BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

MIDWEST GENERATION, LLC Petitioner, v. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)))))))))	PCB 2013-024 (Variance - Air)

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NOTICE OF ELECTRONIC FILING

To: Attached Service List

PLEASE TAKE NOTICE that on February 18, 2013, I electronically filed with the Clerk of the Illinois Pollution Control Board of the State of Illinois POST-HEARING COMMENTS on behalf of Citizens Against Ruining the Environment, Environmental Law and Policy Center, Natural Resources Defense Council, Respiratory Health Association, and Sierra Club, a copy of which is attached hereto and herewith served upon you.

Respectfully submitted,

Faith E. Bugel

Faith Bugel
Senior Attorney
Environmental Law and Policy Center
35 East Wacker Drive, Suite 1600
Chicago, IL 60601
312-795-3708

Dated: February 18, 2013

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

MIDWEST GENERATION, LLC,	)	
	)	
Petitioner,	)	PCB 2013-024
	)	(Variance - Air)
v.	)	
	)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
	)	
Respondent.	)	

POST-HEARING COMMENTS OF CITIZENS AGAINST RUINING THE ENVIRONMENT, ENVIRONMENTAL LAW & POLICY CENTER, NATURAL RESOURCES DEFENSE COUNCIL, RESPIRATORY HEALTH ASSOCIATION, AND SIERRA CLUB

Pursuant to 35 Ill. Adm. Code 104.224(d), Citizens Against Ruining the Environment, Environmental Law & Policy Center, Natural Resources Defense Council, Respiratory Health Association, and Sierra Club (collectively, "Citizens Groups") submit the following comments on the Petition for Variance ("the Petition") filed by Midwest Generation, LLC ("MWGen" or "the Company") with the Pollution Control Board ("Board") on November 30, 2012.

The Board should deny MWGen's Petition for a variance from the Combined Pollutant Standard ("CPS"). MWGen's Petition and answers to Board questions clearly demonstrate that MWGen lacks a legally sufficient compliance plan. This is the second time in less than a year that MWGen has come before this Board seeking a variance from the CPS. Even now, though, MWGen is unable to explain how it will manage its fleet of aging, uneconomical coal plants to comply with the CPS' annual system-wide sulfur dioxide ("SO_2") emission rate by the end of its proposed variance in 2017. Instead, MWGen offers only interim SO_2 emission limits for 2013 through 2016—limits that actually would allow MWGen to increase its SO_2 emissions from

2012 to 2013, and that include a 2016 emission rate much higher than the 2017 CPS rate. If the Board grants this Petition, MWGen's elevated SO_2 emissions will continue to cause and contribute to existing State air quality problems.

I. The Board Should Deny the Petition Because MWGen Refuses to Provide a Detailed Compliance Plan.

MWGen's proposal continues to lack a legally sufficient compliance plan. A central principle of Illinois' variance process is that the purpose of a variance is for temporary, not permanent, relief from a Board regulation. *Monsanto Co. v. IPCB*, 67 Ill.2d 276, 286, 367 N.E.2d 684, 688 (1977); *City of Mendota v. IPCB*, 161 Ill. App. 3d 203, 212-13, 514 N.E.2d 218, 224 (3d Dist. 1987). A petitioner for a variance accordingly is required, as a condition to the grant of a variance, to commit to a plan that is reasonably calculated to achieve compliance within the variance's term. *City of Mendota*, 161 Ill. App. 3d at 212-13, 514 N.E.2d at 224. Indeed, in one of its earliest decisions, the Board called a "firm and adequate" compliance plan "[t]he essence of a variance." *Metropolitan Sanitary Dist. of Greater Chicago v. IEPA*, PCB 71-183, slip op. at 3-58—3-59 (Nov. 11, 1971) (citations omitted). Since then, the Board has maintained that position, and repeatedly rejected proposed variances because they lacked detailed compliance plans. *See, e.g., Exelon Generation LLC (Quad Cities Nuclear Generation Station) v. IEPA*, PCB 13-3, slip op. at 5 (Feb. 7, 2013); *City of Streator v. IEPA*, PCB 02-04, slip op. at 1 (Aug. 9, 2001); *Ecko Glaco Corp. v. IEPA*, 186 Ill. App. 3d 141, 150, 542 N.E.2d 147, 153-54 (1st Dist. 1989) (affirming *Ecko Glaco Corp. v. IEPA*, PCB 87-41 (Dec. 17, 1987)); *Container Corp. of America v. IEPA*, PCB 87-183, slip op. at 5-6 (July 27, 1989).

The Board's authority to require a detailed compliance plan is grounded in both the Illinois Environmental Protection Act ("Act") and Board regulations. Section 36(a) of the Act

provides that: "In granting a variance the Board may impose such conditions as the policies of this Act may require." 415 ILCS 5/36(a). One such condition that the Board has formalized in its regulations is that the petitioner for a variance include a "detailed description of the compliance plan." 35 Ill. Adm. Code 104.204(f). The compliance plan must include:

> 1) A discussion of the proposed equipment or proposed method of control to be undertaken to achieve full compliance with the regulation, requirement, or order of the Board;
>
> 2) A time schedule for the implementation of all phases of the control program from initiation of design to program completion; and
>
> 3) The estimated costs involved for each phase and the total cost to achieve compliance.

Id.

Agreeing to a detailed and enforceable compliance plan is the cost of obtaining the regulatory relief afforded by a variance. Just months ago, the Board made clear the level of detail it expected in a compliance plan for a variance from system-wide SO_2 emission rates in the CPS' companion regulation, the Multi-Pollutant Standard ("MPS"). In *Ameren Energy Resources v. IEPA*, PCB 12-126, slip op. at 66 (Sept. 20, 2012), the Board held that Ameren's proposed compliance plan was inadequate because it did not lay out "a specific time schedule for implementation of all phases" of the work that would be necessary to bring Ameren into compliance with the SO_2 emission rate applicable at the end of the variance term. Ameren had committed to complete a flue gas desulfurization ("FGD") scrubber project at its Newton plant that purportedly would bring its fleet into compliance. However, the Board found that first level of detail—a commitment to install specific pollution controls on specific units, by a certain date—was not by itself sufficient. The Board held that Ameren's plan also must include "specific dates to demonstrate progress toward achieving compliance with the applicable

requirements." *Id.* These included date-certain deadlines for the completion of various phases of work on the Newton FGD project, including 1) the completion of engineering work; 2) the obtaining of necessary construction permits; 3) the construction of an absorber building; 4) the completion of ductwork and insulation activities; 5) the installation of electrical systems and piping; and 6) the setting of major equipment into final position. *Id.* at 69. In short, the Board required Ameren to commit to a detailed, step-by-step plan to come into compliance (installation of the Newton FGD system) and established deadlines for the implementation of each step of that plan.

In this case, MWGen's compliance plan has not even provided a level of detail equivalent to that which the Board deemed insufficient in the context of Ameren's plan: a commitment to install specific pollution controls on specific units, by a certain date. Instead, MWGen has declined the Board's requests for a detailed compliance plan, asserting that the Board has no authority to ask for one. *See* MWGen's Responses to the Board's Questions for Petitioner at 4 ("To the extent the Board's question was intended to suggest that specific unit-by-unit control plans should be placed in an enforceable compliance plan, Midwest Generation respectfully submits that doing so would be inconsistent with the CPS and would deprive Midwest Generation of necessary flexibility."); Transcript of Jan. 29, 2013 Hearing at 87 (MWGen President Doug Halloran asserting that "to lay out a blueprint unit by unit now, other than the units that are already required of the CPS, robs us of that very flexibility that has been a core component from the start.").

MWGen's contention that it should be allowed the "flexibility" offered by the CPS in determining how to meet system-wide SO_2 rates is without merit. MWGen is not seeking to comply with the CPS; it is seeking regulatory relief from the CPS, and a well-established

requirement to obtain that relief is that MWGen must provide a detailed compliance plan of how it will come back within the terms of the regulation. Yet MWGen's proposed "plan" does not come close to meeting the required level of specificity. Contrary to 35 Ill. Adm. Code 104.204(f), MWGen does not commit to perform, or even describe, the activities by which it will meet the CPS' required 2017 system-wide SO_2 emission limit of 0.15 lbs/mmBtu by the end of its variance. Instead, MWGen in its Petition simply proposes to meet alternate emission rates and mass emission limits for 2013-2016, concluding with a 2016 emission rate of 0.38 lbs/mmBtu that is well above the 2017 emission limit. Petition at 52-54. To achieve the 2017 emission rate would thus require a significant installation of pollution controls and reduction in emissions by the Company. MWGen's subsequent concession of "accept[ing]" additional reporting requirements does nothing to provide any more certainty of how MWGen expects to come into compliance. *See* MWGen's Responses to Board's Questions for Petitioner at 18.[1]

A detailed compliance plan is particularly necessary here because of the uncertainty surrounding MWGen's fleet—an uncertainty that MWGen itself has perpetuated. This is MWGen's second request for a variance from the CPS within the past year. *See Midwest Generation, LLC—Waukegan Generating Station v. IEPA*, PCB 12-121 (*filed* Apr. 10, 2012). There is no reason MWGen could not have sought this relief in its filing seven months prior to this Petition. After filing its Petition with the Board, MWGen filed for Chapter 11 bankruptcy, and that proceeding is still pending. *In re Edison Mission Energy et al.*, No. 12-49219 (Bankr. N.D. Ill., *filed* Dec. 17, 2012). MWGen refuses to provide the Board with details of how the

[1] Indeed, it is unclear how MWGen will comply even with its proposed 2015 and 2016 mass emission limits, MWGen's calculations show that, to meet the 2016 mass emission limit at the proposed alternate emission rate of 0.38 lbs/mmBtu, MWGen would have to reduce its annual heat input by about 65 million Btu from 2013 levels. *See id.*, Ex. 10, "SO2 CPS Baseline," Columns O and R, Line 23. This heat input reduction would be the equivalent of closing a quarter of MWGen's fleet. MWGen does not explain how it will meet the 2015 and 2016 emission limits, let alone commit to the actions that would make compliance possible.

bankruptcy proceeding could impact its ability to manage its fleet going forward. As Fred McCluskey, MWGen's Vice President of Technical Services, testified: "given our bankruptcy and our discussions with both unsecured creditors and loan holders, we have significant limitations as to the information that that we can provide on the decisions that we have pending for future investments and what the likelihood of those outcomes may be." (Transcript of Jan. 29, 2013 Hearing at 77-78).

