. Fluid catalytic cracking is a low pressure, high temperature method of cracking a wide variety of gas oils by using a powdered catalyst which boosts the cracking reaction in the direction of higher octane gasoline and more aromatic products. Carbon deposits on the catalyst are burned off to regenerate the catalyst in the unit's regenerator vessel. The partially combusted flue gas from the regenerator has a high content of carbon monoxide (CO), and this additional fuel value is recovered in a CO Boiler which also fires refinery fuel gas. The CO Boiler produces 600# steam and superheats 150# steam. Flue gas leaving the CO Boiler enters the Flue Gas Scrubber. The hot flue gas contains sulfur gases and catalyst fines and is cooled to its saturation temperature in the Flue Gas Scrubber. Sulfur gases and catalyst fines are removed. A small amount of soda ash solution is added to control pH. A purge stream from the Flue Gas Scrubber is sent to the Purge Treatment Unit (PTU). At the PTU, solids contained in the purge stream settle out and are run through a filter press. Liquid remaining after the solids are removed is aerated to oxidize sodium salts present and then disposed offsite. Soda ash solution is injected into the PTU to control pH.

Finished products (gas and gasoline) from the main fractionator leaving the unit are sent to the light ends plant. Additional products leaving the process include slurry oil and light/heavy cycle oil. The unit employs one gas-fired feed preheater (82F-2) and a waste heat CO boiler (60F-1), various chemical storage tanks, and a unit sump system.

The Peabody Heater (82F-1) remains idle for the most part. This heater is used only as a standby unit. When the FCCU has an extended downtime, this heater is used to bring the unit back on line.

7.3.2 List of Emission Units and Pollution Control Equipment

Permit Emission Unit Number	Permittee Unit Number	Description	Emission Control Equipment
41	Fluid Catalytic Cracking Unit (FCCU)	Vacuum and atmospheric gas oil are cracked into higher octane gasoline and aromatic products. The catalyst regeneration part of the unit vents through the control equipment.	CO Boiler, Flue Gas Scrubber System (FGSS)

7.3.3 Applicability Provisions and Applicable Regulations

- a. The "affected fluid catalytic cracking unit (FCCU)" for the purpose of these unit-specific conditions, is the fluid catalytic cracking operation described in Conditions 7.3.1 and 7.3.2.
- b. The affected FCCU is subject to the emission limits and requirements identified in Section 5 of this permit. Note especially Sections 5.2.2 and 5.2.3.
- c. Components associated with the affected FCCU are subject to the fugitive emission regulations as addressed by Section 7.10, which includes inspection, recordkeeping, reporting requirements, and compliance procedures for fugitive emissions.
- d. Pursuant to 35 IAC 212.381, no person shall cause or allow the particulate matter emission rate from catalyst regenerators of fluidized catalytic converters to exceed in any one hour period, the rate determined using the following equations:

$$E = 4.10(P)^{0.67} \quad \text{for } P \text{ less than or equal to } 30 \text{ T/hr}$$

$$E = (55.0(P)^{0.11}) - 40.0 \quad \text{for } P \text{ greater than } 30 \text{ T/hr}$$

Where:

E = Allowable emission rate in lbs/hr; and

P = Catalyst recycle rate, including the amount of fresh catalyst added, in T/hr.

- e. Except as further provided by 35 IAC 214, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any affected catalytic cracking operation to exceed 2000 ppm [35 IAC 214.301].

f. Notwithstanding 35 IAC 216.361(a) [cited in Condition 5.2.3(g)], any existing petroleum or petrochemical process using catalyst regenerators or fluidized catalytic converters equipped for in situ combustion of carbon monoxide may emit a carbon monoxide waste gas stream into the atmosphere if the carbon monoxide concentration of such waste gas stream is less than or equal to 750 ppm corrected to 50 percent excess air [35 IAC 216.361(b)]. This applies during malfunction and breakdown as allowed by Condition 7.3.3(i).

g. NSPS Requirements

The affected FCCU is subject to 40 CFR 60 Subpart J, the NSPS for Petroleum Refineries, because it was constructed or modified after June 11, 1973. The specific standards are as follows:

- i. PM emissions shall not exceed 1.0 lb/1000 lb of coke burnoff in the catalyst regenerator [40 CFR 60.102(a)(1)].
- ii. Visible emissions shall not exhibit an opacity greater than 30 percent, except for one six-minute average opacity reading in any one hour period [40 CFR 60.122(a)(2)].
- iii. CO emissions shall not exceed 500 ppm by volume, dry basis [40 CFR 60.103(a)].
- iv. A. Fuel gas burned in any fuel combustion device shall not contain H<sub>2</sub>S in excess of 0.10 gr/dscf. This applies to any supplemental fuel burned in the CO Boiler [40 CFR 60.104(a)(1)].  
B. For SO<sub>2</sub> emissions the Permittee uses the FGSS and generally uses option 1 below to comply but (2) and (3) are available options.
  1. With an add-on control device, reduce SO<sub>2</sub> emissions to the atmosphere by 90 percent or maintain SO<sub>2</sub> emissions to the atmosphere less than or equal to 50 ppm by volume (ppm<sub>v</sub>), whichever is less stringent [40 CFR 60.104(b)(1)]; or
  2. Without the use of an add-on control device, maintain SO<sub>2</sub>

emissions, calculated as SO<sub>2</sub> to the atmosphere, less than or equal to 9.8 lb/1000 lb coke burn-off [40 CFR 60.104(b)(2)]; or

3. Process in the affected FCCU fresh feed that has a total sulfur content no greater than 0.30 percent by weight [40 CFR 60.104(b)(3)].
  4. Compliance with Condition 7.3.3(g)(iv)(B)(1), (2) or (3) is determined daily on a 7-day rolling average basis using the appropriate procedures in 40 CFR 60.106. When complying with Condition 7.3.3(g)(iv)(B)(1) above, there shall be a minimum of 22 valid days of data every 30 rolling successive days [40 CFR 60.104(d)].
- v. The affected FCCU is also subject to the applicable requirements of 40 CFR 60 Subpart A (General provisions of the NSPS).
- h. NESHAP Provisions
- i. The affected FCCU is subject to 40 CFR 63 Subpart UUU, but with a future compliance date of April 11, 2005 and a possible extension if interim requirements are met. There are compliance standards for metal HAPs and organic HAPs [40 CFR 63.1563-1565]. There are several options for compliance. Many of the rules for compliance in 40 CFR Subpart A, general provisions for NESHAP, are also applicable to this process. Table 44 of Subpart UUU states which provisions of Subpart A are applicable.
  - ii. Startup, Shutdown and Malfunction (SSM) Plan  

The Permittee is required to have a written Startup, Shutdown and Malfunction (SSM) Plan for the equipment subject to the Petroleum Refinery rule as described in Condition 7.3.3(1)(i). The SSM plan is not required until the date that compliance is required, April 11, 2005. [40 CFR 63.6(e)(3)]

iii. Operation, Maintenance and Monitoring (OM&M) Plan

The Permittee is required to have a written operation, maintenance and monitoring plan for any control system and any continuous monitoring system employed for achieving and determining compliance with the NESHAP listed above.

This OM&M plan must be submitted to the Illinois EPA with the notification of compliance status for review and approval. The contents of the OM&M plan and dates for submittal are listed in 40 CFR 63.1574(f).

i. Malfunction and Breakdown Provisions

i. 35 IAC Requirements

Pursuant to 35 IAC 201.262, the Permittee is authorized to continue operation of the affected FCCU in excess of the applicable board emission limits of 35 IAC 212.381 and 216.361(a) (Conditions 7.3.3(d) and (g) as a result of a malfunction or breakdown of the CO Boiler, as necessary to prevent injury to persons or severe damage to equipment. This authorization is subject to the following:

- A. This authorization only extends for a period of up to 72 hours following the initial malfunction or breakdown event. If continued operation to prevent injury to persons or severe damage to equipment in excess of board limits is expected to exceed this period for a specific malfunction or breakdown, the Illinois EPA's regional office shall be notified of the expected additional length of time operation will continue. The length of time may be extended if the Permittee can demonstrate that the emissions will be less during the extended period than if the unit is shutdown and restarted.
- B. The Permittee shall take the following measures to minimize emissions resulting from malfunctions or breakdowns, the frequency of malfunctions or breakdowns, and the duration of operation in excess of board limits as a result of a malfunction or breakdown:

1. Implementation of established written malfunction or breakdown procedures so as to minimize the duration of continued operation resulting from malfunctions or breakdowns and the emissions associated with malfunctions or breakdowns. This includes the following:

The affected FCCU typically operates with CO emissions controlled by combustion in the CO Boiler to discharge to the atmosphere. The FCCU also has the capability to operate without the CO Boiler, with CO emissions controlled by combustion within the regenerator vessel. Because of the nature of the FCCU, operation of the unit with a reduced load, using the "full burn" approach to combust CO emissions will typically result in significantly lower emissions than would occur if the unit were to be completely shutdown and then started back up. Excess emissions during startup of the unit, typically exceed excess emissions from a malfunction and breakdown both in magnitude and duration.

