

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

PC# 148

IN THE MATTER OF:)
)
 AMENDMENTS TO 35 ILL. ADM. CODE) R15-21
 PART 214, SULFUR LIMITATIONS, PART) (Rulemaking – Air)
 217, NITROGEN OXIDES EMISSIONS,)
 AND PART 225, CONTROL OF EMISSIONS)
 FROM LARGE COMBUSTION SOURCES)

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AUG 28 2015

STATE OF ILLINOIS
Pollution Control Board

NOTICE OF FILING



ORIGINAL

To: see attached Service List

On the 28th day of August, 2015, I filed Post-Hearing Comments on behalf of Citizens Against Ruining The Environment with the Office of the Clerk of the Illinois Pollution Control Board.

A copy of this filing is hereby served upon you.

By: Keith Harley
 Keith Harley, Chicago Legal Clinic, Inc.

Dated: August 28, 2015

Keith Harley
 Chicago Legal Clinic, Inc.
 211 West Wacker, Suite 750
 Chicago, IL 60606
 (312) 726-2938
 kharley@kentlaw.iit.edu

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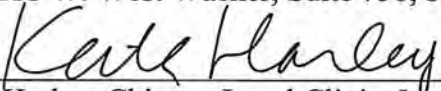
STATE OF ILLINOIS
Pollution Control Board

CERTIFICATE OF SERVICE

I, Keith Harley, the undersigned attorney, hereby certify that I served the attached document -

Post-Hearing Comments of Citizens Against Ruining the Environment

- on the following individuals by depositing it in the United States Mail, postage prepaid, from 211 W. West Wacker, Suite 750, before the hour of 5:00 p.m., on August 28, 2015.



Keith Harley, Chicago Legal Clinic, Inc.

SERVICE LIST

Daniel Robertson, Hearing Officer
Illinois Pollution Control Board
100 West Randolph, Suite 11-500
Chicago, IL 60601

John Therriault, Clerk
Illinois Pollution Control Board
100 West Randolph, Suite 11-500
Chicago, IL 60601

Dana Vetterhoffer
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Angad Nagra
Office of the Illinois Attorney General
69 West Washington, Suite 1800
Chicago, IL 60602

Matthew Dunn
Office of the Illinois Attorney General
500 South Second Street
Springfield, IL 62706

Office of Legal Services
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271

Stephen Bonebrake
Andrew Sawula
Schiff Hardin, LLP
233 South Wacker Drive, Suite 6600
Chicago, IL 60606-6473

Abby Allgire
Illinois Environmental Regulatory Group
215 East Adams Street
Springfield, IL 62701

Faith E. Bugel
1004 Mohawk
Wilmette, IL 60091

Kristen Henry
Greg Wannier
Sierra Club
85 Second Street, Second Floor
San Francisco, CA 94105

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POST-HEARING COMMENTS

These comments are submitted by Keith Harley of the Chicago Legal Clinic, Inc. on behalf of Citizens Against Ruining the Environment (“CARE”). CARE is a not-for-profit, community-based environmental organization comprised of members who live, work and/or recreate in Will County, Illinois.¹ CARE is based in Lockport, Illinois, which is within the sulfur dioxide (“SO₂”) nonattainment region which is one subject addressed by this rulemaking.

Several members of CARE testified at the July 29th public hearing. CARE subsequently requested that the Chicago Legal Clinic, Inc. submit comments on its behalf in opposition to one aspect of the Illinois EPA’s regulatory proposal, namely, the regulatory relief the Illinois EPA proposes for the Will County 4 coal-fired electric generating unit. CARE and its individual members may be submitting additional written public comments addressing other aspects of the matter now before the Illinois Pollution Control Board (“Board”).

By way of summary, CARE asserts that the Board should reject the Illinois EPA’s proposal to grant regulatory relief to Will County 4. The Illinois EPA’s proposal for Will

¹ <http://www.willcountycare.org/about-care/>

County 4 is inconsistent with clear, longstanding CPS regulatory requirements that are unit specific and permanent.² The CPS does not authorize the transfer of an exemption for the Joliet 5 unit to Will County 4 or any other unit. This is prudent because Will County 4 and Joliet 5 are not comparable units and operate in very different air quality regions. The Illinois EPA's alternative SO₂ emission standard for Will County 4 is premature and speculative. Denying the Illinois EPA's proposal for Will County 4 does not prevent the facility operator from seeking regulatory relief once additional, essential information is available.

The Illinois EPA's Proposal For Will County 4 Is Inconsistent With Clear, Longstanding
CPS Requirements That Are Unit Specific and Permanent.

The existing regulatory requirement that applies to Will County 4 is:

"Other Control Technology for SO₂." Owners and operators of specified EGUs must either permanently shut down or install FGD equipment on each specified EGU (except Joliet 5), on or before December 31, 2018, unless an earlier date is specified in subsection (a) of this Section."³

This regulatory requirement became effective on June 26, 2009, more than 6 years ago.⁴

This and related provisions could have, but did not, authorize the transfer of the Joliet 5 exemption to another unit. Instead, this existing regulatory requirement provided significant regulatory flexibility in the form of more than nine years advance notice for the owner/operator to decide the future of Will County 4, while also allowing this unit to operate without FGD equipment throughout the interim period.⁵ At the same time, this

² "CPS" refers to the Combined Pollutant Standard, 35 Ill. Adm. Code 225.291-299.

³ 35 IAC 225.296(b). Joliet 5 is also known as Joliet 6.

⁴ 33 Ill. Reg. 10427, effective June 26, 2009

⁵ See Also: 35 Ill. Adm. Code 225.291 and 225.292. The Combined Pollutant Standard was a negotiated rule that was also based on flexibility in meeting otherwise applicable mercury limits ("The purpose of Sections 225.291 through 225.299 (hereinafter referred to as the Combined Pollutant Standard ("CPS")) is to allow an alternate means of compliance with the emissions standards for mercury in Section 225.230(a)

and related provisions imposed clear requirements and action deadlines for every coal-fired unit in the Midwest Generation fleet except Joliet 5, a small unit which is not comparable to Will County 4 and which does not operate in the Lemont SO₂ nonattainment area. The CPS is clear that its requirements include requirements for *specified units*; the phrase “specified EGUs” appears three times in the purpose section of the CPS, and is repeated at least 17 times thereafter to establish requirements for individual units.⁶ Section 225.291 further indicates that the purpose of the CPS is “...to establish *permanent emission standards* for those specified EGUs.”⁷ (Emphasis added). These permanent, unit specific emission standards explicitly include the application of pollution control technology for SO₂ emissions.⁸