Elsewhere, though, MWGen President Doug McFarlan has made clear that it is possible MWGen will sell one or more of its plants. John Egan, *Midwest Generation Ponders Retrofit vs. Retire Decision for Four Illinois Merchant Generators,* INDUSTRIAL INFO RESOURCES (Oct. 2, 2012), attached here to as Exhibit A ("As we look to restructure our debt, selling assets is always an option."). An asset sale could mean new, adequately capitalized, owners that can afford to install pollution controls on the schedule required by the CPS. While MWGen paints a stark picture of two choices— variance, on MWGen's terms, with no details of a compliance plan, or retiring plants— it neglects the third option, of sale. Notably, any variance that the Board might grant MWGen would not be transferrable to a third party. *The Ensign-Bickford Co. v. IEPA*, PCB 02-159, slip op. at 2 (Apr. 3, 2003).

Consistent with the Board's regulations and precedent, MWGen must provide a detailed compliance plan demonstrating how it will bring its fleet into compliance with the CPS by the end of its proposed variance. MWGen's refusal to do so disqualifies it for the regulatory relief afforded by a variance, and MWGen's petition should be denied. If MWGen's end is to achieve a wholesale amendment of the CPS' system-wide SO_2 emission rates without providing a detailed compliance plan, MWGen should pursue an alternative form of regulatory relief, such as

an adjusted standard under Section 28.1 of the Act, 415 ILCS 5/28.1, or a rulemaking, that does not require a compliance plan.

II. The Board Should Deny the Petition Because MWGen Seeks Permanent, Not Temporary Relief.

Aside from the refusal to provide a legally sufficient compliance plan, MWGen's variance also should be rejected because it, on its face, seeks permanent, not temporary, relief from the annual fleetwide SO_2 limits applicable to MWGen during 2015 and 2016. MWGen's proposed variance assertedly would put CPS SO_2 emission rates "on hold" for 2015 and 2016, and then have MWGen resume compliance with the CPS' 2017 emission rate. In doing so, MWGen seeks the exact same type of regulatory relief that this Board denied Ameren in 2009. *Ameren Energy Generating Co. v. IEPA*, PCB 09-21 (Jan. 22, 2009) (herein after "*Ameren I*").

In *Ameren I*, Ameren sought a variance from the provision of the MPS that set forth a system-wide SO_2 emission rate for 2013 and 2014. Under Ameren's proposed variance, it would have been allowed to comply with an alternate SO_2 emission rate during 2013 and 2014, and then to resume compliance with the MPS in 2015. In other words, Ameren sought the exact same type of "pause" in SO_2 reductions that MWGen currently seeks.

The Board denied Ameren's request, explaining:

> Ameren's request for relief specifies that Ameren is seeking relief from Section 225.233(e)(2)(A) . . . . Section 225.233(e)(2)(A) requires that beginning in calendar year 2013 and continuing in calendar year 2014 [Ameren] comply with an overall SO_2 annual emission rate of 0.33 lbs/mmBtu. 35 Ill. Adm. Code 225.233(e)(2)(A). Ameren's request does not include a plan to meet the SO_2 annual emission rate of 0.33 lbs/mmBtu; rather, Ameren proposes that for the period beginning in 2010 a system-wide average SO_2 emission rate of 0.50 lb/mmBtu and a system-wide annual average SO_2 emission rate of 0.43 lb/mmBtu from January 1, 2014 through December 31, 2014. Thus, Ameren does not plan to comply with . . . Section 225.233(e)(2)(A), now or in the future.

> Ameren does plan to comply with emission rates in Section 225.233(e)(2)(B), in 2015. However, the requirements found in Section 225.233(e)(2)(A) would be replaced completely by the proposed variance. The Board finds that such request is not a variance as contemplated either in the Act or by the case law implementing Title IX of the Act (415 ILCS 5/35-38).

Id., slip op. at 15.

MWGen's Petition should be denied for the same reason that Ameren's was. MWGen seeks permanent relief from the CPS' 2015 and 2016 emission rates (0.28 and 0.195 lbs/mmBtu, respectively) set forth in 35 Ill. Adm. Code 225.295(b). Those rates will be replaced completely by alternative emission rates (0.38 lbs/mmBtu for both 2015 and 2016) and mass emission limits (39,000 tons for 2015 and 37,000 tons for 2016). In 2017, MWGen assertedly would resume compliance with the 2017 emission rate of 0.15 lbs/mmBtu in 35 Ill. Adm. Code 225.295(b). Just as in *Ameren I*, then, MWGen never would comply with the specific annual emission rates for which it sought a variance. The 2015 and 2016 emission rates would be replaced completely by MWGen's proposed alternative 2015 and 2016 emission limitations. As the Board held in *Ameren I*, this is permanent, not temporary relief, and cannot be accomplished through a variance proceeding. Instead, MWGen should pursue this relief through an alternative form of permanent regulatory relief.[2]

[2] In a footnote, MWGen suggests that it might be ordered to comply with the CPS' 2015 and 2016 annual emission rates for two weeks each during January 2017—but that MWGen actually would demonstrate compliance by achieving the MPS' 2017 annual emission rate for 2017. Petition at 53 n. 36. That is the same sort of rationalization of its proposed variance that Ameren proposed in its Motion to Reconsider the Board's order in *Ameren I*. *See* Ameren's Mtn. to Reconsider, *Ameren I*, at 7 (Feb. 19, 2009). The Board denied that motion, and it also should reject MWGen's "compromise" proposal here. MWGen glosses over the fact the CPS requires *annual* average emission rates, and that the determination of MWGen's compliance will be based on *annual* emissions data. If MWGen is subject simultaneously to three different annual average emission rates in one calendar year, that renders the two less stringent 2015 and 2016 annual requirements superfluous. In the end, MWGen's compromise proposal delivers the same result as its original proposal: the CPS' 2015 and 2016 annual emission rates are rendered meaningless and replaced by another standard.

III. The Board Should Deny the Petition Because the Proposed Variance Would Have a Negative Environmental Impact.

The Board also should deny MWGen's proposed variance because it would harm public health. The variance would allow MWGen to actually increase its SO_2 emissions in the short term, and to continue to cause and contribute to existing State air quality problems.

A. MWGen Bears a Heavy Burden in Justifying Its Proposed Variance.

The Act provides that the Board may grant a variance when it finds "that compliance with any rule or regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship." 415 ILCS 5/35(a). In order to determine whether a hardship would be "arbitrary or unreasonable," the Board must balance the extent of the individual hardship against the environmental impact of granting the variance. *Monsanto Co. v. IPCB*, 67 Ill. 2d 276, 292, 367 N.E.2d 684, 691 (1977). A petitioner for a variance bears a "heavy" burden. *Willowbrook Motel P'ship v. IPCB,* 135 Ill. App. 3d 343, 349, 481 N.E.2d 1032, 1036 (1st Dist. 1985). MWGen must demonstrate that "the hardship resulting from a denial of the variance outweighs any injury to the public or the environment from a grant of the variance." *Marathon Oil Co. v. IEPA*, 242 Ill. App. 3d 200, 206, 610 N.E.2d 789, 793 (5th Dist. 1993).

The Board's regulations require a petitioner for a variance to submit two types of evidence regarding the variance's environmental impact. First, the petitioner must describe "the nature and amount of emissions, discharges, or releases of the constituent in question if the variance is granted, compared to those that would result if immediate compliance were required." 35 Ill. Adm. Code 104.204(g)(1). Second, the petitioner must include a "qualitative and quantitative description of the impact of petitioner's activity on human health and the environment if the requested variance is granted, compared to the impact of petitioner's activity

if immediate compliance is required." 35 Ill. Adm. Code 104.204(g)(2). A petitioner fails to meet its burden to show an arbitrary or unreasonable hardship if it fails to present evidence of the variance's environmental impact. *City of Mendota v. IPCB*, 161 Ill. App. 3d 203, 209, 514 N.E.2d 218, 221 (3d Dist. 1987). Conclusory assertions, unsupported by data and analysis, are not sufficient to meet a petitioner's burden of proof. *IEPA v. IPCB,* 95 Ill. App. 3d 400, 405-06, 420 N.E.2d 245, 248-49 (3d Dist. 1981); *City of Mendota*, 161 Ill. App. 3d at 208, 514 N.E.2d at 221; *Plexus Scientific Corp. v. IEPA*,PCB 01-120, slip op. at 3 (Apr. 5, 2001).

B. MWGen's Proposed Variance Would Increase Its Overall SO_2 Emissions Relative to CPS Compliance.

MWGen's Petition should be denied because MWGen has failed to present credible information regarding either the amount of excess SO_s emissions that would be allowed under its proposed variance, 35 Ill. Adm. Code 104.204(g)(1), or the environmental impacts of those emissions. 35 Ill. Adm. Code 104.204(g)(2). Instead, MWGen relies on the erroneous claim that its variance would decrease overall SO_2 emissions from its fleet. *See* Petition at 9 (asserting that MWGen's proposed alternative emission limits would yield a cumulative decrease of 3,181 tons of SO_2 emissions), and 13 ("In no year during the term of the variance would emissions increase over the previous year because of [MWGen's] commitment to comply with mass emission levels of SO_2.").