2. Implementation of established maintenance practices so as to minimize the duration of continued operation resulting from malfunctions or breakdowns and the frequency of malfunctions or breakdowns. These maintenance practices shall include maintenance activities before the unit is started up, when the unit is in operation, and when the unit is shut down.

- C. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 7.3.9(f).
- D. The Permittee shall fulfill the applicable reporting requirements of Condition 7.3.10(b).

E. Any excess emissions resulting from malfunction or breakdown which does not meet the requirements of this Condition 7.3.3(k) shall be considered an exceedance of the requirements of this permit and subject to the reporting requirements for exceedances in Condition 7.3.10.

ii. NESHAP Requirements

After the date when the SSM Plan and OM & M Plan discussed in Condition 7.3.3(h) are required to be implemented, the Permittee shall follow the plans during any malfunction or breakdown of the process or control equipment that increases emissions above that allowed by the applicable NESHAP rule.

j. Startup Provisions

Pursuant to 35 IAC 201.262, the Permittee is authorized to operate the affected FCCU in violation of the applicable board emission limits of 35 IAC 212.381 and 216.361(a) (Conditions 7.3.3(d) and (g)), to the extent necessary to conduct a normal startup of the affected FCCU. The Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

i. Startup shall be conducted in accordance with a startup plan that includes all reasonable measures to be taken to minimize the quantity of emissions, the length of each startup, and the number of startups, e.g., the regenerator air rates will be adjusted to minimize the carbon level on the circulating catalyst. A description of the startup procedure including time periods for each phase for the fluid catalytic unit, CO Boiler, and associated equipment shall be submitted to the Illinois EPA's Compliance Section for review within 30 days of any change to the startup procedure currently on file with the Illinois EPA. This shall include any proposed venting of emissions to stack not monitored by the continuous opacity monitor.

ii. If startup of the affected FCCU results in operation in excess of applicable emission standards for 40 hours or more, the Permittee

shall immediately notify the Illinois EPA's regional field office by telephone of the additional length of time required to complete the startup, if any.

- iii. Note: This authorization does not apply to Condition 7.3.3(g)(iii) [NSPS for CO], for which startup, shutdown, and malfunction is addressed by 40 CFR 60.8 and 60.11, or for the future NESHAP requirements in Condition 7.3.3(h).
- iv. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 7.3.9(e).
- v. Any startup which exceeds applicable board limits more than the extent necessary to conduct a normal startup, or any startup which does not meet the requirements of this Condition 7.3.3(j) shall be considered an exceedance of the requirements of this permit and subject to the reporting requirements for exceedances in Condition 7.3.10.
- k. Pursuant to and only during the term of the Global Settlement Consent Decree between Marathon Ashland Petroleum LLC and the USEPA, Civil Action No. 01-40119, the following limitations apply:
  - i. SO<sub>2</sub> limit for FCCU is 25 ppmvd based on a 365-day rolling average and 50 ppmvd based on a 7-day rolling average, each at 0% oxygen.

#### 7.3.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected catalytic cracking operations not being subject to the New Source Performance Standards (NSPS) for Petroleum Refineries, 40 CFR 60.102(b), because the affected FCCU does not burn supplemental liquid or solid fossil fuel, but only burns refinery fuel gas or natural gas.
- b. 35 IAC 212.321 and 212.322 shall not apply to catalyst regenerators of fluidized catalytic converters [35 IAC 212.381].
- c. The provisions of 35 IAC 215.301 and 302, Use of Organic Material, shall not apply to fuel combustion emission sources [35 IAC 215.303]. Furthermore, the provisions of 35 IAC 215.301 and 302 does not apply to petroleum or petrochemical manufacturing processes pursuant to 35 IAC 215.441.

- d. The affected FCCU is exempt from 40 CFR 63 Subpart CC (Refinery NESHAP) pursuant to 40 CFR 63.640(d)(4).
- e. The provisions of 35 IAC 214.162, Combination of Fuels, do not apply because only gaseous fuels are burned.

7.3.5 Operational and Production Limits and Work Practices

- a. The Permittee shall route and combust all waste gas streams generated by the affected FCCU in the CO Boiler and then to the FGSS as required in Condition 7.3.3(g)(iii) and (iv), except as allowed by Conditions 7.3.3(i) and (j).
- b. Maximum air blower rate for input to the affected FCCU regenerator shall not exceed 156,435 scf/minute on a 30-day rolling average [T1].
- c. Refinery fuel gas input to the CO Boiler and steam Boilers 3, 4, 5 and 6 shall not exceed 4,044.9 mmscf/year combined, based on a 12-month rolling average basis. [T1].
- d. Operation of the FCCU Charge Heater (82F-2) shall not exceed 859 MMSCF/yr of fuel gas on a twelve-month rolling average basis [T1].

7.3.6 Emission Limitations

In addition to Conditions 5.2.2, 5.2.3 and the source-wide emission limitations in Condition 5.5, the affected FCCU CO Boiler and Boilers 3, 4, 5 and 6 combined shall not exceed the following:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
NO <sub>x</sub>	135.0	810.3
CO	105.5	633.2
SO <sub>2</sub>	121.8	730.9
PM	28.0	167.8
VOM	1.8	11.2

The above limitations were established in Permit 99020080, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.3.7 Testing Requirements

- a. Upon request by the Illinois EPA and/or USEPA, pursuant to Section 39.5(7)(b) of the Act, the Permittee shall conduct testing of the affected FCCU operations for purposes of demonstrating compliance to conditions of this permit according to USEPA approved methods of 40 CFR 60 Appendix A or other appropriate methods approved by the Illinois EPA or USEPA, at such reasonable times as may be specified by the Illinois EPA and/or USEPA. This test shall meet the following requirements:
  - i. The test shall be conducted by an approved independent testing service.
  - ii. The test shall be conducted during conditions which are representative of maximum emissions.
  - iii. The test shall be designed to measure the following parameters, as necessary:
    - A. The emission rate of PM, so as to determine compliance with Condition 7.3.3(d).
    - B. The emission concentration of SO<sub>2</sub>, so as to determine compliance with Condition 7.3.3(e).
    - C. The emission concentration of CO, so as to determine compliance with Condition 7.3.3(g).
- b. 40 CFR 60.108(d) requires a performance test be conducted each successive 24-hour period for units subject to 40 CFR 60.104(b)(1) [Condition 7.3.3(g)(iv)(B)] after the initial performance test. The successive tests shall be in accordance with 40 CFR 60.106.

7.3.8 Monitoring Requirements

- a. In accordance with its Alternative Opacity Monitoring Procedures approved by USEPA, pursuant to 40 CFR 60.13(i) and by the Illinois EPA pursuant to 35 IAC 201.401, the Permittee shall continuously record the operating pressure of the lower quench/circulation pump header (PI tag 60PI6060) and the operating pressure of the upper circulation pump header (PI tag 60PI6070). The Permittee shall also monitor these values during all performance and emissions tests for particulate matter conducted at the affected FCCU. The Permittee shall maintain a combined average operating pressure of at least eighty (80) percent of

the most recent stack test that demonstrated compliance.

- b. The Permittee shall maintain and operate an instrument for continuously monitoring and recording the concentration by volume (dry basis) of CO emissions into the atmosphere. The span for this instrument is 1,000 ppm CO [40 CFR 60.105(a)(2)].

Note: Because the CO limit of 35 IAC 216.361(a) (200 ppm) includes a correction to 50% excess air, this CO CEMS cannot be directly used to determine compliance with 35 IAC 216.361(a) because the information needed to adjust monitored results to 50% excess air is not available. However, monitored data from this CEMS may provide evidence, in conjunction with other operating information for the affected FCCU, of compliance or noncompliance with 35 IAC 216.361(a).