NRG purchased MWG’s assets including Will County 4 out of bankruptcy in 2013, meaning it had clear notice of the 2018 action deadline.⁹ As to Will County 4, it is difficult to imagine a more accommodating schedule for an operator to decide to shut down or to install FGD equipment to control SO₂ emissions from this decades-old, coal-fired unit. This lenient schedule remained in place even when the Lemont area in which Will County 4 operates was designated as nonattainment with the SO₂ national ambient air quality standard. At the same time, at the conclusion of nine years, the CPS imposed a permanent and unit specific requirement for Will County 4 – by the end of 2018, Will

for specified EGUs through permanent shut-down, installation of ACI, and the application of pollution control technology for NO_x, PM, and SO₂ emissions that also reduce mercury emissions as a co-benefit and to establish permanent emissions standards for those specified EGUs.” “As an alternative to compliance with the emissions standards of Section 225.230(a), the owner or operator of specified EGUs in the CPS located at Fisk, Crawford, Joliet, Powerton, Waukegan, and Will County power plants may elect for all of those EGUs as a group to demonstrate compliance pursuant to the CPS, which establishes control requirements and emissions standards for NO_x, PM, SO₂, and mercury.” Italics added.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ <http://www.sec.gov/Archives/edgar/data/1013871/000104746913009763/a2217051z8-k.htm>

County 4 must operate with FGD pollution control technology to control SO₂ emissions or be shut down.

Today, if Illinois EPA has its way, even 2018 is too soon. In the view of Illinois EPA, the FGD-or-shutdown deadline for Will County 4 should be...never. Instead of being required to either shut down or install FGD by the end of 2018, Will County 4 would be allowed to continue operating as a coal-fired unit indefinitely, without installing FGD, with a newly devised SO₂ emission standard. The Illinois EPA's proposal permanently eliminates an existing regulatory requirement for Will 4 to utilize FGD, and substitutes an adjusted emission standard based on averaging Will County 4's emissions with other coal-fired units in the NRG/MWG fleet which operate a great distance away from the Lemont SO₂ nonattainment area.

The CPS could have, but did not, authorize the transfer of the Joliet 5 exemption to another unit. Although the CPS includes fleet wide averaging, it also imposes permanent requirements for specific units, including Will County 4. These requirements included the installation of FGD pollution control technology to control SO₂ emissions by the end of 2018. This both-and, sequenced approach was part of the negotiated CPS rulemaking to which Illinois EPA and Midwest Generation acquiesced. As to Will County 4, the CPS imposed a permanent, unit-specific regulatory reality that now constrains NRG-MWG's choices; since 2009, the option of operating without FGD after 2018 was eliminated as an option for this unit. This regulatory reality was clear in 2009, it was clear at the time NRG purchased Midwest Generation in 2013, and it remains clear today. The Board should deny the Illinois EPA's request to relieve NRG-MWG from complying

with the longstanding, permanent and unit-specific CPS requirements for the Will County 4 unit.

Will County 4 and Joliet 5 Are Not Comparable Electric Generating Units.

The shortcomings of the Illinois EPA’s present proposal demonstrate that it was prudent to develop permanent requirements for specified EGUs, without authorizing these requirements to be transferable from one unit to another. Will County 4 and Joliet 5 (aka Joliet 6) are not comparable units. They are not equivalent in size, emissions or environmental impacts.

The nameplate rated capacity (MW) for Joliet 6 is 360.4.¹⁰ Will County 4 is a substantially larger facility, with a nameplate rated capacity of 598.4 MW.¹¹ As a larger unit, Will County 4 generates substantially greater MWHs.

Total MWHs Generated¹²

	2012	2013	2014
Joliet 6	1,104,453	1,551,159	1,302,668
Will County 4	2,364,927	2,808,873	2,917,279

Over the past three years, Will County 4 has also operated 3,491.5 more hours than Joliet 6.

Actual Operating Hours¹³

	2012	2013	2014
Joliet 6	6195.3	7923.3	5722.5
Will County 4	7774.5	8224.3	7333.8

Also over the past three years, Will County 4 has a much greater average heat rate than Joliet 6, as well as a much greater annual heat input.

¹⁰ Illinois Environmental Protection Agency’s Responses to the Board’s Third Set of Questions, August 14, 2015, p. 3.

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

Average Heat Rate (mmBtu per operating hour)¹⁴

	2012	2013	2014
Joliet 6	1,797.6	1,988.2	2,220.0
Will County 4	3,084.0	3,404.4	4,087.6

Average Heat Input (mmBtu)¹⁵

	2012	2013	2014
Joliet 6	11,136,575	15,753,074	12,703,833
Will County 4	23,976,409	27,998,597	29,977,167

Most importantly for the purposes of this matter, Will County 4 has emitted more than twice the amount of tons of SO₂ as Joliet 6 over the past three years (17,047.1 SO₂ tons for Will County 4 v. 7,823.5 SO₂ tons for Joliet 6).¹⁶

Actual Annual SO₂ Emissions In Tons Per Year¹⁷

	2012	2013	2014
Joliet 6	2,210.5	3,059.1	2,553.9
Will County 4	5,436.7	5,805.8	5,804.6

The CPS does not authorize the transfer of the Joliet 6 exemption to another unit. The prudence of this approach is apparent when applied to the facts of this case. By every empirical measure, Will County 4 is roughly equivalent to two Joliet 6-sized units. Units are not equivalent and the simplistic idea of a one-to-one correspondence is arbitrary, capricious and contrary to the manifest weight of the evidence in this present case. The concept of transferring the Joliet 6 exemption to another unit is also contrary to the plain language and legal structure of the CPS. The CPS does not contemplate that requirements may be transferred between different, disparate units. Instead, the CPS prudently imposes requirements that are unit specific, tailored and permanent. For these

¹⁴ *Id.*

¹⁵ *Id.* at 4.

¹⁶ *Id.* at 2.

¹⁷ *Id.*

reasons, the Board should not allow the CPS exemption for Joliet 6 to be transferred to Will County 4.

Will County 4 Operates In An SO₂ Nonattainment Area. Joliet 6 Does Not.

Will County 4 operates in a SO₂ nonattainment area which faces the challenge of attaining and maintaining the SO₂ NAAQS. By contrast, Joliet 6 is not in the boundaries of the Lemont (or any) SO₂ nonattainment area, and does not contribute to nonattainment in the Lemont area. Consequently, SO₂ reductions at the Joliet facility are not equal in value as reductions where Will County 4 operates. For this reason, Joliet 6 and Will County 4 are not comparable units, and the CPS exemption for Joliet 6 should not be transferred to Will County 4.