MWGen's calculation of an environmental benefit relies on a comparison of proposed mass emission limits for 2013 to 2016 to the emissions MWGen claims would be expected were its fleet to comply with the CPS' current emission rates during the same period. *See*, *e.g.*, MWGen's Responses to Board's Questions to Petitioner, Ex. 10, "SO2 CPS Baseline," Columns O-R. MWGen's calculation is unreasonable because it arbitrarily excludes from consideration

the fleet's 2012 SO_2 emissions. MWGen uses of an average of 2008-2011 annual heat inputs to calculate the "baseline" emissions expected under the CPS from 2013 through 2016. *See* MWGen's Responses to the Board's Questions to Petitioner at 10-11. This obscures the fact that MWGen's actual 2012 SO_2 emissions were *less than* MWGen's proposed mass emission limits for 2013, even though MWGen operated its Fisk and Crawford plants during the majority of 2012 but cannot be expected to operate those plants in 2013 or after. In other words, MWGen asks this Board to find that an increase in SO_2 emissions in 2013 from 2012—despite the retirement of the Fisk and Crawford plants in 2012—represents a benefit for the State of Illinois. This Board should reject MWGen's attempt to downplay the public health significance of its continued operation of unscrubbed coal-fired power plants.

MWGen's fallacy of emissions decreases is demonstrated by comparing the charts attached as Exhibits B and C. Exhibit B is the chart that MWGen presented at the Board's January 29, 2013 hearing. The chart uses MWGen's inflated base case in 2012 to show an artificial decrease in SO_2 emissions under the variance of 15,227 tons in 2013 and 2014. MWGen uses that decrease to offset the increased emissions the Company acknowledges would occur during the variance term of 2015 to 2016. For 2013, for example, MWGen proposes to commit to a 2013 mass SO_2 emission limit of 57,000 tons (higher than actual 2012 emissions of 56,395 tons, Petition, Ex. 3, McFarlan Aff. at ¶ 14), and claims that this represents an environmental benefit of 8,341 tons less of SO_2. *See* MWGen's Responses to the Board's Questions to Petitioner, Ex. 10, "SO2 CPS Baseline," Column O.[3]

[3] 8,341 tons is the difference between MWGen's proposed mass emission limit for 2013 (57,000 tons) (Column O, Line 21) and MWGen's "CPS baseline" for 2013 (65,341 tons) (Column O, Line 18). MWGen's "CPS baseline" for 2013 was calculated by using the average of 2008-2011 annual heat inputs for its fleet, excluding Fisk, Waukegan 6, and Will County 1 and 2, and the CPS' 2013 emission rate of 0.44 lbs/mmBtu.

Exhibit C, by contrast, compares MWGen's proposed mass emission limits for 2013 and 2014 with MWGen's actual 2012 SO_2 emissions, leaving in place MWGen's calculations for 2015 and 2016. MWGen President Doug McFarlan has testified in this proceeding that MWGen's projected emissions for 2012 were 56,395 tons—605 tons less than the proposed 2013 limit of 57,000 tons, and only 2,395 tons more than the proposed 2014 limit of 54,000 tons. Petition, Ex. 3, McFarlan Aff. at ¶ 14.[4] When measured against 2012 SO_2 emissions of 56,395 tons, MWGen's proposed 2013 and 2014 mass emission limits lead to a combined reduction of only 1,795 tons over 2013 and 2014. That reduction is far less than the 12,047 additional tons of SO_2 that MWGen itself calculates would be emitted during 2015 and 2016. Thus, the variance would have a negative environmental impact. Simply put, MWGen cannot seek to do worse in 2013 than it did in 2012 and label it as an environmental benefit. MWGen's Petition should be denied.

Neither should MWGen's "commitment" not to operate its Crawford plant through 2014 be regarded as providing any environmental benefit. MWGen claims that it "maintains the permits issued to Crawford and could legally generate electricity from these coal-fired units through the end of 2014." Petition at 12. That is incorrect. As shown by the "before-and-after" photos attached as Exhibit E, MWGen already has begun dismantling the Crawford plant, specifically the stack. MWGen cannot now credibly claim that the plant can be legally operated with a partial stack. Moreover, there is no reason to believe that MWGen would have any legitimate business reason for operating the plant. In an account published near the time of the Crawford plant's retirement in September 2012, Mr. McFarlan was quoted as stating: "[Closing

[4] That total also coincides with the results of a February 6, 2013 search of the United States Environmental Protection Agency's ("U.S. EPA") Air Markets Program Data for MWGen's fleet, which showed a total of 55,943 tons of SO_2 emissions in 2012. *See* Exhibit D (Air Markets Program Data spreadsheet). U.S. EPA's Air Markets Program Data tool is available at http://ampd.epa.gov/ampd/QueryToolie.html.

the Crawford and Fisk plants] was an economic decision, not a compliance decision . . . . At current market prices, we couldn't continue to operate those plants. Every generating unit is operationally challenged in the current gas price environment." *See* Ex. A at 1. Whether or not this variance is granted, MWGen will not be operating the Crawford plant.

MWGen's variance is premised on the idea that "[i]n no year during the term of the variance would emissions increase over the previous year because of [MWGen's] commitment to comply with mass emission levels . . . ." MWGen's Responses to Board's Questions to Petitioner at 13. MWGen is wrong from the start, because its SO_2 emissions would increase from 2012 to 2013 under the variance. MWGen's struggles to identify an environmental benefit where none exists further underscore why a variance is not an appropriate form of relief in this case.

C. Under the Proposed Variance, MWGen's Elevated SO_2 Emissions Would Continue to Cause and Contribute to State Air Quality Problems.

MWGen claims that under the proposed variance, SO_2 emissions would not cause any air quality problems. MWGen is incorrect. MWGen relied upon the testimony of Dr. Lucy Fraiser for the claim that the variance would not cause or contribute to air quality problems or health problems stemming from increased SO_2 emissions. (Transcript of Jan. 29, 2013 Hearing at 113-131). There are multiple gaps in Dr. Fraiser's testimony. First, Dr. Fraiser's testimony focused only on SO_2 emissions and ignored the effects of fine particulate matter, a by-product of SO_2 in the atmosphere. Second, Dr. Fraiser's emphasis on the EPA's use of exercising asthmatics in its Risk and Exposure Assessment for the one-hour SO_2 standard to cast doubt on EPA's studies inappropriately ignores the mandate that the NAAQS protect sensitive subpopulations.

Also, the PCB should not grant the variance because it would increase the risk of SO_2 harming public health when public health is already being harmed as a result of ongoing violations of the SO_2 one-hour NAAQS. Both the Powerton and Will County facilities are major sources of SO_2 in areas that are nonattainment with the primary 1-hour SO_2 national ambient air quality standard and both facilities contribute to those NAAQS violations.

a. Dr. Fraiser's testimony ignored the effects of downstream SO2-derived by-products (e.g. fine particulate matter).

First, the USEPA Risk and Exposure Assessment for the SO_2 NAAQS (REA) clearly demonstrates that SO_2 harms human health. In her testimony before the Pollution Control Board, Dr. Fraiser correctly stated that the USEPA Risk and Exposure Assessment for the SO_2 NAAQS (REA) did not allow for an inference of a causal relationship between gaseous SO_2 and non-respiratory illness. What is important to note is that Dr. Fraiser went on to state that the assessment did identify both:

- a **suggestive** relationship between SO_2 and mortality, and
- a **causal** relationship between short-term SO_2 exposure and harms to the respiratory system.

There is some variation across the studies as to the extent of health effects. There is no debate, however, that the studies show a worsening of asthma symptoms with short-term SO_2 exposure, and that this clearly and conclusively demonstrates that SO_2 harms human health..

Second, in addition to the health impacts associated with direct exposure to SO_2, additional health harms are associated with fine particulate matter or $PM_{2.5}$. A 2005 study in central Illinois determined that over 50% of the $PM_{2.5}$ in the region was derived from sulfur or

SO_2.[5] The percentage of sulfur in $PM_{2.5}$ can change dramatically by time-of-day, season, and atmospheric conditions, with the peak SO_2 contribution occurring in the daylight, summertime hours.[6] In Illinois, however, a clear segment of that fine particle pollution derived from SO_2 is from Midwestern coal-fired power plants.[7]

The health impacts of $PM_{2.5}$ have been well-established in the health literature. In its 2009 Integrated Science Assessment on particulate matter, the USEPA found that:

- a **causal** relationship exists between short- and long-term exposures to $PM_{2.5}$ and both cardiovascular events (e.g. heart attacks) and mortality, and
- a **likely causal** relationship exists between short- and long-term exposure to $PM2_{2.5}$ and respiratory illness (e.g. asthma attacks and COPD episodes).

Even incremental increases in $PM_{2.5}$ can result in additional asthma attacks, missed school and work days, and avoidable ER visits.[8] Dr. Fraiser's testimony completely failed to acknowledge this second set of negative impacts that SO_2 emissions have on health. Her testimony, with its focus on just direct health effects from SO_2, completely overlooked the health effects from $PM_{2.5}$. In short, Dr. Fraiser failed to acknowledge, in any manner, SO_2's contribution to $PM_{2.5}$ in the atmosphere and the negative health impacts caused by $PM_{2.5}$.

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[5] Kim E, Hopke PK, Kenski DM, Koerber M. Sources of fine particles in a rural midwestern U.S. area. Environ Sci Technol. 2005 Jul 1;39(13):4953-60.

[6] Behera SN, Sharma M. Investigating the potential role of ammonia in ion chemistry of fine particulate matter formation for an urban environment. Sci Total Environ. 2010 Aug 1;408(17):3569-75; Chang LP, Yao YC, Liao CF, Chiang SW, Tsai JH. Influence of ozone and humidity on the formation of sulfate and nitrate in airborne fine particles. J Environ Sci Health A Tox Hazard Subst Environ Eng. 2009 Jul 1;44(8):767-77; Khoder MI. Atmospheric conversion of sulfur dioxide to particulate sulfate and nitrogen dioxide to particulate nitrate and gaseous nitric acid in an urban area. Chemosphere. 2002 Nov;49(6):675-84.