- c.
  - i. The Permittee shall maintain and operate an instrument for continuously monitoring and recording concentrations of SO<sub>2</sub> in the gases at both the inlet and outlet of the FGSS. The span value of the inlet monitor shall be set at 125 percent of the maximum estimated hourly potential SO<sub>2</sub> emission concentration entering the FGSS. The span value of the outlet monitor shall be set at 50 percent of the maximum estimated hourly potential SO<sub>2</sub> emission concentration entering the FGSS [40 CFR 60.105(a)(8)].
  - ii. The Permittee shall maintain and operate an instrument for continuously monitoring and recordkeeping concentrations of oxygen (O<sub>2</sub>) in the gases at both the inlet and outlet of the FGSS. The span of the continuous monitoring system shall be set at 10 percent [40 CFR 60.105(a)(10)].
- d. The Permittee shall comply with the monitoring requirements of 40 CFR 63.1572 or alternatives in § 63.1573. The monitors specified above in Conditions 7.3.8(b) or (c) may be acceptable if the monitors meet the requirements of Table 40 in Subpart UUU, which in turn reference 40 CFR 60 Appendix B.
- e. The NSPS requirement for monitoring H<sub>2</sub>S in the refinery fuel gas burned in the CO Boiler is discussed in Condition 7.1.8 [40 CFR 60.105(a)(4)].

- f. The Permittee shall maintain and operate an instrument to measure the air blower rate for input to the FCCU in order to verify compliance with Condition 7.3.5(b).

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected FCCU to demonstrate compliance with Conditions 7.3.3, 7.3.5, and 7.3.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with the PM emission limits in Condition 7.3.3(d):
  - i. Catalyst recycle rate, T/minute, calculated based on bi-weekly samples of the flue gas.
  - ii. Allowable PM emission rate by 7.3.3(d), lbs/hr.
- b. The Permittee shall maintain records of the following items to demonstrate compliance with the SO<sub>2</sub> emission limits in Conditions 7.3.3(g)(iv)(B):
  - i. Average hourly concentration of SO<sub>2</sub> in the inlet and outlet of the FGSS as measured by the monitors required in Condition 7.3.8(e), ppm.
  - ii. Refinery fuel gas input to the CO Boiler (mmscf/month and mmscf/year).
  - iii. Sulfur content of the refinery fuel gas used in CO Boiler, % weight or ppm.
  - iv. The final daily result, using a computerized calculation method, of a 7-day rolling average basis of the reduction in SO<sub>2</sub> emissions by the FGSS [40 CFR 60.104(c)]. The computer calculation must also be able to determine with the Consent Decree compliance standard in Condition 7.3.3(k).
  - v. Percent O<sub>2</sub> in FGSS inlet and outlet.
  - vi. Emissions of SO<sub>2</sub> from the affected FCCU.
- c. The Permittee shall maintain records of the CO concentration, by volume on a daily basis, as measured by the instrument required by Condition 7.3.8(b).

As noted in Condition 7.3.8(b), the CO CEMS data cannot directly determine compliance. Records shall also include any other operating information necessary to determine compliance with 35 IAC 216.361(a).

- d. The Permittee shall maintain records of the following items to quantify emissions from the affected FCCU operations:
  - i. Fresh feed rate to the affected FCCU, bbl/day.
  - ii. Hours of operations for the affected FCCU.
  - iii. Annual aggregate emissions of NO<sub>x</sub>, CO, VOM, SO<sub>2</sub>, and PM from the affected FCCU operations as calculated by the compliance procedure described in Condition 7.3.12(k), ton/year.
- e. The Permittee shall maintain records of the following items for each Startup to demonstrate compliance with Condition 7.3.3(j):
  - i. Date and duration of the startup, i.e., start time and time normal operation was achieved.
  - ii. Verification that the startup procedures, including a pre-check, were performed and met the requirements of Condition 7.3.3(j).
  - iii. Records of maintenance activities performed.
  - iv. If normal operation was not achieved within the authorized times of Condition 7.3.3(j), an explanation of why startup could not be achieved within the authorized time with the date and time the Illinois EPA's regional office was contacted, the person spoken to, items discussed, and follow-up instructions.
- f. The Permittee shall maintain the following records for each occurrence of malfunction or breakdown that results in excess emissions and submit a summary of the information to the Illinois EPA's Compliance Section and Regional Office within 5 working days following the end of such occurrence:
  - i. Date and duration of the malfunction or breakdown, i.e., start time and time normal operation was achieved or time operation was shutdown.

- ii. A detailed description of the occurrence, including its nature, cause for significant events during the occurrence, and the date, time and means by which the occurrence was terminated including:
    - 1. If the CO Boiler was shutdown.
    - 2. If the FCCU was shifted to the "full burn" mode of operation.
    - 3. If the FCCU resumed normal operation with the CO Boiler.
  - iii. The charge rate to the affected FCCU, barrels/day.
  - iv. The contaminants emitted, the measurements of all monitors required in Condition 7.3.8, and an estimate of the quantity of emissions, including supporting calculations and CO concentration corrected to 50% excess air.
  - v. Verification that the malfunction and breakdown procedures were performed and met the requirements of Condition 7.3.3(k).
  - vi. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
  - vii. Records of maintenance activities performed.
  - viii. If the alternative monitoring method is used to monitor opacity from the FCCU.
  - ix. If normal operation or shutdown was not achieved within the authorized time of Condition 7.3.3(i), an explanation of why normal operation or shutdown could not be achieved within the authorized time with the date and time the Illinois EPA's regional office was contacted, the person spoken to, items discussed, and follow-up instructions.
- g. Records for Alternative Opacity Monitoring Procedure
- i. Operating pressure of the lower quench/circulation pump header and operating pressure of the upper circulation pump header.
  - ii. Quarterly reports submitted in accordance with Condition 7.3.10(e). Excess emissions will be defines as any one-hour period when the

average of the upper and lower header pressures is less than 80% of the average value recorded during the most recent performance test that demonstrated compliance with the particulate standard in 40 CFR 60.102(a)(1).

- h. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6, which shall include:
  - i. Identification of the limit that may have been exceeded.
  - ii. Duration of the possible exceedance.
  - iii. An estimate of the amount of emissions in excess of the applicable standard.
  - iv. A description of the cause of the possible exceedance.
  - v. When compliance was reestablished.
- i. The Permittee shall maintain records of the most recent tests required in Condition 7.3.7(a), which include the following pursuant to Section 39.5(7)(e) of the Act:
  - i. The date, place and time of sampling or measurements.
  - ii. The date(s) analyses were performed.
  - iii. The company or entity that performed the analyses.
  - iv. The analytical techniques or methods used.
  - v. The results of such analyses.
  - vi. The operating conditions as existing at the time of sampling or measurement.
- j. The Permittee shall keep records of those items specified in the NESHAP, 40 CFR 63.1576 and any other records of the NSPS, 40 CFR 60.107 not previously specified.
- k. The Permittee shall maintain records of the average coke burn-off rate (tons/hour) and hours of operation [40 CFR 60.105(c)].

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of the affected FCCU operations with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Within 30 days of exceedance of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6, the notification shall include:
  - i. Identification of the limit that may have been exceeded.
  - ii. Duration of the possible exceedance.
  - iii. An estimate of the amount of emissions in excess of the applicable standard.
  - iv. A description of the cause of the possible exceedance.
  - v. When compliance was reestablished.
- b. Reporting of Malfunctions and Breakdowns
  - i. Pursuant to 35 IAC 201.263, the Permittee shall immediately report to the Illinois EPA, Compliance Section and Regional Field Office by telephone or fax concerning continued operation of an emission source during a malfunction or breakdown of the emission source or related pollution control equipment when such continued operation would cause a violation of the standards or limitations of this Permit, the Act or regulations promulgated thereunder.
  - ii. Pursuant to 35 IAC 201.302, upon achievement of compliance, the Permittee shall give a written follow-up report within five (5) business days to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event and explanation why continued operation of the emission source was necessary, the length of time during which operation continued under such conditions, the measures by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the emission source was taken out of service.

- c. The Permittee shall fulfill the following reporting requirements for each test performed pursuant to Condition 7.3.7(a):
  - i. At least 30 days prior to the expected date of testing, a written test plan shall be submitted to the Illinois EPA for review. This plan shall describe the specific procedures for testing, including:
    - A. The expected date and time of the test.
    - B. The person(s) who will be performing the sampling and analysis and their experience with similar tests.
    - C. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit will be determined.
    - D. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.
    - E. The specific sampling, analytical, and quality control procedures which will be used, with an identification of the standard methods upon which they are based.
    - F. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
    - G. Any proposed use of an alternative test method, with detailed justification.
  - ii. Notification of the actual date and time of the testing shall be submitted to the Illinois EPA at least 5 working days prior to the actual date of the test so the Illinois EPA can arrange to have an observer present.
  - iii. The results of the test shall be submitted to the Illinois EPA within 90 days after the testing is complete. These results shall be

included in a final report, which shall include the following:

- A. A summary of results.
  - B. A description of the test methods used, including a description of sampling points, sampling train, analysis equipment, and test schedule.
  - C. A detailed description of test conditions, including:
    - 1. Process information including the mode(s) of operation.
    - 2. A discussion of any preparatory actions taken, i.e., inspections, maintenance, and repair.
  - D. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
  - E. An explanation of any discrepancies among individual tests or anomalous data.
  - F. The results of all quality control evaluations, including a copy of all quality control data.
- e. The Permittee shall promptly report incidents when the combined operating pressure of the lower and upper pump headers for the FGSS [i.e., the alternative monitoring procedure described in Condition 7.3.8(a)] are not at least 80% of the value during the most recent stack test that demonstrated compliance.
- f. The Permittee shall submit all notifications and reports required by the NESHAP, 40 CFR 63.1574 and 63.1575 and the NSPS, 40 CFR 60.107.
- g. The Permittee shall report to the Illinois EPA within 60 days after the end of any calendar year if actual emissions of any PSD pollutant exceed the baseline actual emissions by a significant amount and if such emissions differ from the preconstruction projections, in accordance with 40 CFR 52.21(r) (6) (v).