On June 2, 2011, the Illinois EPA issued its Technical Support Document: Recommended Attainment/Nonattainment Designations in Illinois for the 2010 Revised Primary 1-Hour SO₂ National Ambient Air Quality Standard.¹⁸ Based on its analysis of SO₂ monitoring data for 2008-2010, the Agency concluded that the SO₂ air quality monitor in Joliet, like fifteen other monitoring sites in Illinois, attained the revised SO₂ NAAQS “by a considerable margin”.¹⁹ The three year design value for the Joliet monitor was 37 ppb, one-half the 1-hour SO₂ standard of 75 ppb.²⁰ Just as importantly, the monitored SO₂ levels at the Joliet monitor showed significant reductions from 2008 to 2010 (56 ppb in 2008, 32 ppb in 2009 and 24 ppb in 2010).²¹

¹⁸ This document is in this rulemaking docket as Exhibit 2 attached to the Illinois EPA’s July 7, 2015 Responses to Boards Pre-Filed Questions. It is also available at:

http://www.epa.state.il.us/air/SO2recommendation_tsd_june%202011.pdf

¹⁹ *Id.* at 8, 9.

²⁰ *Id.* at 9.

²¹ *Id.*

By contrast, SO₂ levels in Lemont exceeded the NAAQS all three years (97 ppb in 2008, 114 ppb in 2009 and 90 ppb in 2010, with a corresponding design value of 100 ppb).²² In turn, Illinois EPA identified the boundaries of the area that: 1. does not meet the NAAQS, or, 2. contributes to a nearby area that does not meet the NAAQS.²³ This analysis included air quality data, emissions-related data, meteorology, geography/topography and jurisdictional boundaries.²⁴ On this basis, Illinois EPA identified the nonattainment area to include Lemont Township in Cook County and DuPage and Lockport Townships in Will County.²⁵ This area includes the Will County facility; it does not include the Joliet facility. Moreover, the Agency discounted the Joliet facility as contributing to nonattainment in Lemont. Instead, the Agency focused on three sources that operated near the Lemont air quality monitor – Oxbow Midwest Calcining, CITGO Petroleum and Midwest Generation – Will County.²⁶ The Illinois EPA concluded the following:

Based on the factors discussed above, Illinois recommends that Lemont Township in Cook County and DuPage and Lockport Townships in Will County be designated as nonattainment for the 2010 1-hour SO₂ NAAQS (see Figure 16). *The three townships contain both the violating monitor and the most culpable sources of SO₂ emissions impacting the Lemont monitor.*²⁷ (Emphasis added).

The nonattainment area does not include Joliet, where the Joliet facility operates, and the Joliet facility is not identified as a contributing source to nonattainment in Lemont. Importantly, U.S. EPA accepted Illinois EPA's recommendations, and in its own

²² *Id.*

²³ *Id.* at 5.

²⁴ *Id.* at 7,8.

²⁵ *Id.* at 26.

²⁶ *Id.* at 22-26.

²⁷ *Id.* at 26-27.

Technical Support Document directly addressed whether the Joliet facility contributed to SO₂ nonattainment in Lemont, stating:

Three of the sources in Will County are relatively close to the Lemont monitor and have sufficient emissions that Illinois recommended including the townships containing these sources in the Lemont nonattainment area. Midwest Generation's Joliet Station and the Exxon-Mobil refinery are sufficient distance and do not have sufficiently high emissions to warrant being included in this nonattainment area based on the monitored violation.²⁸

CARE asserts SO₂ reductions at the Joliet facility are not equal in value as reductions where Will County 4 operates. An exemption for controlling SO₂ emissions from the small Joliet 6 unit – which operates in an attainment area and does not contribute to nonattainment in Lemont - should not be transferable to the much larger Will County 4 unit, which operates in the Lemont nonattainment area and directly contributes to SO₂ air quality conditions. The CPS prudently mandated tailored, unit specific and permanent requirements; this rational approach is in stark contrast to the simplistic and arbitrary notion that SO₂ reductions at one unit are transferable to another unit without reference to disparities in the size of the units, the volume of their emissions or the air quality where the individual units operate.

The Proposed Alternative SO₂ Standard Based on Fleet Averaging Is Overly Speculative, and Allows Averaging With Units That Operate At a Great Distance From the Lemont SO₂ Nonattainment Area

The Agency's proposal for an alternative SO₂ emission standard for Will County 4 is speculative and premature. Until the actual effectiveness of FGD at Waukegan and

²⁸ This document does not appear to be part of the record in this case. Therefore, it is attached to these comments and marked as Exhibit One. It is also available at: http://www.epa.gov/oaqps001/sulfurdioxide/designations/eparesp/05_IL_tsd.pdf, at 6. This U.S. EPA Technical Support Document accompanied this letter: http://www.epa.gov/oaqps001/sulfurdioxide/designations/eparesp/05_IL_resp.pdf

Powerton is determined, it is not possible to determine the SO₂ limits that would apply to Will County 4 as part of a fleet-averaged emission limit or to determine how a fleet-averaged emissions rate will affect SO₂ ambient air quality conditions in the Lemont nonattainment area.

As the Agency honestly acknowledges:

There are many types of FGD equipment, with varying sulfur removal efficiencies. Assuming that the Board's inquiry relates to trona injection, there are no "typical" emission reductions levels; that analysis is unit-specific, and dependent upon the type of fuel combusted, the sulfur content of the fuel, and any other control devices being utilized by the unit.

Despite the difficulty in estimating emission reduction levels, a typical range may vary from 40% up to 80% reduction in SO₂ emissions by dry sorbent injection systems like those being installed at other Midwest Generation units.²⁹

In a previous response to Board Question 49, IEPA states that "It would be difficult to determine the precise [SO₂] emission rate at Will County 4 without the Agency's proposed amendments...the unit's emissions would be regulated by the fleet-wide average 0.11 lb/mmBtu [SO₂] emission rate in 2019, regardless of whether the unit installs FGD equipment."³⁰ One fundamental problem with this approach is that the (FGD-controlled) units that would be relevant for averaging are located in Waukegan and Powerton, and operate at a great distance from the Lemont SO₂ nonattainment area in which Will County 4 is located.³¹ Ironically, under the Agency's approach, the better controlled these distant units are, the greater the emissions that would be allowable from Will County 4. The more basic problem is that Illinois EPA is proposing an adjusted emission standard for Will County 4 without having actual emissions data to determine

²⁹ Illinois Environmental Protection Agency's Responses to the Board's Third Set of Questions, August 14, 2015, p. 5.

³⁰ *Id.* See also PC5 at 8.

³¹ The Waukegan facility is approximately 60 miles from the Will County facility. The Powerton facility is approximately 140 miles away.

this standard (it is “to be determined” based on averaging with units with actual SO₂ emissions that are also “to be determined”), and without being able to credibly determine the local impacts of the actual emissions scenario. It is a mistake for Illinois EPA to propose to exempt Will County 4 from existing CPS requirements. This mistake is only compounded by the premature and speculative adjusted emission standard the Agency puts forth. This speculative and premature alternative standard suggests the Illinois EPA is promoting the results of deal making, and has failed to undertake the kind of independent, rigorous and thorough analysis that should be part of a proposal of this gravity.