[7] Kim E, Hopke PK, Kenski DM, Koerber M. Sources of fine particles in a rural midwestern U.S. area. Environ Sci Technol. 2005 Jul 1;39(13):4953-60.

[8] Levy JI, Spengler JD, Hlinka D, Sullivan D, Moon D. Using CALPUFF to evaluate the impacts of power plant emissions in Illinois: model sensitivity and implications Atmospheric Environment. 2002 Feb; 36(6):1063-1075.

b. Dr. Fraiser's testimony inappropriately minimized the legal requirement for the NAAQS to protect vulnerable populations.

In her testimony before the Pollution Control Board, Dr. Fraiser emphasized the USEPA's use of exercising asthmatics in the Risk and Exposure Assessment for the SO_2 NAAQS (REA) to set the SO_2 one-hour standard at 75 parts per billion. She failed to explain, however, that the USEPA is required to consider sensitive subpopulations when setting the NAAQS. The NAAQS are designed to protect the health of both general populations and sensitive subpopulations. Sensitive groups are defined as individuals with an increased risk of experiencing a negative health impact when exposed to the same threat as healthy groups. Given the requirement for NAAQS to protect sensitive individuals, the USEPA Risk and Exposure Assessment for the SO_2 NAAQS (REA) relied heavily on studies of extremely vulnerable groups – exercising asthmatics. Children, the elderly, and people who work or play outdoors are also considered "at-risk" for the negative health impacts associated with SO_2-derived pollution. This places nearly 50% of the U.S. population at increased risk.

The epidemiologic and clinical data suggest that greater than 25% of exercising mild to moderate asthmatics (not even those suffering the most severe forms of asthma) will experience decreased lung function when exposed to 600 – 1000 ppb SO_2. At levels of 200 – 500 ppb SO_2, 10-20% of exercising mild to moderate asthmatics will experience lung function decrements. Though the average concentration of SO_2 is significantly lower than the aforementioned ranges (mean 1-hr maximum = 130 ppb), maximum concentrations near sources were greater than 700 ppb. Consequently, EPA was appropriately relying on a sensitive subpopulation suffering from a moderate respiratory condition to set a one hour average that can still lead to maximum concentrations in certain areas in the vicinity of sources that can be an order of magnitude

higher. In other words, even with an SO2 one-hour standard of 75 ppb, maximum concentrations near sources will likely end up in the range of 375-400 ppb or more. That is well within the range where exercising mild to moderate asthmatics will experience lung function decrements.

In short, Dr. Fraiser's testimony inappropriately ignored the legal requirement for EPA to consider and the NAAQS to protect vulnerable populations. EPA's selected standard for the one-hour SO_2 NAAQS appropriately reflected its consideration of exercising asthmatics in the REA.

c. The variance should not be issued because it would compromise SO_2 limits that are necessary to protect human health.

Both the Powerton and Will County facilities are major sources of SO_2 in areas that are nonattainment with the primary 1-hour SO_2 national ambient air quality standard. The IPCB must conform its deliberations to Illinois' State Implementation Plan, which categorically prohibits air emissions that cause or contribute to violations of the NAAQS. 35 Ill. Admin. Code 201.141. The PCB should not grant a variance based on new evidence that public health is already being harmed as a result of ongoing violations of federal air quality standards to which Midwest Generation is a prime contributor. No variance should be issued that would have the direct or indirect effect of impeding regulators or members of the public from seeking more stringent, facility-specific SO_2 limits as necessary to protect human health, now and in the future. No variance should be issued that would have the direct or indirect effect of impeding the imposition of more stringent SO_2 limits on these facilities through permitting, rulemaking and/or enforcement activity.

The CPS requirements from which MWGen seeks a variance were developed when an older SO_2 national ambient air quality standard was in effect. MWGen's facilities operated in

areas that were in compliance with this less stringent SO_2 air quality standard. Consequently, the CPS could mandate SO_2 reductions that were averaged over MWGen's fleet, resulting in gradually improving conditions over large air quality regions.

Today, there is a new SO_2 standard and a new set of public health concerns arising from poor air quality where MWGen currently operates its Powerton and Will County facilities. Notably, MWG's original Petition includes Illinois EPA's 2010 Annual Air Quality Report. Illinois EPA's original filing includes its 2011 Annual Air Quality Report, which includes information about monitored SO_2 levels using the newly applicable 75ppb/1 hr. standard. By contrast to the excerpts from the 2010 report submitted by MWG, the 2011 Report includes Table B15 detailing 42 exceedances of the new SO_2 NAAQS in Illinois, all which were recorded at monitors in Lemont and Pekin, downwind of MWGen facilities. Illinois Annual Air Quality Report 2011 at 69-70.

According to Illinois EPA's 2011 report, the SO_2 air quality problems monitored in Lemont and Pekin in 2011 are indicative of a much longer term problem. Table B16 on page 71 of the 2011 Report characterizes the results of SO_2 monitoring data in Pekin and Lemont in the following manner:

Monitor	Samples Greater Than 75pp			Highest Daily 1-Hour Sample - ppb				Highest 3-Hr Avg ppb	
	2011	2010	2009	1st	2nd	3rd	4th	1st	2nd
Pekin	32	37	50	262	221	199	172	176	175
Lemont	10	7	10	159	136	98	90	95	80

On Page 72 of its 2011 Report, Illinois EPA identifies design values (3-year average of the 99th percentile concentration) in Pekin and Lemont which are violations of the National Ambient Air Quality Standard for every three-year period since 2007.

On June 2, 2011, Illinois EPA issued a Technical Support Document: Recommended Attainment Nonattainment Designations in Illinois for the 2010 Revised Primary 1-Hour SO_2 National Ambient Air Quality Standard, a true and accurate copy of which is attached to these comments as Exhibit F. In addition to recommending that three Townships in proximity to the Lemont monitor should be designated as nonattainment, Illinois EPA identifies three sources in the vicinity of the violating monitor: Oxbow Midwest Calcining, CITGO Petroleum and Midwest Generation – Will County. *Id.* at 22. The proposed non-attainment townships "...contain both the violating monitor and the most culpable sources of SO_2 emissions impacting the Lemont monitor. " *Id.* at 26-27.

Similarly, the two Townships which are adjacent to the Pekin monitor are also proposed to be nonattainment with the SO_2 standard, comprising the monitor in violation and the two most likely culpable sources, Aventine Renewable Energy and Midwest Generation Powerton. *Id.* at 14-16.

On February 6, 2013, the U.S. EPA responded to Illinois' recommendations for SO_2 designations under the new 1-hour standard. A true and accurate copy of U.S. EPA correspondence is attached to these comments as Exhibit G. Based on this analysis, U.S. EPA expanded the Pekin nonattainment area to include a third Township. U.S. EPA also identified the sources that it believes cause and contribute to nonattainment in Lemont and Pekin. For Lemont, U.S. EPA characterized the contributing sources as Oxbow, Citgo, and MWG—Will County.*Id.* at 6. For Pekin, U.S. EPA characterized the contributing sources as Aventine Renewable, Ameren – Edwards Station, and MWG—Powerton. *Id.* at 10.

Midwest Generation should not receive any variance that would delay reductions in SO_2 in the Pekin vicinity and Will County when SO_2 is already harming public health in those areas as a result of ongoing violations of federal air quality standards. In the context of this proceeding, the existence of these nonattainment areas suggests that MWGen must be more forthcoming about its intentions for individual units, and that a general, vague "pause" is out of keeping with unhealthy air conditions downwind of its Powerton and Will County facilities. The IPCB should not undo the prior rulemaking that resulted in the CPS. There is a pressing need to address these unhealthy air quality conditions in proximity to the Powerton and Will County facilities. The IPCB must conform its deliberations to Illinois' State Implementation Plan, which categorically prohibits air emissions that cause or contribute to violations of the NAAQS. 35 Ill. Admin. Code § 201.141.

While MWGen may argue that its fleetwide SO_2 emissions will eventually align with Illinois' 2017 obligations in relationship to the new SO_2 NAAQS, both regulators and affected members of the public should be allowed to pursue healthy air quality in the five-year interim period without being constrained by an omnibus variance.

d. All of MWG's facilities contribute to non-attainment of the 1-hr SO2 NAAQS in the regions in which they operate.

The actions by Illinois and U.S. EPA to achieve the new 1-hr. SO_2 NAAQS are based on air monitoring results. A recent filing before the IPCB employs facility-specific modeling to characterize the public health impacts of the emissions from every operating MWGen facility. *Sierra Club v. Midwest Generation, LLC*, PCB 13-27. Although this citizen enforcement action is subject to a stay due to Midwest Generation's bankruptcy, there is no prohibition on employing the information in Sierra Club's Complaint, which directly addresses the public

health impacts of SO_2 emissions from operating Midwest Generation units in light of the new SO_2 NAAQS. Consequently, we respectfully request the IPCB to incorporate Sierra Club's Complaint and the attachments to its Complaint into the record of this variance proceeding and into the IPCB's deliberative process. This filing is available on the IPCB website at: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-78376.

Sierra Club's modeled emissions underscore the conclusions reached by Illinois and U.S. EPA about nonattainment in Lemont and Pekin and the significant contributions of the Will County and Powerton facilities to this nonattainment. Moreover, Sierra Club used a computer dispersion model that more precisely delineates the impacts of SO_2 emissions from units at the Will County and Powerton facilities. Using computer dispersion modeling to characterize both past and future impacts of these emissions, Sierra Club identified the significant periods during which MWG's units are creating SO_2 ambient air conditions exponentially in excess of the 1-hour NAAQS standard. The significance of the emissions from MWGen facilities is true even when background conditions are included in the dispersion model.