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected catalytic cracking operation without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

None.

7.3.12 Compliance Procedures

- a. Compliance with the PM requirements in Condition 7.3.3(d) shall be demonstrated by the monitoring requirements in Condition 7.3.8(a) and the recordkeeping requirements in Condition 7.3.9(g).
- b. Compliance with the PM emission limits in Condition 7.3.3(d) shall be demonstrated by the testing requirements in Condition 7.3.7(a), the operational requirements in Condition 7.3.5(a) and the recordkeeping requirements in Condition 7.3.9(a) and (g).
- c. Compliance with the SO<sub>2</sub> requirements of Condition 7.3.3(e) and (g) (iv) (B) (1) shall be demonstrated by the testing requirements in Condition 7.3.7(a), the monitoring requirements of 7.3.8(c), the recordkeeping requirements of 7.3.9(b) and the reporting requirements of 7.3.10.
- d. Compliance with the CO requirements of Condition 7.3.3(g) during normal operation and (f) during malfunction and breakdown shall be demonstrated by the testing requirements in Condition 7.3.7(a) and the operational requirements in Condition 7.3.5(a).
- e. Compliance with the VOM requirements of Condition 7.3.3(h) is considered to be assured if the Permittee meets the requirements of Condition 7.3.5(a).

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POLLUTION CONTROL BOARD

NOTICE OF ADOPTED AMENDMENTS

- 1) Heading of the Part: Permits and General Provisions
- 2) Code Citation: 35 Ill. Adm. Code 201
- 3) 

<u>Section Numbers:</u>	<u>Adopted Actions:</u>
201.149	Amendment
201.157	Amendment
201.261	Repealed
201.262	Repealed
201.263	Repealed
201.264	Repealed
201.265	Repealed
201.301	Amendment
- 4) Statutory Authority: Implementing Sections 10, 39, 39.5, and 39.12 and authorized by Section 27 and 28.5 of the Environmental Protection Act [415 ILCS 5/10, 27, 28.5, 39, 39.5, and 39.12].
- 5) Effective Date of Rule: July 25, 2023
- 6) Does this rulemaking contain an automatic repeal date? No
- 7) Does this rulemaking contain incorporations by reference? No
- 8) Statement of Availability: The Adopted Amendment is available on the Board's website (<https://pcb.illinois.gov/>) and are also on file and available for public inspection in the Board's Chicago office at the 60 E. Van Buren St., Suite 630, Chicago, Illinois 60605.
- 9) Notice of Proposal Published in *Illinois Register*: 46 Ill. Reg. 20627, December 30, 2022
- 10) Has JCAR issued a Statement of Objections to this rulemaking? Yes
- 11) Differences between proposal and final version: Grammatical changes were made in sections 201.149, 201.157 and 201.301.

201.149, strike "set forth" and add "stated", strike "of this Chapter", strike "set forth" and add "stated", after "in" strike "that", after "Subchapter" add "c".

POLLUTION CONTROL BOARD

NOTICE OF ADOPTED AMENDMENTS

201.157, strike ", as a minimum,", strike "pursuant to" and add "in compliance with", strike "pursuant to" and add "in compliance with", strike "; provided, however, that" and add ", but", omit "If emissions of an emission unit during startup would be higher than during normal operation of the emission, unit an" and reinstate "An", strike "set forth" and add "specify".

201.301, strike "pursuant to" and add "under", strike "pursuant to" and add "in compliance with", strike "pursuant to" and add "in compliance with", strike "such".

201.301 b), strike "APA Act" and add "Illinois Administrative Procedure Act [5 ILCS 100]".

- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreements letter issued by JCAR? Yes
- 13) Will this rulemaking replace an emergency rule currently in effect? No
- 14) Are there any other rulemakings pending on this Part? No
- 15) Summary and Purpose of Rulemaking: This proposal amends 35 Ill. Adm. Code 201, 202, and 212 to remove provisions allowing for advance permission to continue operating during a malfunction or to violate emission limitations during start-up. The removal of the provisions is required to comply with the United States Environmental Protection Agency (USEPA) findings of deficiencies in the Illinois State Implementation Plan under the Clean Air Act (CAA) 42 U.S.C. §4701, et seq.

This proposal is intended to meet obligations of the State of Illinois under CAA and was filed pursuant to Section 28.5 of the Act (415 ILCS 5/28.5(2020)). Section 28.5 of the Act requires the Board to proceed toward adoption of the proposed regulation by meeting a series of strict deadlines.

- 16) Information and questions regarding this adopted rulemaking shall be directed to:

Clerk's Office  
Illinois Pollution Control Board  
60 E Van Buren St., Suite 630  
Chicago, IL 60605

(312) 814-3620

POLLUTION CONTROL BOARD

NOTICE OF ADOPTED AMENDMENTS

Copies of the Board's opinions and orders are available through the Clerk's Office On-Line (COOL) on the Board's website (<https://pcb.illinois.gov/>). You may also request copies of the Board's opinions and orders from the Clerk at the address listed above or by calling (312) 814-3620. Please refer to docket number R23-18 in your request.

The full text of the Adopted Amendments begins on the next page:

POLLUTION CONTROL BOARD

NOTICE OF ADOPTED AMENDMENTS

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE B: AIR POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD  
SUBCHAPTER a: PERMITS AND GENERAL PROVISIONS

PART 201  
PERMITS AND GENERAL PROVISIONS

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## POLLUTION CONTROL BOARD

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201.APPENDIX A Rule into Section Table  
 201.APPENDIX B Section into Rule Table  
 201.APPENDIX C Past Compliance Dates

AUTHORITY: Implementing Sections 10, 39, 39.5, and 39.12 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/10, 27, 39, 39.5, and 39.12].

SOURCE: Adopted as Chapter 2: Air Pollution, Part I: General Provisions, in R71-23, 4 PCB 191, filed and effective April 14, 1972; amended in R78-3 and 4, 35 PCB 75 and 243, at 3 Ill. Reg. 30, p. 124, effective July 28, 1979; amended in R80-5, at 7 Ill. Reg. 1244, effective January 21, 1983; codified at 7 Ill. Reg. 13579; amended in R82-1 (Docket A) at 10 Ill. Reg. 12628, effective July 7, 1986; amended in R87-38 at 13 Ill. Reg. 2066, effective February 3, 1989; amended in R89-7(A) at 13 Ill. Reg. 19444, effective December 5, 1989; amended in R89-7(B) at 15 Ill. Reg. 17710, effective November 26, 1991; amended in R93-11 at 17 Ill. Reg. 21483, effective December 7, 1993; amended in R94-12 at 18 Ill. Reg. 15002, effective September 21, 1994; amended in R94-14 at 18 Ill. Reg. 15760, effective October 17, 1994; amended in R96-17 at 21 Ill. Reg. 7878, effective June 17, 1997; amended in R98-13 at 22 Ill. Reg. 11451, effective June 23, 1998; amended in R98-28 at 22 Ill. Reg. 11823, effective July 31, 1998; amended in R02-10 at 27 Ill. Reg. 5820, effective March 21, 2003; amended in R05-19 and R05-20 at 30 Ill. Reg. 4901, effective March 3, 2006; amended in R07-19 at 33 Ill. Reg. 11965, effective August 6, 2009; amended in R10-21 at 34 Ill. Reg. 19575, effective December 1, 2010; amended in R12-10 at 35 Ill. Reg. 19790, effective December 5, 2011; amended in R13-18 at 38 Ill. Reg. 1005, effective December 23, 2013; amended in R17-9 at 41 Ill. Reg. 4140, effective March 24, 2017; amended in R23-18 at 47 Ill. Reg. 12089, effective July 25, 2023.