NRG-MWG Is Not Foreclosed From Seeking Regulatory Relief

The Board should deny the Illinois EPA’s regulatory relief proposal for Will County 4. It is contrary to the fixed, prudent structure of the CPS, improperly transfers an exemption between dissimilar units and substitutes an alternative emissions standard for Will County 4 which is speculative and premature. Having said this, there are still well-established ways for NRG-MWG to seek future regulatory relief using the procedures described in 35 Ill. Adm. Code 104.

Requiring NRG-MWG to adhere to the regulatory relief provisions provided by Illinois law is not prejudicial. The need for an effective variance or adjusted standard is still more than three years away. As revealed by its need for constant adjustments in the CPS it negotiated in the first instance, MWG may view the operations of Will County 4 very differently later in this 3-1/2 year period. In the meantime, Will County 4 can continue to operate under the same regulatory regime the Agency now proposes, that is, in the context of a fleet wide SO₂ average. As evidenced by its activities before this

Board, MWG is well-acquainted with the process for receiving regulatory relief from CPS and related requirements.³² Notably, the same law firm that represented MWG in the negotiated regulatory process culminating in the CPS also represented MWG in CPS adjusted standard and variance proceedings and continues to represent NRG-MWG in the present matter.

There are several information gaps in the Illinois EPA's proposal that could be filled in the meantime. These are just some of the basic questions that are still unanswered:

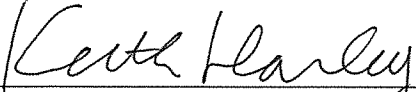
1. What is the actual SO₂ control effectiveness achieved through FGD installation at the Waukegan units?
2. What is the actual SO₂ control effectiveness achieved through FGD installation at the Powerton units?
3. In light of the actual effective rate of FGD SO₂ control at Waukegan and Powerton, what is the actual SO₂ emission standard at Will County 4 in a fleet averaged scenario?
4. How does this actual fleet averaged emission standard for Will County 4 compare to the level of control that would be achieved through the installation of FGD at Will County 4?
5. What are the actual, observed effects of the SO₂ control regimes (for both NRG-MWG and other sources) on ambient air quality conditions in the Lemont nonattainment area?
6. How do different control scenarios for Will County 4 affect compliance and maintenance with the SO₂ NAAQS in the Lemont nonattainment area?

³² Midwest Generation, LLC v. Illinois Environmental Protection Agency, PCB 13-24 (Variance – Air); Midwest Generation, LLC – Waukegan Generating Station v. Illinois Environmental Protection Agency PCB 12-121 (Variance – Air); Petition of Midwest Generation, LLC Will County Generating Station for an Adjusted Standard from 35 Ill. Adm. Code 225.230, AS-2007-04; Petition of Midwest Generation, LLC Waukegan County Generating Station for an Adjusted Standard from 35 Ill. Adm. Code 225.230, AS-2007-03

7. What are the effects of Will County 4 SO₂ emissions on human and ecological receptors located in proximity to the facility and/or its most intense pollutant deposition areas, under different control scenarios?

In addition to allowing time for the acquisition of this kind of essential information, there is another benefit from having this issue addressed through a NRG-MWG initiated regulatory relief process. In that context, Illinois EPA would retain its independence. In the present proceeding, Illinois EPA is a surrogate promoting a proposal for the benefit a regulated entity that is the true party in interest. On a fundamental level, providing regulatory relief for Will County 4 is extraneous to achieving and maintaining the SO₂ NAAQS in the Lemont area. Moreover, the CPS provided clear notice to NRG that there were regulatory limits on the choices it could make in deciding the future of Will County 4; consequently, there is no surprise, no unfairness and no hardship for NRG-MWG. Instead, Illinois EPA is promoting this regulatory relief on MWG-NRG's behalf because it is part of a deal the Agency struck with this regulated entity. For its part, CARE would recommend that any future regulatory relief process be initiated by the regulated entity, and that it include the active participation of an entirely independent, fully informed and rigorous Illinois EPA.

For the reasons described in these comments, CARE requests the Illinois Pollution Control Board to deny the Illinois EPA's request for regulatory relief for Will County 4.


Keith Harley, Chicago Legal Clinic, Inc.

Date: August 28, 2015

Keith Harley
Chicago Legal Clinic, Inc.
211 W. Wacker, Suite 750
Chicago, IL 60606
(312) 726-2938
(312) 726-5206 (fax)
kharley@kentlaw.iit.edu



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 5
 77 WEST JACKSON BOULEVARD
 CHICAGO, IL 60604-3590
FEB 06 2013

The Honorable Pat Quinn
 Governor of Illinois
 207 State House
 Springfield, Illinois 62706

REPLY TO THE ATTENTION OF:

Dear Governor Quinn:

I am writing to inform you of the U.S. Environmental Protection Agency's response to the State of Illinois' air quality designation recommendations for the 2010 revision to the primary National Ambient Air Quality Standard for sulfur dioxide (SO₂). As you may know, the Clean Air Act requires EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. Reducing SO₂ emissions is an important part of EPA's commitment to a clean, healthy environment. Exposure to SO₂ can cause a range of adverse health effects, including difficulty breathing and increased asthma symptoms.

On June 3, 2010, EPA strengthened the health-based or "primary" standard for SO₂ by establishing a standard for 1-hour average SO₂ concentrations at a level of 75 parts per billion. The Clean Air Act requires EPA to complete the initial designations process within two years of promulgating a new or revised standard. If EPA has insufficient information to make these designations, EPA has the authority to extend the designation process by up to one year. On July 27, 2012, EPA announced that it had insufficient information to complete the designations for the 1-hour SO₂ standard within two years and extended the designations deadline to June 3, 2013.

At this time, EPA is proceeding with nonattainment designations for most areas where 2009-2011 monitoring data indicate violations of the 1-hour SO₂ standard. EPA intends to address the designations for all other areas in separate future actions. After carefully considering Illinois' recommendations and the associated technical information, including air quality data from 2009-2011, EPA intends to designate the following areas, including the following counties or portions of counties, as nonattainment for the 2010 SO₂ standard:

<u>Nonattainment Area</u>	<u>County</u>
Lemont	Cook County, IL (Lemont Township) Will County, IL (DuPage and Lockport Townships)
Pekin*	Tazewell County, IL (Cincinnati and Pekin Townships) Peoria County, IL* (Hollis Township)

The asterisk (*) indicates that the boundary for this intended nonattainment area represents a modification to the boundary that the state recommended. The enclosed Technical Support Document provides a detailed analysis that supports these preliminary nonattainment area decisions.