Just as importantly, Sierra Club also employed the computer dispersion model for MWG's Joliet and Waukegan facilities. In its Complaint, Sierra Club notes that it is not practical for Illinois to have a monitor at every location where SO_2 ambient air conditions may or may not exceed the NAAQS. In the absence of monitoring data that precisely delineates conditions downwind of the Joliet and Waukegan facilities, Sierra Club employed its dispersion model to characterize the impact of these emissions. The results of this dispersion model demonstrate that both the Joliet and Waukegan facilities are causing and contributing to exceedances of the 1-hour SO_2 NAAQS for significant periods of time in downwind areas, often to a degree that exponentially exceeds the NAAQS.

The Sierra Club Complaint was stayed at the earliest stage in the deliberative process. Nonetheless, the conclusions of its computer dispersion model are consistent with the conclusions of Illinois EPA and U.S. EPA about SO_2 conditions downwind of the Will County and Powerton facilities, while also providing additional data about the nature and extent of the exceedances and the relative contribution of MWGen to these unhealthy conditions. Just as importantly, Sierra Club also characterized the impact of air emissions from the Joliet and Waukegan facilities, raising additional public health concerns that should inform the IPCB's deliberations in this variance proceeding. The IPCB should not allow a variance that lacks unit specific compliance information in light of the local impacts of emissions. The PCB should not grant any variance that would delay steps under the CPS to address these unhealthy local air quality conditions when public health is already being harmed as a result of ongoing violations of federal air quality standards. For its part, MWGen is very careful to explain how its economic fortunes have changed since the CPS was enacted and then revisited. It is far more important for the IPCB to be mindful that the SO_2 NAAQS has also changed to secure the health of members of the public. A variance will impede the achievement of healthy air quality conditions in areas where MWGen facilities are causing and contributing to violations of the NAAQS. For this reason, even taken alone, the variance request must be denied.

IV. Conclusion.

For the reasons set forth in these Post-Hearing Comments, the Board should deny MWGen's Petition for Variance.

Respectfully submitted,

Faith E. Bugel

DATED: February 18, 2013

Faith Bugel
Senior Attorney
Environmental Law and Policy Center
35 East Wacker Drive, Suite 1600
Chicago, IL 60601
312-795-3708
FBugel@elpc.org

Kerta Harley

Attorney for Citizens Against Ruining the Environment

CERTIFICATE OF SERVICE

I, Faith Bugel, hereby certify that I have filed the attached POST-HEARING COMMENTS on behalf of the Citizens Against Ruining the Environment, Environmental Law and Policy Center, Natural Resources Defense Council, Respiratory Health Association, and Sierra Club in PCB Case No. 2013-24. The aforementioned documents have been served upon the attached service list by depositing said documents in the United States Mail, postage prepaid, in Chicago, Illinois on February 18, 2013.

Respectfully submitted,

Faith E. Bugel

Faith Bugel
Senior Attorney
Environmental Law and Policy Center
35 East Wacker Drive, Suite 1600
Chicago, IL 60601
312-795-3708

SERVICE LIST
February 18, 2013

Dana Vetterhoffer
Julie K. Armitage
Illinois EPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Stephen J. Bonebrake
Andrew N. Sawula
Kathleen C. Bassi
Schiff Hardin, LLP
6600 Willis Tower
233 South Wacker Drive
Chicago, IL 60606

Christopher Foley
Midwest Generation
500 West Madison Street
Suite 2640
Chicago, IL 60661

IPCB Case No. 2013-24

Exhibit A

Industrial Info Resources

Midwest Generation Ponders Retrofit vs. Retire Decision for Four Illinois Generators

October 2, 2012

INDUSTRIAL INFO RESOURCES
Providing Global Market Intelligence Constantly Living Forward

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Industry News Alert

Midwest Generation Ponders Retrofit vs. Retire Decision for Four Illinois Merchant Generators

SUGAR LAND--October 2, 2012--Written by John Egan for Industrial Info Resources (Sugar Land, Texas)--Midwest Generation (Bolingbrook, Illinois), a subsidiary of Edison International (NYSE:EIX) (Rosemead, California), held off on closing two Chicago-area coal-fired power plants that had a total of 868 megawatts (MW) of generating capacity until the Windy City's peak summer demand season ended. But now that the summer heat is fading and the Crawford and Fisk power plants have been closed, Midwest Generation is facing two interrelated challenges: restructuring its debt and deciding whether to spend between $625 million and $860 million to outfit its four remaining Illinois merchant generators with pollution control equipment. For more information on the closure of the Crawford and Fisk plants, see September 6, 2012, article -Midwest Generation EME Shutters Coal-Fired Crawford and Fisk Power Plants.

Midwest Generation recently told creditors and investors that it will not have enough cash on hand to pay a $500 million loan that is due next June, raising the potential for a Chapter 11 bankruptcy proceeding. Doug McFarlan, a Midwest Generation spokesman, blamed inexpensive natural gas from shale formations for the decision to retire Crawford and Fisk. "That was an economic decision, not a compliance decision," he told Industrial Info in an interview. "At current market prices, we couldn't continue to operate those plants. Every generating unit is operationally challenged in the current gas price environment."

But Midwest Generation plans to continue operating its four remaining coal-fired plants in Illinois, at least for a while. "We have made no decision to retrofit or retire any of these plants right now," McFarlan said. "We'll have to make some retrofit vs. retirement decisions by the end of 2013. The more research we do, the more we are able to find cost-effective ways to lower compliance costs."

Midwest's four remaining Illinois coal-fired generators are:

- Powerton Power Station, a 1,538-MW plant that came online in 1972
- Joliet Power Station, a 1,326-MW plant that began operating in the late 1950s
- Will County Power Station, an 800-MW generator operating since the 1950s
- Waukegan Fossil Station, a 689-MW plant that also began generating electricity near the end of the second Eisenhower administration

All four plants burn low-sulfur western coal from the Powder River Basin, and all four installed equipment to reduce emissions of mercury and oxides of nitrogen (NOx) within the last five years, McFarlan said. Installing equipment to control emissions of sulfur dioxide (SO2) and particulates at the four plants will cost an estimated $860 million. The Midwest Generation spokesman declined to provide specific cost estimates for each plant, other than to say it would cost about $625 million to control SO2 and particulate emission at Powerton, Will County, and two of the Joliet units. Bringing the third unit at Joliet into compliance would cost an additional $75 million, he said, while compliance costs at Waukegan have been estimated at $160 million.

McFarlan acknowledged there was at least one other option beyond retrofit or retirement --asset sales. "As we look to restructure our debt, selling assets is always an option," he said. "It is not Option A for us, but it is an option. Nothing is off the table, but our focus is on either retrofitting these plants, or retiring them."

If it retrofits the plants, Midwest Generation appears committed to installing flue gas desulphurization equipment. But rather than choosing between wet or dry scrubbers, McFarlan said that if the company goes with the retrofit option, it will use trona injection. "Trona injection has been around for a long time, but it is not all that widely used," he said. "Trona is much more effective at reducing emissions from Western coal than Eastern coal."

Midwest Generation will have to make its decisions in the midst of a very dynamic market. Stricter environmental regulations, coupled with low natural gas prices, have led to closure announcements for thousands of megawatts of coal-fired generation in the Midwest. Some owners of merchant generation, including Dominion Resources Incorporated (NYSE:D) (Richmond, Virginia), have put power plants on the selling block, eager to exit a market with little or no profit potential. In September 2012, Dominion offered to sell a coal-fired Elwood Merchant Generation plant, which is located outside Chicago, and its share of the gas-fired Kincaid Power Station, which is located in southern Illinois. The two plants have a combined generation capacity of about 2,582 MW.

McFarlan said he doesn't expect any significant change in gas prices or electric market dynamics over the next 12 months. "But you never take your eye off the ball," McFarlan said. "It wasn't that long ago that hurricanes sent gas prices soaring. Plus regulators are looking at the environmental consequences of extracting gas from shale formation using hydraulic fracturing. In this business, you don't know what you don't know. Things can change quickly."

View Plant Profile - 1013200 1507809 1017069 1014372 1013831 1035845 1504394
View Project Report - 300091134 300091111

Industrial Info Resources (IIR), with global headquarters in Sugar Land, Texas, and eight offices outside of North America, is the leading provider of global market intelligence specializing in the industrial process, heavy manufacturing and energy markets. Industrial Info's quality-assurance philosophy, the Living Forward Reporting Principle™, provides up-to-the-minute intelligence on what's happening now, while constantly keeping track of future opportunities.