## SUBPART C: PROHIBITIONS

**Section 201.149 Operation During Malfunction, Breakdown or Startups**

~~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~~

## POLLUTION CONTROL BOARD

## NOTICE OF ADOPTED AMENDMENTS

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.~~

(Source: Amended at 47 Ill. Reg. 12089, effective July 25, 2023)

## SUBPART D: PERMIT APPLICATIONS AND REVIEW PROCESS

**Section 201.157 Contents of Application for Operating Permit**

An application for an operating permit ~~must~~ shall contain, ~~as a minimum,~~ the data and information specified in Section 201.152. Each application ~~must~~ shall list all individual emission units and air pollution equipment for which a permit is sought. Any applicant may seek to obtain from the Agency a permit for each emission unit, or such emission units as are similar in design or principle of operation or function, or for all emission units encompassed in an identifiable operating unit, unless subject to the provisions of Section 201.169 of this Subpart or required to obtain an operating permit with federal enforceable conditions ~~in compliance with~~ pursuant to Section 39.5 of the Act. To the extent that the above specified data and information has previously been submitted to the Agency ~~in compliance with~~ pursuant to this Subpart, the data and information need not be resubmitted, ~~but, provided, however, that~~ the applicant must certify that the data and information previously submitted remains true, correct and current. An application for an operating permit ~~must~~ shall contain a description of the startup procedure for each emission unit, the duration and frequency of startups, the types and quantities of emissions during startup, and the applicant's efforts to minimize any such startup emissions, duration of individual startups, and frequency of startups. ~~If applicable, pursuant to the requirements of Subpart I of this Part, an application for a permit shall contain a description of the startup procedure for each emission unit, the duration and frequency of startups and quantities of emissions during startup in excess of emissions during operations, and the applicant's efforts to minimize any such startup emissions.~~ The Agency may adopt procedures that require data and information in addition to and in amplification of the matters specified in the first sentence of this Section, that are reasonably designed to determine compliance with this Chapter and ambient air quality standards, and that ~~specify~~ set forth the format by which all data and information ~~must~~ shall be submitted.

(Source: Amended at 47 Ill. Reg. 12089, effective July 25, 2023)

## SUBPART I: MALFUNCTIONS, BREAKDOWNS OR STARTUPS

**Section 201.261 Contents of Request for Permission to Operate During a Malfunction,**

## POLLUTION CONTROL BOARD

## NOTICE OF ADOPTED AMENDMENTS

**Breakdown or Startup (Repealed)**

- a) ~~A request for permission to continue to operate during a malfunction or breakdown, if desired, shall be included as an integral part of the application for an operating permit pursuant to Subpart D, and shall include as a minimum: a full and detailed explanation of why such continued operation is necessary; the anticipated nature, sources and quantities of emissions which will occur during such continued operation; the anticipated length of time during which such operation will continue; all measures, such as use of off-shift labor or equipment which will be taken to minimize the quantity of air contaminant emissions and length of time during which such operation will continue. When the standards or limitations of Subchapter c of this Chapter will be violated during startup, a request for permission to violate such standards or limitations shall be an integral part of the application for an operating permit pursuant to Subpart D, and shall include, as a minimum: a description of the startup procedure for each emission source, the duration and frequencies of such startups, the type and quantities of emissions during such startups and the applicant's efforts to minimize any such startup emissions, duration of individual startups and frequency of startups.~~
- b) ~~The Agency may adopt procedures which require data and information in addition to or in amplification of the matters set forth in subsection (a), and which set forth the format in which all data and information shall be submitted. Such procedures and formats, and revisions thereto, shall not become effective until filed with the Secretary of State as required by the Administrative Procedure Act (Ill. Rev. Stat. 1981, ch. 127, par. 1001 et seq.) (APA Act).~~

(Source: Repealed at 47 Ill. Reg. 12089, effective July 25, 2023)

**Section 201.262 Standards for Granting Permission to Operate During a Malfunction, Breakdown or Startup (Repealed)**

~~Permission shall not be granted to allow continued operation during a malfunction or breakdown unless the applicant submits proof to the Agency that: such continued operation is necessary to prevent injury to persons or severe damage to equipment; or that such continuation is required to provide essential services; provided, however, that continued operation solely for the economic benefit of the owner or operator shall not be a sufficient reason for granting of permission. Permission shall not be granted to allow violation of the standards or limitations of Subchapter c of this Chapter during startup unless the applicant has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual startups~~

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~~and frequency of startups.~~

(Source: Repealed at 47 Ill. Reg. 12089, effective July 25, 2023)

**Section 201.263 Records and Reports (Repealed)**

~~Any person who causes or allows the continued operation of an emission source during a malfunction or breakdown of the emission source or related air pollution control equipment when such continued operation would cause a violation of the standards or limitations set forth in Subchapter c of this Chapter shall immediately report such incident to the Agency by telephone, telegraph 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. In addition, any person subject to this Subpart shall maintain such records and make such reports as may be required in procedures adopted by the Agency pursuant to Subpart K.~~

(Source: Repealed at 47 Ill. Reg. 12089, effective July 25, 2023)

**Section 201.264 Continued Operation or Startup Prior to Granting of Operating Permit (Repealed)**

~~Any person desiring to continue to operate, or to startup in accordance with Section 201.149 prior to the date when an operating permit is required pursuant to Section 201.143 or 201.144, shall make immediate application for permission to operate during a malfunction, breakdown or startup in accordance with Section 201.261.~~

(Source: Repealed at 47 Ill. Reg. 12089, effective July 25, 2023)

**Section 201.265 Effect of Granting of Permission to Operate During a Malfunction, Breakdown or Startup (Repealed)**

~~The granting of permission to operate during a malfunction or breakdown, or to violate the standards or limitations of Subchapter c of this Chapter during startup, and full compliance with any terms and conditions connected therewith, shall be a prima facie defense to an enforcement action alleging a violation of Section 201.149, of the emission and air quality standards of this Chapter, and of the prohibition of air pollution during the time of such malfunction, breakdown or startup.~~

(Source: Repealed at 47 Ill. Reg. 12089, effective July 25, 2023)

POLLUTION CONTROL BOARD

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SUBPART K: RECORDS AND REPORTS

**Section 201.301 Records**

The owner or operator of any emission source or air pollution control equipment ~~must~~shall maintain, ~~as a minimum~~: records detailing all activities ~~under~~pursuant to any compliance program and project completion schedule in compliance with~~pursuant to~~ Subpart H; ~~records detailing all malfunctions, breakdowns or startups pursuant to Subpart I and~~ records of all monitoring and testing conducted in compliance with~~pursuant to~~ Subpart J, plus records of all monitoring and testing of any type whatsoever conducted with respect to specified air contaminants. All ~~such~~ records ~~must~~shall be made available to the Agency at any reasonable time.

- a) The Agency may adopt procedures which:
  - 1) Require additional records be maintained consistent with this Part~~these regulations~~; and
  - 2) Specify~~Set forth~~ the format in which all records ~~must~~shall be maintained.
- b) The~~Such~~ procedures and formats, and revisions ~~thereto~~, will~~shall~~ not become effective until filed with the Secretary of State as required by the Illinois Administrative Procedure Act [5 ILCS 100]~~APA Act~~.

(Source: Amended at 47 Ill. Reg. 12089, effective July 25, 2023)

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- 1) Heading of the Part: Alternative Control Strategies
- 2) Code Citation: 35 Ill. Adm. Code 202
- 3) 

<u>Section Numbers:</u>	<u>Adopted Actions:</u>
202.107	Amendment
202.211	Amendment
- 4) Statutory Authority: Implementing Section 9.3 and authorized by Sections 5, 27 and 28.5 of the Environmental Protection Act [415 ILCS 5/5, 9.3, 27 and 28.5].
- 5) Effective Date of Rule: July 25, 2023
- 6) Does this rulemaking contain an automatic repeal date? No
- 7) Does this rulemaking contain incorporations by reference? No
- 8) Statement of Availability: The adopted amendment is available on the Board's website (<https://pcb.illinois.gov/>) and are also on file and available for public inspection in the Board's Chicago office at the 60 E. Van Buren St., Suite 630, Chicago, Illinois 60605.
- 9) Notice of Proposal Published in the *Illinois Register*: 46 Ill. Reg. 20638, December 30, 2022
- 10) Has JCAR issued a Statement of Objections to this rulemaking? Yes
- 11) Differences between Proposal and Final Version:  
  
202.107 a), strike "which" and add "that".  
  
202.107 a) 2), after "condition" add a comma.  
  