With input from a diverse group of stakeholders, EPA has also developed a comprehensive strategy for implementing the 1-hour SO₂ standard that focuses resources on identifying and addressing unhealthy levels of SO₂. The strategy is available at: <http://www.epa.gov/airquality/sulfurdioxide/implement.html>. EPA will continue to work closely with our partners at the state, tribal, and local levels to ensure health-protective, commonsense implementation of the 1-hour SO₂ standard.

EPA will continue to work with the state regarding the appropriate boundaries for the areas in Illinois. If the state has additional information for EPA to consider, please submit it by April 8, 2013. We also will be publishing a Federal Register notice announcing a 30-day period for the public to provide input on EPA's preliminary nonattainment designation decisions. We intend to promulgate these designations for areas with monitored violations of the 2010 SO₂ standard by June 2013. We are not yet prepared to propose designations action or seek public comment on other areas.

We look forward to a continued dialogue with the state as we work to implement the 2010 primary SO₂ standard. For additional information regarding initial designations on the SO₂ standard, please visit www.epa.gov/so2designations. If you have any questions, please contact me at 312-886-3000, or your staff may contact George Czerniak, Director of EPA Region 5's Air and Radiation Division, at 312-353-2212 or czerniak.george@epa.gov.

Sincerely,



Susan Hedman
Regional Administrator

Enclosure

cc: John J. Kim
Director, Illinois Environmental Protection Agency

Laurel Kroack
Chief, Bureau of Air,
Illinois Environmental Protection Agency

Draft Technical Support Document

Illinois Area Designations For the 2010 SO₂ Primary National Ambient Air Quality Standard

Summary

Pursuant to section 107(d) of the Clean Air Act, EPA must initially designate areas as either “unclassifiable”, “attainment”, or “nonattainment” for the 2010 one-hour sulfur dioxide (SO₂) primary national ambient air quality standard (NAAQS). The Clean Air Act defines a nonattainment area as one that does not meet the NAAQS or that contributes to a violation in a nearby area.

Illinois submitted recommendations on June 2, 2011. Table 1 below lists Illinois’s recommendations and identifies the counties or portions of counties in Illinois that EPA intends to designate “nonattainment” based on monitored violations.

Table 1. Nonattainment Area Designations for Illinois

Area	Illinois Recommended Designation of Areas/ Counties	EPA's Intended Designation of Areas/ Counties
Pekin, IL Tazewell County (partial) - Cincinnati Township, - Pekin Township Peoria County (partial) - Hollis Township	Nonattainment Unclassifiable	Nonattainment Nonattainment
Lemont, IL Cook County (partial) - Lemont Township Will County (partial) - Dupage Township - Lockport Township	Nonattainment Nonattainment	Nonattainment Nonattainment

Background

On June 3, 2010, EPA revised the primary SO₂ NAAQS (75 FR 35520, published on June 22, 2010). EPA revised the primary SO₂ standard by establishing a new one-hour standard at a level of 75 parts per billion (ppb) which is attained when the three-year average of the 99th percentile of one-hour daily maximum concentrations does not exceed 75 ppb. EPA has determined that this is the level necessary to provide protection of public health with an adequate margin of safety, especially for children, the elderly and those with asthma. These groups are particularly susceptible to the health effects associated with breathing SO₂. EPA is revoking the two prior primary standards of 140 ppb evaluated over 24 hours, and 30 ppb evaluated over an entire year because they will not add additional public health protection given a one-hour standard at 75 ppb. Accordingly, EPA is not designating areas in this process on the basis of either of these two primary standards. Similarly, the secondary standard for SO₂ has not been revised, so EPA is not designating areas in this process on the basis of the secondary standard.

EPA's SO₂ Designation Approach

Section 107(d) of the Clean Air Act requires that not later than one year after promulgation of a new or revised NAAQS, state Governors must submit their recommendations for designations and boundaries to EPA by June 2011. Section 107(d) also requires EPA to provide notification to states no less than 120-days prior to promulgating an initial area designation that is a modification of a state's recommendation. EPA was to promulgate initial area designations within two years of promulgation of the revised primary standard, although EPA has extended this deadline for one additional year due to having insufficient information to promulgate the designations. If a state did not submit designation recommendations, EPA will promulgate the designations that it deems appropriate. If a state or tribe disagrees with EPA's intended designations, they have an opportunity to demonstrate why any proposed modification is inappropriate.

Designations guidance was issued by EPA through a March 24, 2011, memorandum from Stephen D. Page, Director, U.S. EPA, Office of Air Quality Planning and Standards, to Air Division Directors, U.S. EPA Regions I-X. This memorandum identifies factors EPA intends to evaluate in determining boundaries for areas designated nonattainment. These five factors include: 1) air quality data; 2) emissions and emissions-related data (location of sources and potential contribution to ambient SO₂ concentrations); 3) meteorology (weather/transport patterns); 4) geography/topography (mountain ranges or other air basin boundaries); and 5) jurisdictional boundaries (e.g., counties, air districts, pre-existing nonattainment areas, reservations, metropolitan planning organization), among any other criteria deemed to be relevant to establishing appropriate area designations and boundaries for the one-hour SO₂ NAAQS.

The March 24, 2011, memo recommended that area boundaries default to the county boundary unless information provided by the state or tribe justifies a larger or smaller boundary than that of the county. EPA believes it is appropriate to evaluate each potential area on a case-by-case basis, and to recognize that area-specific analyses conducted by states, tribes and/or EPA may support a differing boundary than a county boundary.

In this technical support document, EPA discusses its review and technical analysis of the recommendations regarding areas with monitored violations submitted by Illinois for designations for the one-hour SO₂ standard and any modifications from these recommendations.

Definition of important terms used in this document:

- 1) **Designated nonattainment area** – an area which EPA has determined, based on a state recommendation and/or on the technical analysis included in this document, has violated the 2010 SO₂ NAAQS, based on the most recent three years of air quality monitoring data, or contributes to a violation in a nearby area.
- 2) **Recommended nonattainment area** – an area a state or tribe has recommended that EPA designate as nonattainment.
- 3) **Violating monitor** – an ambient air monitor meeting all methods, quality assurance and siting criteria and requirements whose valid design value exceeds 75 ppb, as described in Appendix T of 40 CFR part 50.
- 4) **2010 SO₂ NAAQS** – The NAAQS for SO₂ promulgated in 2010. This NAAQS is 75 ppb, based on the three year average of the 99th percentile of the annual distribution of daily maximum one-hour average concentrations. See 40 CFR Part 50.17.
- 5) **Design Value** - a statistic computed according to the data handling procedures of the NAAQS (in 40 CFR 50 Appendix T) that, by comparison to the level of the NAAQS, indicates whether the area is violating the NAAQS.