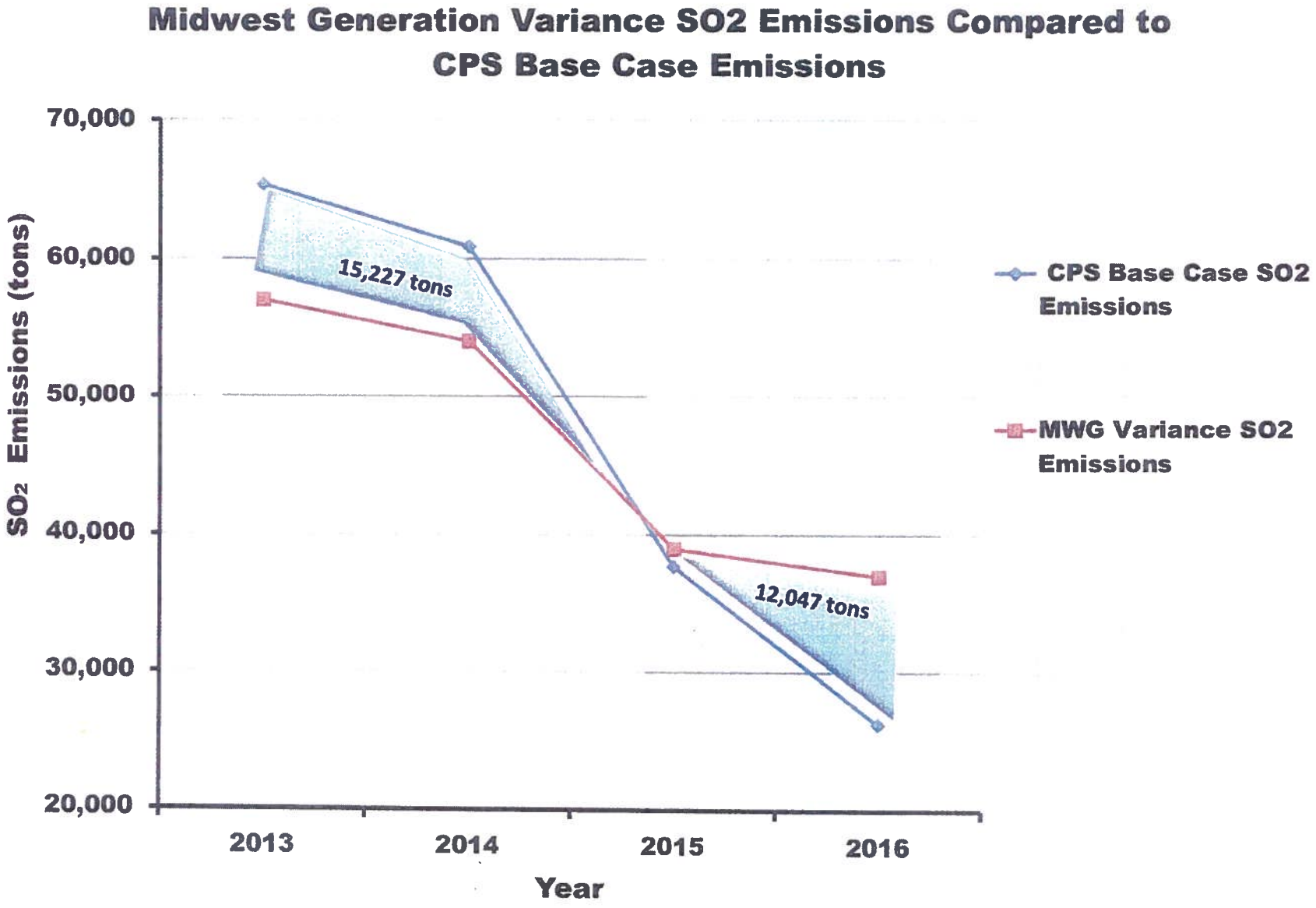
IPCB Case No. 2013-24

Exhibit B

Chart

Midwest Generation Variance SO_2 Emissions Compared to CPS Base Case Emissions

January 29, 2013

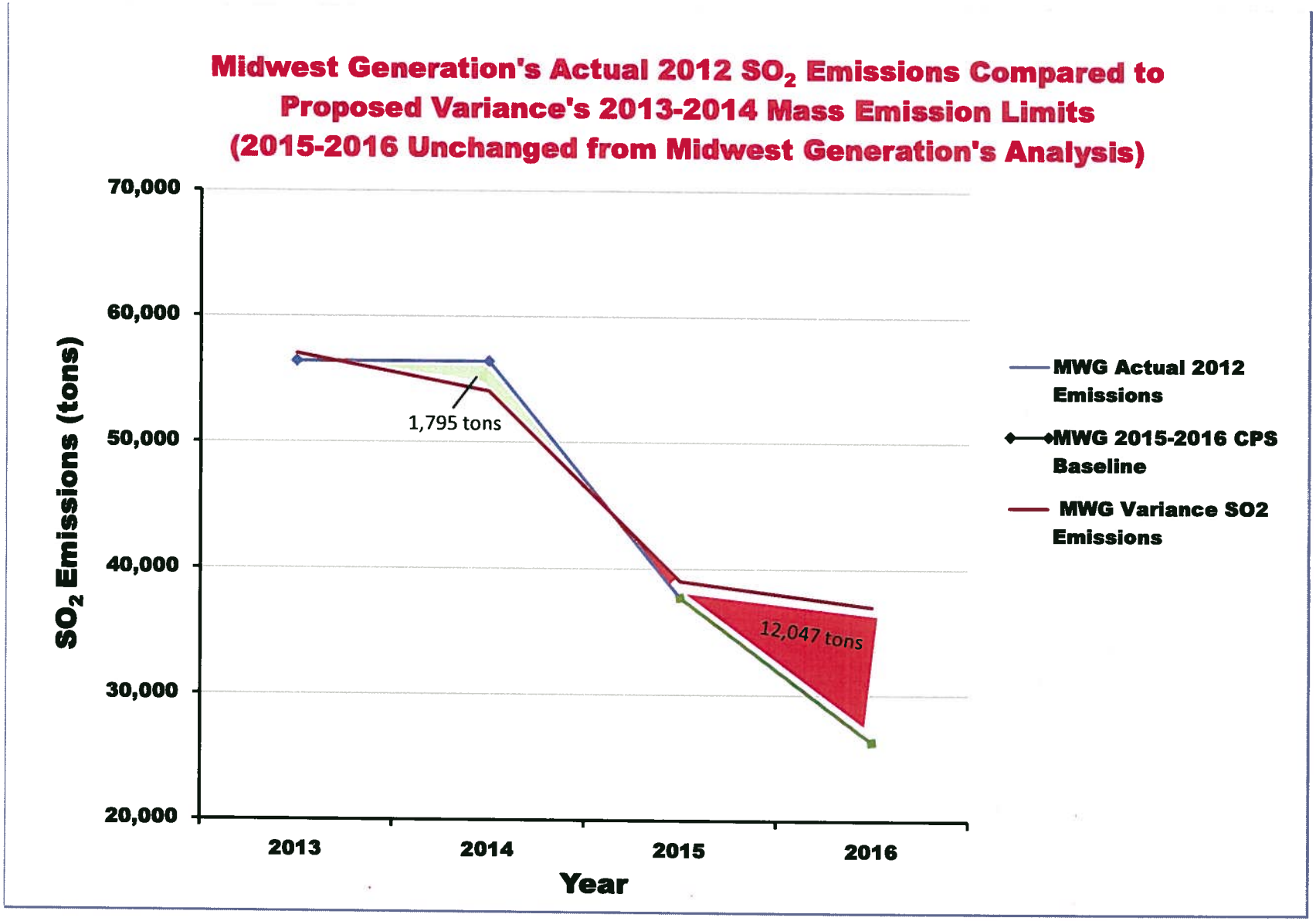

Midwest Generation Variance SO2 Emissions Compared to CPS Base Case Emissions
70,000
60,000
50,000
40,000
30,000
20,000
SO2 Emissions (tons)
15,227 tons
12,047 tons
2013
2014
2015
2016
Year
CPS Base Case SO2 Emissions
MWG Variance SO2 Emissions

IPCB Case No. 2013-24

Exhibit C

Chart

Midwest Generation's Actual 2012 SO_2 Emissions Compared to Proposed Variance's 2013-2014 Mass Emission Limits (2015-2016 Unchanged from Midwest Generation's Analysis)


Midwest Generation's Actual 2012 SO_2 Emissions Compared to Proposed Variance's 2013-2014 Mass Emission Limits (2015-2016 Unchanged from Midwest Generation's Analysis)
70,000
60,000
50,000
40,000
30,000
20,000
SO_2 Emissions (tons)
1,795 tons
12,047 tons
2013
2014
2015
2016
Year
MWG Actual 2012 Emissions
MWG 2015-2016 CPS Baseline
MWG Variance SO2 Emissions

IPCB Case No. 2013-24

Exhibit D

Data Spreadsheet

Midwest Generation 2012 SO_2 Emissions, U.S. EPA Air Markets Program Data

Midwest Generation 2012 SO_2 Emissions
U.S. EPA Air Markets Program Data

State	Facility Name	Facility ID (ORISPL)	Unit ID	Associated Stacks	Year	SO2 (tons)	Heat Input (MMBtu)
IL	Crawford	867	7		2012	1598.079	6204176.2
IL	Crawford	867	8		2012	2149.092	9478696.25
IL	Fisk	886	19		2012	2200.761	9984035.625
IL	Fisk	886	311		2012	0.565	2257.4
IL	Fisk	886	312		2012	0.41	1639.3
IL	Fisk	886	321		2012	0.346	1385.2
IL	Fisk	886	322		2012	0.273	1092.7
IL	Fisk	886	331		2012	0.189	757.4
IL	Fisk	886	332		2012	0.189	757.3
IL	Fisk	886	341		2012		
IL	Fisk	886	342		2012	0.346	1385.2
IL	Joliet 29	384	71	CS7172	2012	2656.853	1.35E+07
IL	Joliet 29	384	72	CS7172	2012	2704.889	1.37E+07
IL	Joliet 29	384	81	CS8182	2012	2876.767	1.44E+07
IL	Joliet 29	384	82	CS8182	2012	2910.337	1.45E+07
IL	Joliet 9	874	5		2012	2210.477	1.11E+07
IL	Powerton	879	51	CS0506	2012	5437.967	2.37E+07
IL	Powerton	879	52	CS0506	2012	5367.808	2.36E+07
IL	Powerton	879	61	CS0506	2012	5240.598	2.31E+07
IL	Powerton	879	62	CS0506	2012	5036.78	2.23E+07
IL	Waukegan	883	311		2012	0.944	3774.3
IL	Waukegan	883	312		2012	0.995	3978.8
IL	Waukegan	883	321		2012	0.752	3006.1
IL	Waukegan	883	322		2012	0.708	2829.4
IL	Waukegan	883	7		2012	3168.63	1.63E+07
IL	Waukegan	883	8		2012	4093.365	1.97E+07
IL	Will County	884	3		2012	2848.383	1.28E+07
IL	Will County	884	4		2012	5436.652	2.40E+07
						55943.155	

Exhibit E (1)

Photo

Before smokestack removal

Exhibit E (2)