202.211 a), strike "which" and add "that".
- 12) Have all the changes agreed upon by the Agency and JCAR been made as indicated in the agreements letter issued by JCAR? Yes
- 13) Will this rulemaking replace an emergency rule currently in effect? No

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- 14) Are there any other rulemakings pending on this Part? No
- 15) Summary and Purpose of Rulemaking: This proposal amends 35 Ill. Adm. Code 201, 202, and 212 to remove provisions allowing for advance permission to continue operating during a malfunction or to violate emission limitations during start-up. The removal of the provisions is required to comply with the United States Environmental Protection Agency (USEPA) findings of deficiencies in the Illinois State Implementation Plan under the Clean Air Act (CAA) 42 U.S.C. §4701, et seq.

This proposal is intended to meet obligations of the State of Illinois under CAA and was filed pursuant to Section 28.5 of the Act (415 ILCS 5/28.5(2020)). Section 28.5 of the Act requires the Board to proceed toward adoption of the proposed regulation by meeting a series of strict deadlines.

- 16) Information and questions regarding these adopted rules shall be directed to:

Clerk's Office  
Illinois Pollution Control Board  
60 E Van Buren St., Suite 630  
Chicago, IL 60605

312-814-3620

Copies of the Board's opinions and orders are available through the Clerk's Office On-Line (COOL) on the Board's website (<https://pcb.illinois.gov/>). You may also request copies of the Board's opinions and orders from the Clerk at the address listed above or by calling 312-814-3620. Please refer to docket number R23-18 in your request.

The full text of the Adopted Amendments begins on the next page:

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TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE B: AIR POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD  
SUBCHAPTER a: PERMITS AND GENERAL PROVISIONS

PART 202  
ALTERNATIVE CONTROL STRATEGIES

SUBPART A: GENERAL PROVISIONS

Section	
202.101	Definitions
202.104	Actual Emissions
202.107	Allowable Emissions
202.110	Alternative Control Strategy (ACS)
202.113	Chapter
202.116	Emission Baseline
202.119	Multi-person ACS
202.122	Potential to Emit
202.125	Abbreviations
202.140	Scope
202.142	Severability

SUBPART B: PERMIT APPLICATION

Section	
202.201	Emission Baseline for Alternative Control Strategies
202.210	Permit Application Information
202.211	Analysis of Emissions
202.212	Analysis of Environmental Quality
202.213	Analysis of Methods of Assuring Compliance

SUBPART C: PERMIT CONDITIONS AND ISSUANCE

Section	
202.301	Permit Conditions
202.302	Records and Reports
202.303	Monitoring and Testing
202.304	Compliance Dates

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- 202.305 Public Participation
- 202.306 Standards for Issuance
- 202.307 Notification to USEPA

SUBPART D: PERMIT DURATION, REVISION AND RENEWAL

- Section
- 202.401 Duration
- 202.402 Revision
- 202.403 Renewal

SUBPART E: ALTERNATIVE CONTROL STRATEGIES  
INVOLVING MORE THAN ONE PERSON

- Section
- 202.501 Applicability
- 202.502 Permit Application
- 202.503 Duration
- 202.504 Permit Conditions
- 202.505 Records and Reports
- 202.506 Revocation
- 202.507 Termination

- 202. ~~APPENDIX~~ ~~Appendix~~ A Pre-Codification into Codified
- 202. ~~APPENDIX~~ ~~Appendix~~ B Codified into Pre-Codification

AUTHORITY: Implementing Section 9.3 and authorized by Sections 5 and 27 of the Environmental Protection Act [415 ILCS 5/5, 9.3 and 27].

SOURCE: 35 Ill. Adm. Code 212 adopted in R81-20 (Interim) at 6 Ill. Reg. 6703, effective May 20, 1982; renumbered to 35 Ill. Adm. Code 202 and amended in R81-20(A) at 7 Ill. Reg. 8091, effective June 27, 1983; codified at 7 Ill. Reg. 13584; corrected at 7 Ill. Reg. 14561; amended in R81-20(B) at 8 Ill. Reg. 4171, effective March 16, 1984; amended in R23-18 at 47 Ill. Reg. 12101, effective July 25, 2023.

SUBPART A: GENERAL PROVISIONS

**Section 202.107 Allowable Emissions**

## POLLUTION CONTROL BOARD

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- a) "Allowable emissions" means the emission rate of an emission source calculated using the maximum rated capacity of the emission source (unless the emission source is subject to permit conditions or other enforceable limits ~~that~~which restrict the operating rate, or hours of operation, or both) and the more stringent of the following:
- 1) The applicable emission standard or limitation contained in this Chapter, including those with a future compliance date; or
  - 2) The emissions rate specified as a permit condition, including those with a future compliance date.
- b) The allowable emissions may be expressed as a permit condition limiting annual emissions or material or fuel throughput.
- ~~e) Allowable emissions shall include a reasonable estimate of emissions in excess of applicable standards during start-up, malfunction, or breakdown, as appropriate, only if the applicable provisions of 35 Ill. Adm. Code Part 201 have been complied with.~~
- ~~c~~d) If an emission source is not subject to an emission standard under subsection (a) and is not conditioned pursuant to subsection (b), the allowable emissions ~~will~~shall be the source's potential to emit.

(Source: Amended at 47 Ill. Reg. 12101, effective July 25, 2023)

## SUBPART B: PERMIT APPLICATION

**Section 202.211 Analysis of Emissions**

- a) A permit application under this Subpart ~~must~~shall provide a comparison of the baseline emissions and the emissions ~~that~~which would be permitted under the proposed ACS for each emission source involved in the ACS. Where appropriate, this analysis ~~must~~shall address differences between the emission sources to be covered by the ACS ~~regarding~~with regard to:
- 1) Methods of determining emissions;
  - 2) Consistency and reliability of the performance of the emission sources and

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any associated control devices;

- 3) Frequency and duration of operating during malfunction or breakdown with excess emissions, or ~~excess emissions~~ during start-up with excess emissions;
  - 4) Methods of operation, including operating schedules, range of raw materials or products, ~~etc.~~; and
  - 5) Other characteristics of the emission sources or their operation which may affect equivalence of emissions.
- b) The analysis ~~must~~shall describe any increases in emissions from emission sources outside the ACS which may accompany the proposed ACS.

(Source: Amended at 47 Ill. Reg. 12101, effective July 25, 2023)

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- 1) Heading of the Part: Visible and Particulate Matter Emissions
- 2) Code Citation: 35 Ill. Adm. Code 212
- 3) 

<u>Section Numbers:</u>	<u>Adopted Actions:</u>
212.124	Amendment
212.324	Amendment
- 4) Statutory Authority: Implementing Section 10 and authorized by Section 27 and 28.5 of the Environmental Protection Act [415 ILCS 5/10, 27 and 28.5].
- 5) Effective Date of Rule: July 25, 2023
- 6) Does this rulemaking contain an automatic repeal date? No
- 7) Does this rulemaking contain incorporations by reference? No
- 8) Statement of Availability: The Adopted Amendment is available on the Board's website (<https://pcb.illinois.gov/>) and are also on file and available for public inspection in the Board's Chicago office at the 60 E. Van Buren St., Suite 630, Chicago, Illinois 60605.
- 9) Notice of Proposal Published in *Illinois Register*: 46 Ill. Reg. 20644, December 30, 2022
- 10) Has JCAR issued a Statement of Objections to this rulemaking? Yes
- 11) Differences between proposal and final version:

Strike "BOARD NOTE: This Part implements the Illinois Environmental Protection Act as of July 1, 1994.

212.124 b), strike "which" and add "that", strike "pursuant to" and add "in compliance with", strike "of this Subpart".

212.124 c) 2) A), strike "part", strike "of this Part".

212.124 c) 2) B), strike "of this Part".

212.324 b), strike the comma, strike "one hour" and add "one-hour".

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212.324 c), strike "of this Section".

212.324 d), strike "of this Section" twice.

212.324 e), strike "lbs/ mmbtu" and add "lbs/MMBtu", strike "of this Section".

212.324 f), strike "of this Section", delete "must" and add "will".

212.324 g), strike the period.

212.324 g) 1), strike "of this Section".

212.324 g) 4), strike "(10)".

212.324 g) 5), "(3)", add "must" before "be available".

- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreements letter issued by JCAR? Yes
- 13) Will this rulemaking replace an emergency rule currently in effect? No
- 14) Are there any other rulemakings pending on this Part? No
- 15) Summary and Purpose of Rulemaking: This proposal amends 35 Ill. Adm. Code 201, 202, and 212 to remove provisions allowing for advance permission to continue operating during a malfunction or to violate emission limitations during start-up. The removal of the provisions is required to comply with the United States Environmental Protection Agency (USEPA) findings of deficiencies in the Illinois State Implementation Plan under the Clean Air Act (CAA) 42 U.S.C. §4701, et seq.