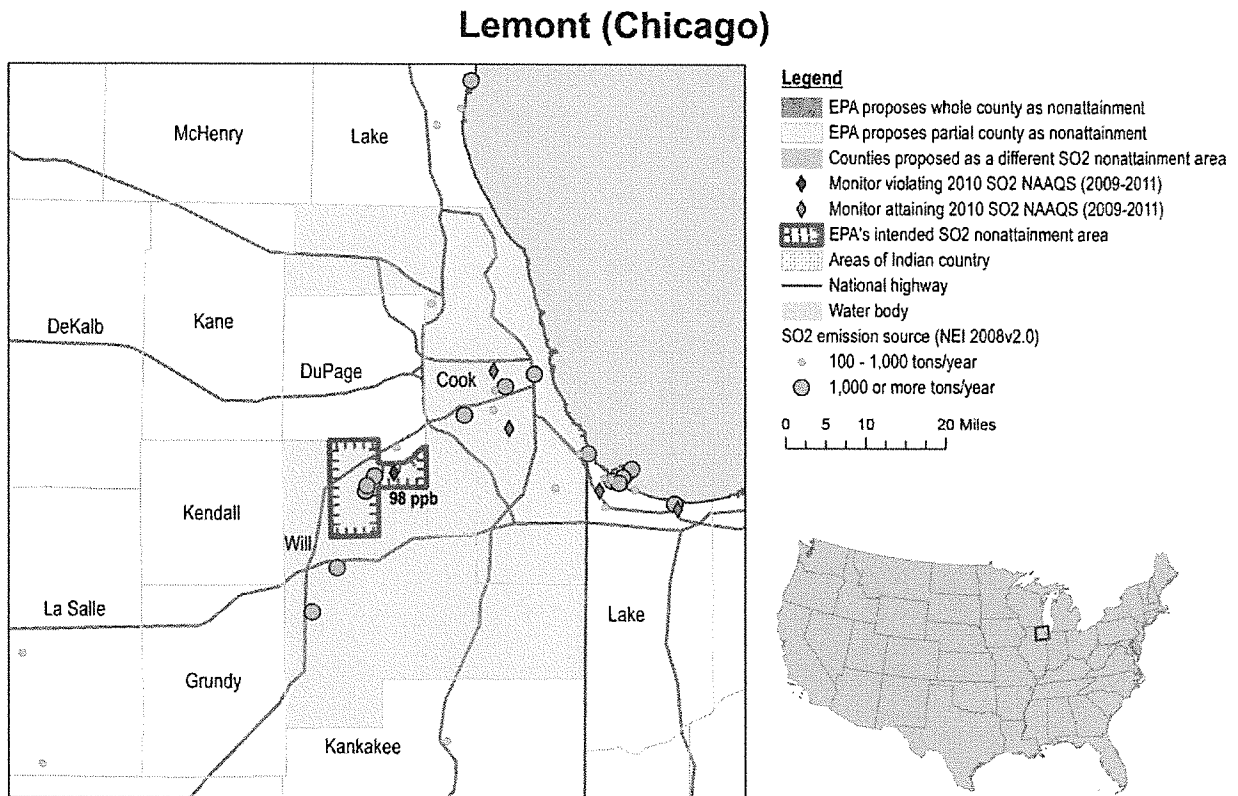
Technical analysis for the Lemont, IL Area

Introduction

This technical analysis for the Lemont, IL area identifies Cook County with a monitor, in Lemont, that violates the 2010 SO₂ NAAQS, and evaluates nearby counties for contributions to SO₂ concentrations in the area. EPA has evaluated this county and nearby counties based on the evidence for the factors recommended in the March 24, 2011 EPA guidance.

Figure 1 is a map of the area showing the locations and design values of air quality monitors in the area, and the counties surrounding any violating air quality monitors. Notably, a monitor in Lemont Township in Cook County recorded a 2009 to 2011 design value of 98 ppb. Multiple other monitors in Cook County and a monitor in Will County showed design values below the standard, with values ranging from 18 to 30 ppb.

Figure 1. Map of sources and monitors in the Chicago area and the intended Lemont, IL nonattainment area



Illinois analyzed the sources that might be contributing to the monitored violation in Lemont. Based on this assessment, Illinois recommends that an area consisting of DuPage and Lockport Townships in Will County and Lemont Township in Cook County be designated as nonattainment. This recommendation reflects Illinois' view that no significant sources are located in Cook County near Lemont but that three significant sources are located nearby in Will County.

Based on EPA's technical analysis described below, EPA is intending to designate a Lemont nonattainment area consisting of Lemont Township in Cook County and DuPage and Lockport Townships in Will County as nonattainment for the 2010 SO₂ NAAQS.

Detailed Assessment

Air Quality Data

This factor considers the SO₂ air quality monitoring data, including the design values (in ppb) calculated for all air quality monitors in the Chicago metropolitan area based on data for the 2009-2011 period.

The 2010 SO₂ NAAQS design values for the Chicago area within Illinois are shown in Table 2.

Table 2. Air Quality Data in the Chicago Area

County	State Recommended Nonattainment?	Monitor Air Quality System ID	Monitor Location	SO ₂ Design Value, 2009-2011 (ppb)
Cook	No	17-031-0050	41.7076, 87.5686	20
	No	17-031-0063	41.877, 87.6343	18
	No	17-031-0076	41.7514, 87.7135	24
	Yes	17-031-1601	41.6681, 87.9906	98
	No	17-031-4002	41.8552, 87.7525	30
	No	17-031-4201	42.1400, 87.7992	18*
Will	No	17-197-0013	41.46, 88.182	28

*Data are incomplete. Value is determined from available data for instrument identified as POC 2. Monitors in Bold have the highest 2009-2011 design value in the respective county.

The Lemont monitor in Cook County shows a violation of the 2010 SO₂ NAAQS.

Emissions and Emissions-Related Data

Evidence of SO₂ emissions sources in the vicinity of a violating monitor is an important factor for determining whether a nearby area is contributing to a monitored violation. For this factor, EPA evaluated county level emission data for SO₂ and any growth in SO₂ emitting activities since the date represented by those emissions data.

Emissions

The most recent year for which national emissions information was compiled was 2008. Illinois did not provide more recent emissions information. Therefore, EPA relied on the 2008 National Emissions Inventory (NEI) emissions data (NEI08V2).

Table 3 shows total emissions of SO₂ (given in tons per year) for Cook County and for adjoining Will County. Table 3 also shows pertinent information for sources in these counties emitting greater than 100 tons per year of SO₂ according to the 2008 NEI.