Photo

After smokestack removal

IPCB Case No. 2013-24

Exhibit F

Technical Support Document: Recommended Attainment/Nonattainment Designations in Illinois for the 2010 Revised Primary 1-Hour SO_2 National Ambient Air Quality Standard

June 2, 2011

Technical Support Document:

Recommended Attainment/Nonattainment Designations in Illinois for the 2010 Revised Primary 1-Hour SO_2 National Ambient Air Quality Standard

AQPSTR 11-02

June 2, 2011

Illinois Environmental Protection Agency
Division of Air Pollution Control
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

www.epa.state.il.us

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Introduction

On June 2, 2010, the U.S. Environmental Protection Agency (U.S. EPA) revised the primary Sulfur Dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) in response to current scientific evidence which links short-term exposure to SO_2 with adverse health effects in humans. U.S. EPA health studies show that short-term exposure to SO_2, ranging from 5-minutes to 24-hours, results in adverse respiratory effects and increased asthma symptoms, particularly in children, the elderly, and asthmatics. According to U.S EPA, there is currently little evidence suggesting a relationship between long-term exposure to SO_2 and health effects. As a result, U.S. EPA revoked both the previous 24-hour and annual primary SO_2 standards and established a new primary 1-hour SO_2 standard at a level of 75 parts per billion (ppb) (75 FR 35520; June 22, 2010). As part of the 2010 revised primary SO_2 NAAQS (further referenced as the revised SO_2 standard), U.S. EPA also modified how attainment is determined. The revised SO_2 standard is attained when the three-year average of the annual 99th percentile 1-hour daily maximum concentrations does not exceed 75 ppb (75 FR 35520; June 22, 2010). U.S. EPA will address the secondary SO_2 standard as part of a separate review.

Section 107(d) of the Clean Air Act (CAA) governs the process for area designations, and directs states to submit their SO_2 designation recommendations to U.S. EPA by June 3, 2011. Following the promulgation of a new or revised air quality standard, the Clean Air Act (CAA) requires the Governor to recommend initial designations of the attainment status for all areas of the State. Areas can be classified as ***nonattainment*** (does not meet, or contributes to a nearby area that does not meet the NAAQS), ***attainment*** (meets the NAAQS), or ***unclassifiable*** (cannot be classified based on available data). Illinois is, therefore, required to provide recommendations for attainment/nonattainment area boundaries for the 2010 revised primary SO_2 standard. The U.S. EPA will act on the State's recommendations by both affirming and promulgating the recommended designation boundaries, or by promulgating new designations. U.S. EPA stated in its preamble to the 2010 NAAQS, that in addition to air monitoring data, refined dispersion modeling information may be used as part of an analytical approach to designations. However, according to the U.S. EPA March 24, 2011 memorandum entitled, *Area Designations for the*

2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards, the U.S EPA does not believe it would be "realistic or appropriate to expect states to complete modeling for all significant sources of SO_2 and assess the results in time for the June 2011 designation recommendations". States would instead present modeling to address additional violations in the course of developing State Implementation Plan (SIP) revisions under Section 110(a) of the Clean Air Act as a, "basis for re-designation of nonattainment and unclassifiable areas to attainment" (75 FR at 35570). Illinois does not intend to submit dispersion modeling in support of designations at this time. Rather, IEPA will complete dispersion modeling in the course of developing SIP revisions.

Federal Guidance

The Illinois Environmental Protection Agency (IEPA) relied on guidance identified in a memorandum issued by U.S. EPA on March 24, 2011 which referenced pages in the preamble of the lead NAAQS final rule regarding criteria for developing this recommendation and for establishing the geographic boundaries of nonattainment areas (NAA) for the 2010 revised SO_2 standard. In this guidance, U.S. EPA recommended that states designate areas with air quality data showing violations of the SO_2 NAAQS, and nearby areas that cause or contribute to NAAQS violations, be designated nonattainment. Due to the localized nature of SO_2 impacts, U.S. EPA also recommends that the "county line" associated with the violating monitor(s) serve as the starting point, or presumptive boundary, for new SO_2 nonattainment areas. U.S. EPA provides states with the ability to depart from county boundaries based on area-specific analyses. States may request nonattainment area boundaries that are smaller than the existing violating county boundaries where counties, or portions of counties, do not contribute to nonattainment based on an examination of five factors. States may also request nonattainment area boundaries that are larger than the current county to include adjacent counties when those counties contain emission sources and other factors that may contribute to the nonattainment problem. This report provides the basis for recommendations by the IEPA for attainment/nonattainment designation boundaries for all areas in the State of Illinois for the revised SO_2 standard.

Five Factor Analysis

The U.S. EPA recommends that states consider the following five factors in assessing whether to depart from county boundaries as the designated nonattainment area boundary:

1. **Air Quality Data:** an evaluation of the design value calculations for each monitor in the State. This calculation consists of the 3-year average of the annual 99th percentile daily maximum 1-hour SO_2 concentrations collected at each monitor. A detailed discussion of air quality in Illinois is provided in the sections below.

2. **Emissions-Related Data:** an evaluation of SO_2 emissions from sources located in and around the violating area which may potentially contribute to observed or modeled violations of the NAAQS. The emissions data used in this analysis are based on actual SO_2 emissions reported to the IEPA for 2007 through 2009.

3. **Meteorology:** an evaluation of weather conditions, including wind speed and direction that affect the plume of sources contributing to ambient and monitored SO_2 concentrations. Pollution roses are derived from IEPA sites in the proposed NAA areas, and all sites use either collocated wind measurements, or the nearest IEPA monitoring site with wind direction measurements, along with hourly SO_2 concentrations. The pollution roses show the frequency of wind directions at the monitor when 1-hour concentrations of SO_2 that exceed the standard are occurring. Detailed meteorology used in IEPA's analysis is discussed in the following sections.

4. **Geography/Topography:** Includes an evaluation of the physical features of the land that might have an effect on the airshed and, therefore, on the distribution of SO_2 at and near the monitors. Due to the fact that none of the recommended SO_2 nonattainment areas in Illinois have any geographical or topographical barriers that significantly limit air

pollution transport within the airsheds, the geography/topography factor did not play a significant role in determining the nonattainment boundaries in Illinois.

5. **Jurisdictional Boundaries:** Includes an analysis of areas that provide clearly defined legal boundaries including landmarks or geographic coordinates to carry out air quality planning and enforcement functions for the nonattainment area. The Illinois EPA is responsible for air quality regulatory programs for every county in the state. Jurisdictional boundaries considered in this analysis are consistent with recommended geographic boundaries, or "county line" definitions, outlined in U.S. EPA's guidance documentation. Sub-county boundaries in this study reflect 2009 Political Township boundaries provided by Property Tax Division of the Illinois Department of Revenue.