This proposal is intended to meet obligations of the State of Illinois under CAA and was filed pursuant to Section 28.5 of the Act (415 ILCS 5/28.5(2020)). Section 28.5 of the Act requires the Board to proceed toward adoption of the proposed regulation by meeting a series of strict deadlines.

- 16) Information and questions regarding this adopted rulemaking shall be directed to:

Clerk's Office  
Illinois Pollution Control Board

POLLUTION CONTROL BOARD

NOTICE OF ADOPTED AMENDMENTS

60 E Van Buren St., Suite 630  
Chicago, IL 60605

(312) 814-3620

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The full text of the Adopted Amendments begins on the next page:

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TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE B: AIR POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD  
SUBCHAPTER c: EMISSION STANDARDS AND LIMITATIONS  
FOR STATIONARY SOURCES

PART 212  
VISIBLE AND PARTICULATE MATTER EMISSIONS

SUBPART A: GENERAL

Section	
212.100	Scope and Organization
212.107	Measurement Method for Visible Emissions
212.108	Measurement Methods for PM-10 Emissions and Condensable PM-10 Emissions
212.109	Measurement Methods for Opacity
212.110	Measurement Methods For Particulate Matter
212.111	Abbreviations and Units
212.112	Definitions
212.113	Incorporations by Reference

SUBPART B: VISIBLE EMISSIONS

Section	
212.121	Opacity Standards (Repealed)
212.122	Visible Emissions Limitations for Certain Emission Units For Which Construction or Modification Commenced On or After April 14, 1972
212.123	Visible Emissions Limitations for All Other Emission Units
212.124	Exceptions
212.125	Determination of Violations
212.126	Adjusted Opacity Standards Procedures

SUBPART D: PARTICULATE MATTER EMISSIONS FROM INCINERATORS

Section	
212.181	Limitations for Incinerators
212.182	Aqueous Waste Incinerators
212.183	Certain Wood Waste Incinerators
212.184	Explosive Waste Incinerators

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212.185 Continuous Automatic Stoking Animal Pathological Waste Incinerators

SUBPART E: PARTICULATE MATTER EMISSIONS FROM  
FUEL COMBUSTION EMISSION UNITS

Section

- 212.201 Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972, Using Solid Fuel Exclusively Located in the Chicago Area
- 212.202 Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972, Using Solid Fuel Exclusively Located Outside the Chicago Area
- 212.203 Controlled Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972, Using Solid Fuel Exclusively
- 212.204 Emission Units For Which Construction or Modification Commenced On or After April 14, 1972, Using Solid Fuel Exclusively
- 212.205 Coal-fired Industrial Boilers For Which Construction or Modification Commenced Prior to April 14, 1972, Equipped with Flue Gas Desulfurization Systems
- 212.206 Emission Units Using Liquid Fuel Exclusively
- 212.207 Emission Units Using More Than One Type of Fuel
- 212.208 Aggregation of Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972
- 212.209 Village of Winnetka Generating Station (Repealed)
- 212.210 Emissions Limitations for Certain Fuel Combustion Emission Units Located in the Vicinity of Granite City

SUBPART K: FUGITIVE PARTICULATE MATTER

Section

- 212.301 Fugitive Particulate Matter
- 212.302 Geographical Areas of Application
- 212.304 Storage Piles
- 212.305 Conveyor Loading Operations
- 212.306 Traffic Areas
- 212.307 Materials Collected by Pollution Control Equipment
- 212.308 Spraying or Choke-Feeding Required
- 212.309 Operating Program
- 212.310 Minimum Operating Program
- 212.312 Amendment to Operating Program
- 212.313 Emission Standard for Particulate Collection Equipment

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- 212.314 Exception for Excess Wind Speed
- 212.315 Covering for Vehicles
- 212.316 Emissions Limitations for Emission Units in Certain Areas

SUBPART L: PARTICULATE MATTER EMISSIONS  
FROM PROCESS EMISSION UNITS

Section

- 212.321 Process Emission Units For Which Construction or Modification Commenced On or After April 14, 1972
- 212.322 Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972
- 212.323 Stock Piles
- 212.324 Process Emission Units in Certain Areas

SUBPART N: FOOD MANUFACTURING

Section

- 212.361 Corn Wet Milling Processes
- 212.362 Emission Units in Certain Areas

SUBPART O: PETROLEUM REFINING, PETROCHEMICAL  
AND CHEMICAL MANUFACTURING

Section

- 212.381 Catalyst Regenerators of Fluidized Catalytic Converters

SUBPART Q: STONE, CLAY, GLASS  
AND CONCRETE MANUFACTURING

Section

- 212.421 Portland Cement Processes For Which Construction or Modification Commenced On or After April 14, 1972
- 212.422 Portland Cement Manufacturing Processes
- 212.423 Emission Limits for the Portland Cement Manufacturing Plant Located in LaSalle County, South of the Illinois River
- 212.424 Fugitive Particulate Matter Control for the Portland Cement Manufacturing Plant and Associated Quarry Operations Located in LaSalle County, South of the Illinois River

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212.425 Emission Units in Certain Areas

SUBPART R: PRIMARY AND FABRICATED METAL  
PRODUCTS AND MACHINERY MANUFACTURE

Section

212.441 Steel Manufacturing Processes  
212.442 Beehive Coke Ovens  
212.443 Coke Plants  
212.444 Sinter Processes  
212.445 Blast Furnace Cast Houses  
212.446 Basic Oxygen Furnaces  
212.447 Hot Metal Desulfurization Not Located in the BOF  
212.448 Electric Arc Furnaces  
212.449 Argon-Oxygen Decarburization Vessels  
212.450 Liquid Steel Charging  
212.451 Hot Scarfing Machines  
212.452 Measurement Methods  
212.455 Highlines on Steel Mills  
212.456 Certain Small Foundries  
212.457 Certain Small Iron-Melting Air Furnaces  
212.458 Emission Units in Certain Areas

SUBPART S: AGRICULTURE

Section

212.461 Grain-Handling and Drying in General  
212.462 Grain-Handling Operations  
212.463 Grain Drying Operations  
212.464 Sources in Certain Areas

SUBPART T: CONSTRUCTION AND WOOD PRODUCTS

Section

212.681 Grinding, Woodworking, Sandblasting and Shotblasting

SUBPART U: ADDITIONAL CONTROL MEASURES

Section

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212.700	Applicability
212.701	Contingency Measure Plans, Submittal and Compliance Date
212.702	Determination of Contributing Sources
212.703	Contingency Measure Plan Elements
212.704	Implementation
212.705	Alternative Implementation
212.Appendix A	Rule into Section Table
212.Appendix B	Section into Rule Table
212.Appendix C	Past Compliance Dates
212.Illustration A	Allowable Emissions from Solid Fuel Combustion Emission Sources Outside Chicago (Repealed)
212.Illustration B	Limitations for all New Process Emission Sources (Repealed)
212.Illustration C	Limitations for all Existing Process Emission Sources (Repealed)
212.Illustration D	McCook Vicinity Map
212.Illustration E	Lake Calumet Vicinity Map
212.Illustration F	Granite City Vicinity Map

AUTHORITY: Implementing Section 10 and authorized by Sections 27 and 28.5 of the Environmental Protection Act [415 ILCS 5/10, 27 and 28.5].

SOURCE: Adopted as Chapter 2: Air Pollution, Rules 202 and 203: Visual and Particulate Emission Standards and Limitations, R71-23, 4 PCB 191, filed and effective April 14, 1972; amended in R77-15, 32 PCB 403, at 3 Ill. Reg. 5, p. 798, effective February 3, 1979; amended in R78-10, 35 PCB 347, at 3 Ill. Reg. 39, p. 184, effective September 28, 1979; amended in R78-11, 35 PCB 505, at 3 Ill. Reg. 45, p. 100, effective October 26, 1979; amended in R78-9, 38 PCB 411, at 4 Ill. Reg. 24, p. 514, effective June 4, 1980; amended in R79-11, 43 PCB 481, at 5 Ill. Reg. 11590, effective October 19, 1981; codified at 7 Ill. Reg. 13591; amended in R82-1 (Docket A) at 10 Ill. Reg. 12637, effective July 9, 1986; amended in R85-33 at 10 Ill. Reg. 18030, effective October 7, 1986; amended in R84-48 at 11 Ill. Reg. 691, effective December 18, 1986; amended in R84-42 at 11 Ill. Reg. 1410, effective December 30, 1986; amended in R82-1 (Docket B) at 12 Ill. Reg. 12492, effective July 13, 1988; amended in R91-6 at 15 Ill. Reg. 15708, effective October 4, 1991; amended in R89-7(B) at 15 Ill. Reg. 17710, effective November 26, 1991; amended in R91-22 at 16 Ill. Reg. 7880, effective May 11, 1992; amended in R91-35 at 16 Ill. Reg. 8204, effective May 15, 1992; amended in R93-30 at 18 Ill. Reg. 11587, effective July 11, 1994; amended in R96-5 at 20 Ill. Reg. 7605, effective May 22, 1996; amended in R23-18 at 47 Ill. Reg. 12107, effective July 25, 2023.