Table 3. SO₂ Emissions in the Chicago Area (NEI08V2)

County	Facility in State Recommended N.A. Area?	Facility	Emissions NEI08V15 (tons per year)	Facility Location	Distance to Lemont Monitor (km)	Total County SO ₂ Emissions (tons per year)
Cook	No	Crawford Station	6,627 tpy	41.8278, 87.7236	28	20,562
	No	Fisk Station	4,486 tpy	41.8408, 87.6533	34	
	No	Corn Products	2,203 tpy	41.7751, 87.8224	18	
	No	Koppers	823 tpy	41.8206, 87.7487	26	
	No	O'Hare Airport	511 tpy	41.9772, 87.9044	35	
	No	Saint-Gobain Containers	345 tpy	41.6439, 87.6003	32	
	No	Carmeuse Lime	321 tpy	41.7056, 87.5438	37	
	No	Midway Airport	114 tpy	41.785, 87.7519	24	
Will	No	MWG Joliet Station	18,281 tpy	41.4947, 88.125	22	64,126
	Yes	MWG Will County Station	16,497 tpy	41.6344, 88.0592	7	
	No	Exxon Mobil	16,404 tpy	41.4138, 88.1835	33	
	Yes	Oxbow Midwest Calcining	6,205 tpy	41.6622, 88.0379	4	
	Yes	CITGO Petroleum	6,137 tpy	41.6444, 88.0559	6	

The sources in Cook County are at considerable distances from the violating monitor. For example, the closest source is Corn Products Corporation, at about 18 kilometers from the monitor, with emissions of about 2,300 tons per year, and the highest emitting source in Cook County, Midwest Generation's Crawford Station, is about 28 kilometers away, emitting about 6,600 tons per year. These sources are at sufficient distance from the monitor, with sufficiently low emissions, for EPA to judge, as recommended by Illinois, that these sources do not contribute significantly to the monitored violation at the Lemont monitor.

Three of the sources in Will County are relatively close to the Lemont monitor and have sufficient emissions that Illinois recommended including the townships containing these sources in the Lemont nonattainment area. Midwest Generation's Joliet Station and the Exxon-Mobil refinery are sufficient distance and do not have sufficiently high emissions to warrant being included in this nonattainment area based on the monitored violation.

Emissions Controls

The emissions data used by EPA in this technical analysis and provided in Table 3 represent emissions levels taking into account any control strategies implemented on stationary sources in this area up to and including 2008. EPA has not received any additional information on emissions reductions resulting from controls put into place after 2008.

Meteorology (weather/transport patterns)

When considering a one-hour standard, violations can occur at anytime, even when weather patterns are varied from the normal trends of the area. For this area, winds can be from any direction. Therefore, for a one-hour standard, it is useful to consider all directions to have potential contribution. Nevertheless, according to wind information provided with Illinois' recommendations, winds in this area come from the west and southwest more frequently than from other quadrants, particularly when concentrations are high at the Lemont monitor, so sources to the west and southwest of the Lemont monitor are most likely to contribute to violations at this monitor.

Geography/topography (mountain ranges or other air basin boundaries)

The Chicago area does not have any geographical or topographical barriers significantly limiting air pollution transport within its airshed. Therefore, this factor did not play a significant role in determining the nonattainment boundary.

Jurisdictional boundaries

Illinois does not have any current SO₂ nonattainment areas. Townships in Illinois have well established boundaries and are a suitable basis for defining nonattainment areas.

Other Relevant Information

EPA did not receive additional information relevant to establishing a nonattainment area boundary for this area.

Conclusion

Illinois has adequately justified a nonattainment area, based on the violating monitor in Cook County, that includes the township that contains the monitoring site and two townships in Will County, DuPage and Lockport Townships, that are judged to contribute to the monitored violation. In judging the area to be included in the Lemont nonattainment area based on the violation recorded at the Lemont monitor, EPA judged that sources in Cook County outside Lemont Township, as well as the Midwest Generation Joliet plant and the Exxon-Mobil refinery in Will County, are sufficiently distant from the violating monitor to warrant being excluded from this nonattainment area.

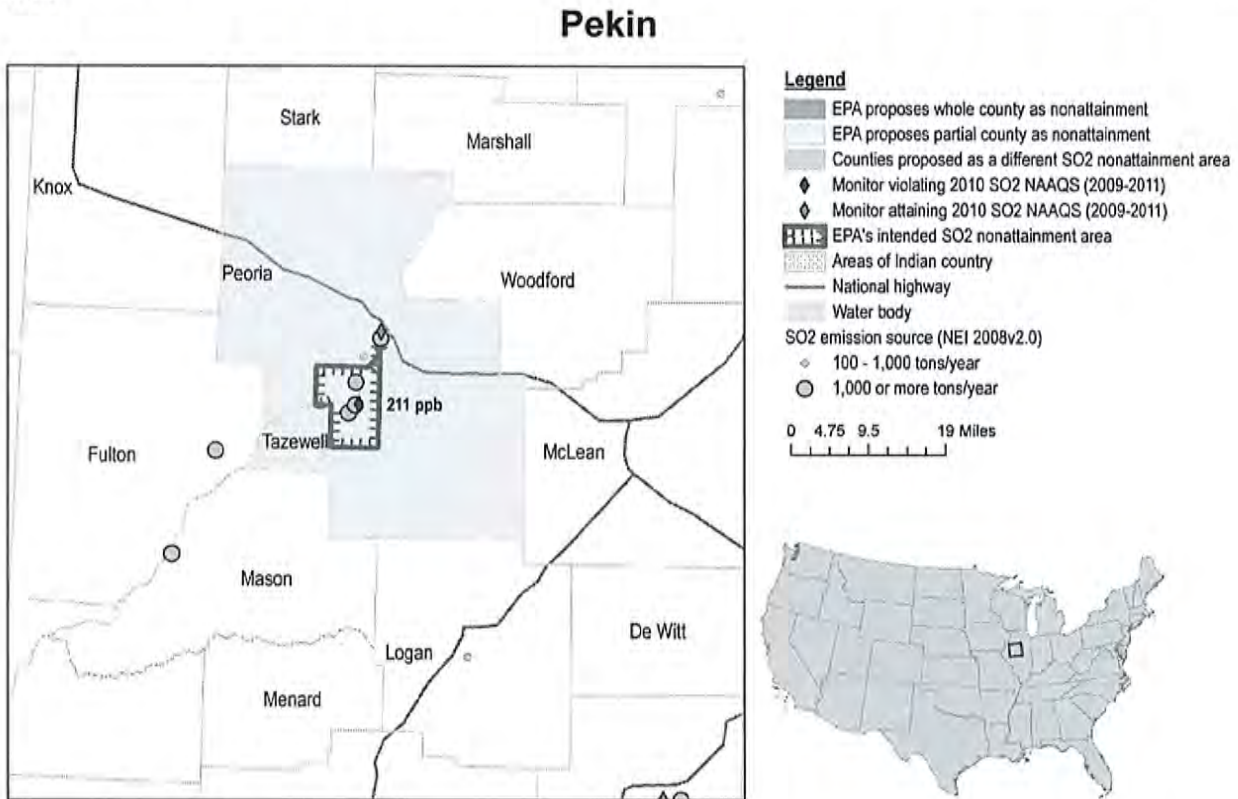
Technical analysis for the Pekin, IL Area

Introduction

This technical analysis for the Pekin, IL area identifies a Tazewell County monitor that violates the 2010 SO₂ NAAQS. EPA has evaluated this county and nearby counties based on the evidence for the factors recommended in the March 24, 2011 EPA guidance.