## SUBPART B: VISUAL EMISSIONS

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**Section 212.124 Exceptions**

- a) ~~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.~~
- ab) Sections 212.122 and 212.123 ~~will of this Subpart shall~~ not apply to emissions of water or water vapor from an emission unit.
- be) An emission unit ~~that~~which has obtained an adjusted opacity standard in compliance with~~pursuant to~~ Section 212.126 ~~will of this Subpart shall~~ be subject to that standard rather than the limitations of Section 212.122 or 212.123 ~~of this Subpart.~~
- cd) Compliance with the particulate regulations of this Part ~~will~~shall constitute a defense.
- 1) For all emission units ~~that~~which are not subject to Chapters 111 or 112 of the CAA and Sections 212.201, 212.202, 212.203 or 212.204 ~~of this Part~~ but ~~which~~ are subject to Sections 212.122 or 212.123 ~~of this Subpart~~: the opacity limitations of Sections 212.122 and 212.123 ~~will of this Subpart shall~~ not apply if it is shown that the emission unit was, at the time of ~~such~~ emission, in compliance with the applicable particulate emissions limitations of Subparts D through T ~~of this Part.~~
- 2) For all emission units ~~that~~which are not subject to Chapters 111 or 112 of the CAA but ~~which~~ are subject to Sections 212.201, 212.202, 212.203 or 212.204 ~~of this Part~~:
- A) An exceedance of the limitations of Section 212.122 or 212.123 ~~will of this Subpart shall~~ constitute a violation of the applicable particulate limitations of Subparts D through T ~~of this Part.~~ It ~~will~~shall be a defense to a violation of the applicable particulate limitations if, during a subsequent performance test conducted within a reasonable time not to exceed 60 days, under the same operating conditions for the unit and the control devices, and in accordance with Method 5, 40 CFR ~~part~~ 60, incorporated by reference in Section 212.113 ~~of this Part,~~ the owner or operator

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shows that the emission unit is in compliance with the particulate emission limitations.

- B) It ~~will~~shall be a defense to an exceedance of the opacity limit if, during a subsequent performance test conducted within a reasonable time not to exceed 60 days, under the same operating conditions of the emission unit and the control devices, and in accordance with Method 5, 40 CFR part 60, Appendix A, incorporated by reference in Section 212.113 ~~of this Part~~, the owner or operator shows that the emission unit is in compliance with the allowable particulate emissions limitation while, simultaneously, having visible emissions equal to or greater than the opacity exceedance as originally observed.

(Source: Amended at 47 Ill. Reg. 12107, effective July 25, 2023)

SUBPART L: PARTICULATE MATTER EMISSIONS  
FROM PROCESS EMISSION UNITS

**Section 212.324 Process Emission Units in Certain Areas**

- a) Applicability:-
- 1) This Section ~~applies~~shall apply to any process emission unit located in any of the following areas:
- A) That area bounded by lines from Universal Transmercator (UTM) coordinate 428000mE, 4631000mN, east to 435000mE, 4631000mN, south to 435000mE, 4623000mN, west to 428000mE, 4623000mN, north to 428000mE, 4631000mN, in the vicinity of McCook in Cook County, as shown in Illustration D of this Part;
- B) That area bounded by lines from Universal Transmercator (UTM) coordinate 445000mE, 4622180mN, east to 456265mE, 4622180mN, south to 456265E, 4609020N, west to 445000mE, 4609020mN, north to 445000mE, 4622180mN, in the vicinity of Lake Calumet in Cook County, as shown in Illustration E of this Part; and

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- C) That area bounded by lines from Universal Transmercator (UTM) coordinate 744000mE, 4290000mN, east to 753000mE, 4290000mN, south to 753000mE, 4283000mN, west to 744000mE, 4283000mN, north to 744000mE, 4290000mN, in the vicinity of Granite City in Madison County, as shown in Illustration F of this Part.
- 2) This Section ~~does~~shall not alter the applicability of Sections 212.321 and 212.322 ~~of this Subpart.~~
- 3) The emission limitations of this Section are not applicable to any emission unit subject to a specific emissions standard or limitation contained in any of the following Subparts ~~of this Part~~:
  - A) Subpart N, Food Manufacturing;
  - B) Subpart Q, Stone, Clay, Glass, and Concrete Manufacturing;
  - C) Subpart R, Primary and Fabricated Metal Products~~;~~ and Machinery Manufacture; and
  - D) Subpart S, Agriculture.
- b) General Emission Limitation. Except as otherwise provided in this Section, ~~no~~any person ~~must not~~shall cause or allow the emission into the atmosphere~~;~~ of PM-10 from any process emission unit to exceed 68.7 mg/scm (0.03 gr/scf) during any ~~one-hour~~one hour period.
- c) Alternative Emission Limitation. In lieu of the emission limit of 68.7 mg/scm (0.03 gr/scf) contained in subsection (b) ~~of this Section~~, ~~no~~any person ~~must not~~shall cause or allow the emissions from the following emission units to exceed the corresponding limitations ~~in the following table~~:

~~Emissions~~Emission Units

	Emissions Limit
	Metric                      English

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- |    |   |             |             |
|----|---|-------------|-------------|
| 1) | Shotblasting<br><del>emission</del> <del>emissions</del> units in the Village of McCook equipped with fabric filters as of June 1, 1991 | 22.9 mg/scm | 0.01 gr/scf |
| 2) | All process emission units at manufacturers of steel wool with soap pads located in the Village of McCook                               | 5% opacity  | 5% opacity  |
- d) Exceptions. The mass emission limits contained in subsections (b) and (c) ~~will~~~~of this Section shall~~ not apply to those emission units with no visible emissions other than fugitive particulate matter; however, if a stack test is performed, this subsection is not a defense to a finding of a violation of the mass emission limits contained in subsections (b) and (c) ~~of this Section~~.
- e) Special Emissions Limitation for Fuel-Burning Process Emission Units in the Vicinity of Granite City. ~~A~~~~No~~ person ~~must not~~~~shall~~ cause or allow emissions of PM-10 into the atmosphere to exceed 12.9 ng/J (0.03 ~~lbs/MMBtu~~~~lbs/mmBtu~~) of heat input from the burning of fuel other than natural gas at any process emission unit located in the vicinity of Granite City as defined in subsection (a)(1)(C) ~~of this Section~~.
- f) Maintenance and Repair. For any process emission unit subject to subsection (a) ~~of this Section~~, the owner or operator ~~must~~~~shall~~ maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in this Section ~~will~~~~shall~~ be met at all times. ~~This Section shall not affect the applicability of 35 Ill. Adm. Code 201.149.~~ Proper maintenance ~~must~~~~shall~~ include the following ~~minimum~~ requirements:
- 1) Visual inspections of air pollution control equipment;
  - 2) Maintenance of an adequate inventory of spare parts; and
  - 3) Expedient repairs, unless the emission unit is shutdown.
- g) Recordkeeping of Maintenance and Repair-
- 1) Written records of inventory and documentation of inspections,

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maintenance, and repairs of all air pollution control equipment ~~must~~shall be kept in ~~compliance~~accordance with subsection (f) ~~of this Section~~.

- 2) The owner or operator ~~must~~shall document any period during which any process emission unit was in operation when the air pollution control equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records ~~must~~shall include documentation of causes for pollution control equipment not operating or such malfunction and ~~shall~~ state what corrective actions were taken and what repairs were made.
  - 3) A written record of the inventory of all spare parts not readily available from local suppliers ~~must~~shall be kept and updated.
  - 4) Copies of all records required by this Section ~~must~~shall be submitted to the Agency within ten ~~(10)~~ working days after a written request by the Agency.
  - 5) The records required under this Section ~~must~~shall be kept and maintained for at least three ~~(3)~~ years and ~~must~~shall be available for inspection and copying by Agency representatives during working hours.
  - 6) Upon written request by the Agency, a report ~~must~~shall be submitted to the Agency for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made.
- h) Compliance Date. Emission units ~~must~~shall comply with the emissions limitations and recordkeeping and reporting requirements of this Section by May 11, 1993, or upon initial start-up, whichever occurs later.

(Source: Amended at 47 Ill. Reg. 12107, effective July 25, 2023)