Figure 2 is a map of the area showing the location and the design value of the air quality monitor in the area, and the counties surrounding this air quality monitor. The monitor in Pekin (Tazewell County) recorded a 2009 to 2011 design value of 211 ppb. A monitor in Peoria County recorded a 2009 to 2011 design value of 36 ppb, based on incomplete data. No other SO₂ monitor is located in these or any neighboring counties.

Figure 2. Map of sources, monitors, and intended nonattainment area boundaries in the Pekin, IL area



Illinois analyzed the sources that might be contributing to the monitored violation in Pekin. Based on this assessment, Illinois recommended that an area consisting of Cincinnati and Pekin Townships in Tazewell County be designated as nonattainment.

EPA believes that Hollis Township in Peoria County also contributes to the violation monitored in Tazewell County. E.D. Edwards Station, a power plant operated by Ameren, is located in this

township. This source emits approximately 11,000 tons of SO₂ per year, in a location that is about 4.5 kilometers in a direction that is periodically upwind of the Pekin monitor.

Based on EPA's technical analysis described below, and based on a monitored violation, EPA is intending initially to designate a Pekin nonattainment area consisting of Cincinnati and Pekin Townships in Tazewell County and Hollis Township in Peoria.

Detailed Assessment

Air Quality Data

This factor considers the SO₂ air quality monitoring data, including the design value (in ppb) calculated for the air quality monitor in Tazewell County based on data for the 2009-2011 period. The only other monitor in this part of Illinois is located in Peoria County. The 2010 SO₂ NAAQS design values for the Tazewell and Peoria County monitors are shown in Table 4.

Table 4. Air Quality Data in the Pekin Area

County	State Recommended Nonattainment?	Monitor Air Quality System ID	Monitor Location	SO ₂ Design Value, 2009-2011 (ppb)
Peoria	No	17-143-0024	40.6874, 89.6069	36
Tazewell	Yes	17-179-0004	40.5565, 89.654	211

The Tazewell County monitor shows a violation of the 2010 SO₂ NAAQS. Therefore, some area in this county and possibly additional areas in surrounding counties must be designated nonattainment. The absence of a violating monitor alone is not a sufficient reason to eliminate nearby counties as candidates for nonattainment status.

Emissions and Emissions-Related Data

Evidence of SO₂ emissions sources in the vicinity of a violating monitor is an important factor for determining whether a nearby area is contributing to a monitored violation. For this factor, EPA evaluated county level emission data for SO₂ and any growth in SO₂ emitting activities since the date represented by those emissions data.

Emissions

The most recent year for which national emissions information was compiled was 2008. Illinois reported data indicating that emissions from pertinent sources in 2007 and 2009 were similar to emissions in 2008. Therefore, EPA relied on the 2008 National Emissions Inventory (NEI) emissions data (NEI08V2).

Table 5 shows total emissions of SO₂ (given in tons per year) for Tazewell County and for adjoining Peoria County. Table 5 also shows pertinent information for sources in these counties emitting greater than 100 tons per year of SO₂ according to the 2008 NEI.

Table 5. SO₂ Emissions in the Pekin Area (NEI08V2)

County	Facility Located in State Recommended Nonattainment Area?	Facility – Total SO ₂ Air Emissions NEI08V2 (tons per year)	Facility Location	Distance to Pekin Monitor (km)	Total County SO ₂ Emissions (tons per year)
Peoria	No*	Ameren – E.D. Edwards Stn – 11,224 tpy	40.5958, 89.6631	4	14,677
	No	ADM – 3049 tpy	40.6756, 89.6073	14	
	No	Keystone Steel & Wire – 138 tpy	40.6420, 89.6467	10	
Tazewell	Yes	MWG – Powerton Stn. – 22,355 tpy	40.5408, 89.6786	3	34,415
	Yes	Aventine Renewable Energy – 11,830 tpy	40.5553, 89.6629	1	

*This source is included in the nonattainment area that EPA intends to promulgate

The two significant sources in Tazewell County are located in Cincinnati and Pekin Townships, respectively, which Illinois has recommended including in the Pekin nonattainment area. Illinois does not recommend including any of Peoria County in this nonattainment area. However, EPA finds that Ameren’s E.D. Edwards power plant is only 4 kilometers from the monitor and has significant emissions with potential to have significant impact on concentrations at the monitor. This source is located in Hollis Township, and so this township warrants being considered an area that contributes to the violation measured in Pekin.

Emissions Controls

The emissions data used by EPA in this technical analysis and provided in Table 5 represent emissions levels taking into account any control strategies implemented on stationary sources in this area up to and including 2008. EPA has not received any additional information on emissions reductions resulting from controls put into place after 2008.

Meteorology (weather/transport patterns)

When considering a one-hour standard, violations can occur at anytime, even when weather patterns are varied from the normal trends of the area. For this area, wind patterns can be from any direction. Therefore, for a one-hour standard, it is useful to consider all directions to have potential contribution. The wind rose provided by Illinois suggests that winds come most frequently from the south, and somewhat frequently from the northwest, but winds come from all directions with sufficient frequency to suggest that meteorology is not a significant factor in defining this nonattainment area.

Geography/topography (mountain ranges or other air basin boundaries)

The Pekin area does not have any geographical or topographical barriers significantly limiting air pollution transport within its airshed. Therefore, this factor did not play a significant role in determining the nonattainment boundary.

Jurisdictional boundaries

Illinois does not have any current SO₂ nonattainment areas. Townships in Illinois have well established boundaries and are a suitable basis for defining nonattainment areas.

Other Relevant Information

EPA did not receive additional information relevant to establishing a nonattainment area boundary for this area.

Conclusion

Illinois' recommendation to define the Pekin, IL nonattainment area to include Cincinnati and Pekin Townships of Tazewell County appropriately includes the portions of Tazewell County that are contributing to the measured violation and the area known to be violating the standard. However, EPA believes that the initial nonattainment area based on monitored violations should also include Hollis Township in Peoria County, which includes Ameren's E.D. Edwards Station. This source has substantial emissions relatively close to the monitor measuring a violation. Therefore, EPA believes that Hollis Township of Peoria County warrants inclusion in the Pekin nonattainment area. Thus, after considering the factors described above, EPA intends initially to designate an area that includes Cincinnati and Pekin Townships in Tazewell County and Hollis Township in Peoria County as the Pekin, IL nonattainment area for the 2010 SO₂ NAAQS.