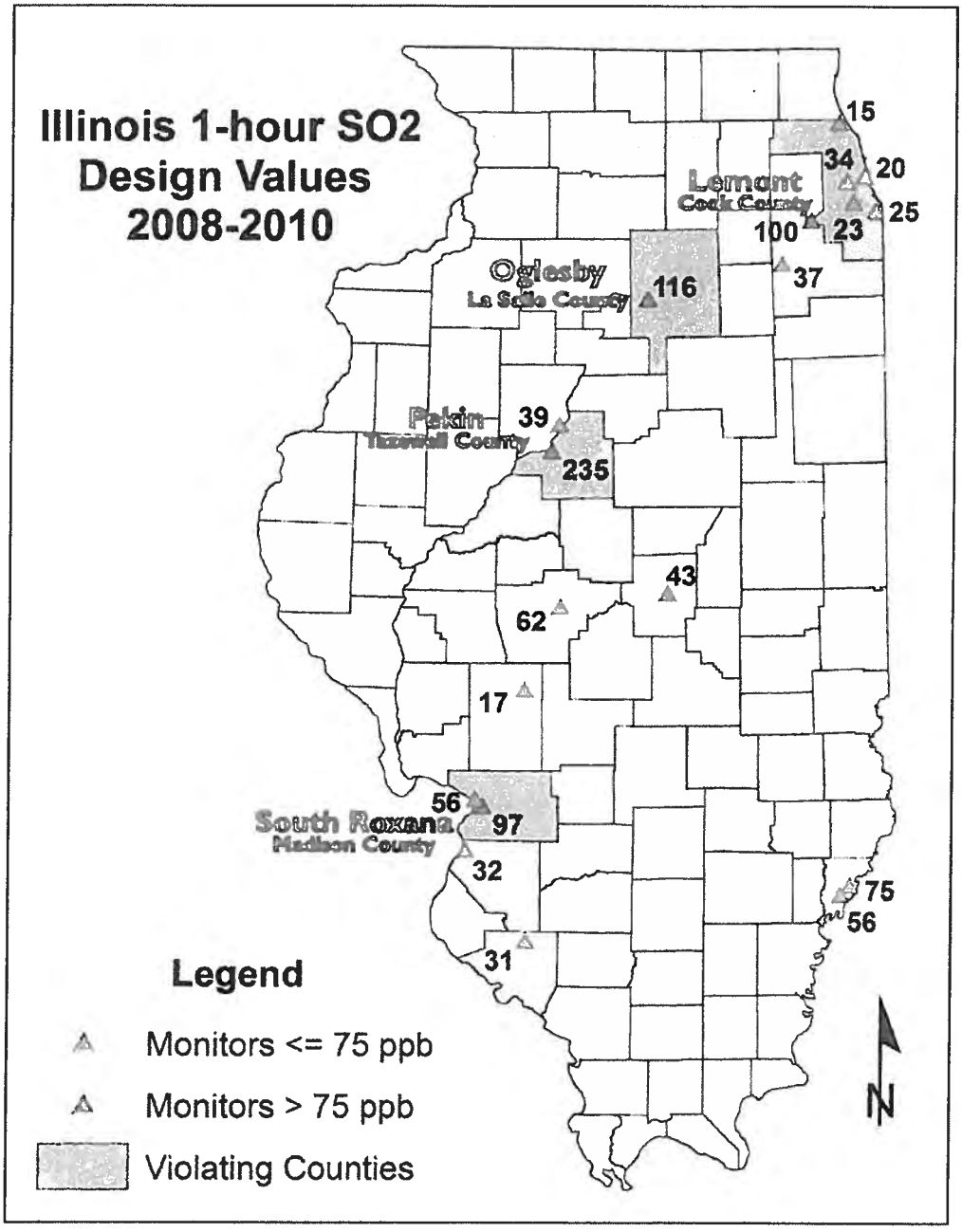
Illinois Air Quality

As recommended by U.S. EPA, the first step in identifying areas that are in violation of the revised SO_2 NAAQS is to evaluate the most recent three years of ambient air monitoring data. Table 1 shows the most recent three consecutive years of quality assured air monitoring data for 2008 through 2010, along with the resulting design values. The design value is defined as the 3-year average of the annual 99th percentile daily maximum 1-hour SO_2 concentrations collected at each monitor (which is generally the fourth highest daily maximum 1-hour concentration, averaged over three consecutive years). The general trend in annual 1-hour 99^{th} percentile values statewide has been downward. Overall, 16 of the 19 Illinois SO_2 monitoring sites had 99^{th} percentile values in 2010 that were lower than those same values in 2008. Despite the significant improvement in air quality statewide, four monitoring sites currently violate the revised SO_2 NAAQS. These four monitors are located in Tazewell, La Salle, Cook, and Madison counties (see Figure 1). The remaining fifteen monitoring sites are attaining the revised SO_2 NAAQS, most by a considerable margin.

Table 1
2008-2010 Illinois SO_2 Design Values (ppb)

AQS Code	County	Site	Annual 99th Percentiles			Design Value
			2008	2009	2010	
170310050	Cook	Chicago - SE Police	35	19	21	25
170310063	Cook	Chicago - CTA	26	21	14	20
170310076	Cook	Chicago - Com Ed	26	24	20	23
170311601	Cook	Lemont	97	114	90	100
170314002	Cook	Cicero	43	29	31	34
170314201	Cook	Northbrook	13	17	15	15
170990007	La Salle	Oglesby	326	8	14	116
171150013	Macon	Decatur	44	36	49	43
171170002	Macoupin	Nilwood	20	16	15	17
171191010	Madison	South Roxana	152	81	57	97
171193007	Madison	Wood River WTP	67	46	54	56
171430024	Peoria	Peoria	52	21	43	39
171570001	Randolph	Houston	35	26	31	31
171630010	St. Clair	East St. Louis	35	30	31	32
171670006	Sangamon	Springfield	131	24	31	62
171790004	Tazewell	Pekin	243	233	228	235
171850001	Wabash	Mount Carmel	90	69	66	75
171851001	Wabash	Rural Wabash Co.	57	53	59	56
171970013	Will	Joliet	56	32	24	37

Figure 1


Illinois 1-hour SO2
Design Values
2008-2010
Lemont
Cook County
Oglesby
La Salle County
Pekin
Tazewell County
South Roxana
Madison County
15
34
20
25
100
23
37
116
39
235
43
62
17
56
97
32
31
75
56
Legend
Monitors <= 75 ppb
Monitors > 75 ppb
Violating Counties
N

Illinois 5 Factor Analysis

The U.S. EPA recommends that states consider the following five factors in assessing whether to depart from county boundaries as the designated nonattainment area boundary. As previously mentioned, Illinois has four counties where monitored violations of the revised SO_2 NAAQS are occurring. The information in the following sections provides boundary recommendations based on the five factors outlined in U.S. EPA guidance within each violating county or adjacent county.

Tazewell County

Air Quality

There are two SO_2 monitors in the Peoria area. The first monitor is located west of the Illinois River in Peoria, while the second monitor is located east of the Illinois River in Pekin (see Figure 2). Monitoring data for both sites is listed below in Table 2. The 2008-2010 design value for the Peoria monitor is below the revised 1-hour NAAQS, while the design value for the Pekin monitor is well above the revised 1-hour NAAQS. The 2008 through 2010 annual 99th percentiles show a small decrease at the Peoria site and consistently high values at the Pekin site.

Table 2 – Peoria Area Air Quality Data for 2008-2010 (ppb)

AQS Code	County	Site	Annual 99th Percentiles			Design Value
			2008	2009	2010	
171430024	Peoria	Peoria	52	21	43	39
171790004	Tazewell	Pekin	243	233	228	235

Emissions

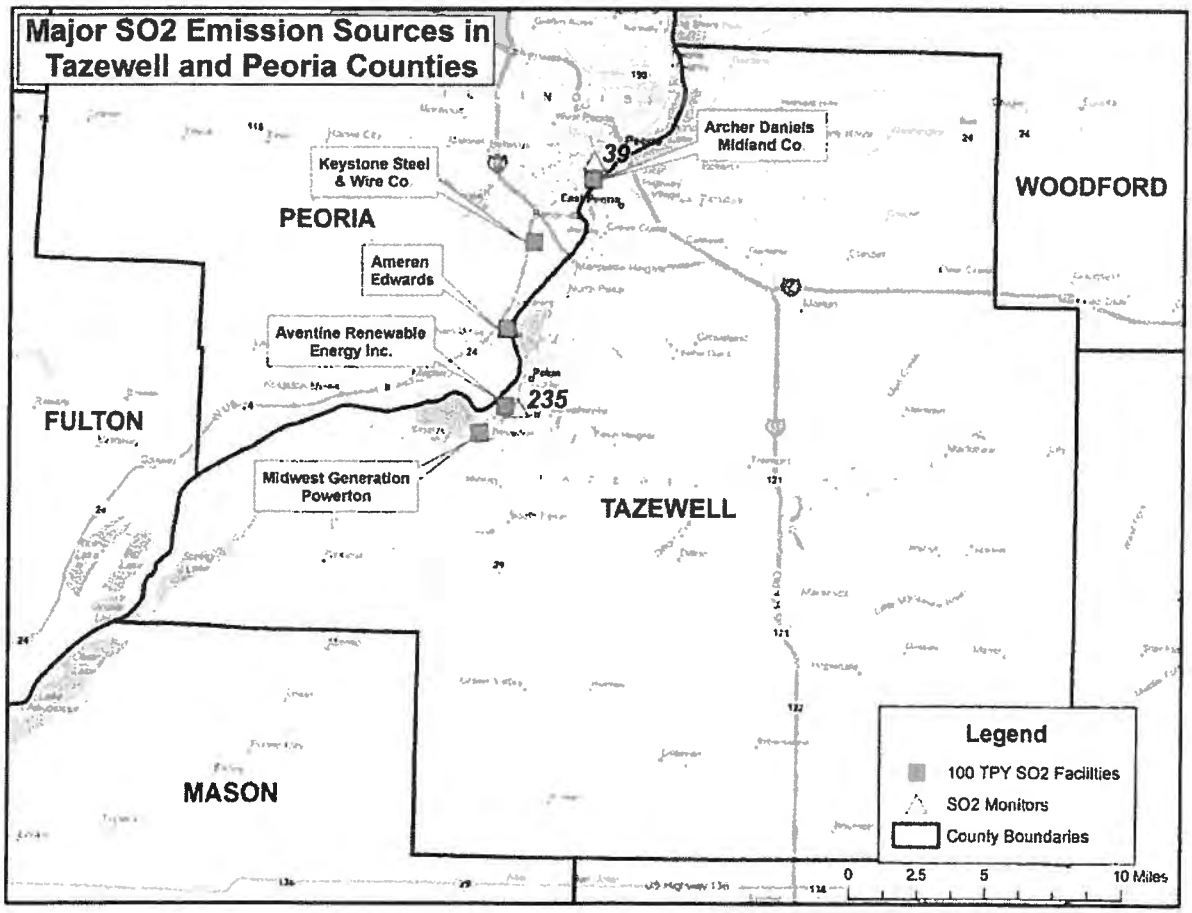
Table 3 lists the major SO_2 emission sources (reported SO_2 emissions over 100 tons per year for at least one of the years from 2007 through 2009) within both Tazewell and Peoria counties. The locations of these sources are shown in Figure 2. From Figure 2, there are two sources in the vicinity of the violating monitor in Pekin: Aventine Renewable Energy, and Midwest Generation – Powerton. Overall, there has been a small decrease in SO_2 emissions within the Peoria area

during the period, however Aventine and Midwest Generation-Powerton, have shown either steady or increasing emissions trends during this period.

Table 3 – Tazewell and Peoria County Reported SO_2 Emissions for 2007-2009

County	ID Number	Facility Name	Reported SO_2 Emissions (Tons per Year)		
			2007	2008	2009
Tazewell	179060ACR	Aventine Renewable Energy Inc	12239.93	11830.31	11819.57
Tazewell	179801AAA	Midwest Generation – Powerton	20543.67	22355.08	22125.00
Peoria	143065AJE	Archer Daniels Midland Co	3140.00	3049.00	2587.00
Peoria	143805AAG	Ameren – Edwards	14535.90	11224.10	11734.40
Peoria	143808AAA	Keystone Steel & Wire Co	109.26	137.53	86.61

Figure 2 – Location of Major SO_2 Emission Sources in Tazewell and Peoria Counties



Meteorology

The closest National Weather Service (NWS) meteorological monitoring site to the Pekin area is located at the Greater Peoria Airport. The IEPA considers the meteorological characteristics of the airport site to generally be representative of the Tazewell County area, although it is possible that some local-scale differences may occur within the Illinois River valley, where Pekin is located. Figure 3 shows the climatological wind rose, or wind frequency distribution, for the Peoria Airport. The figure shows that southerly winds are most frequent in the Peoria area, with a secondary maximum from the northwest.

Figure 3 - Greater Peoria Airport Climatological Wind Rose

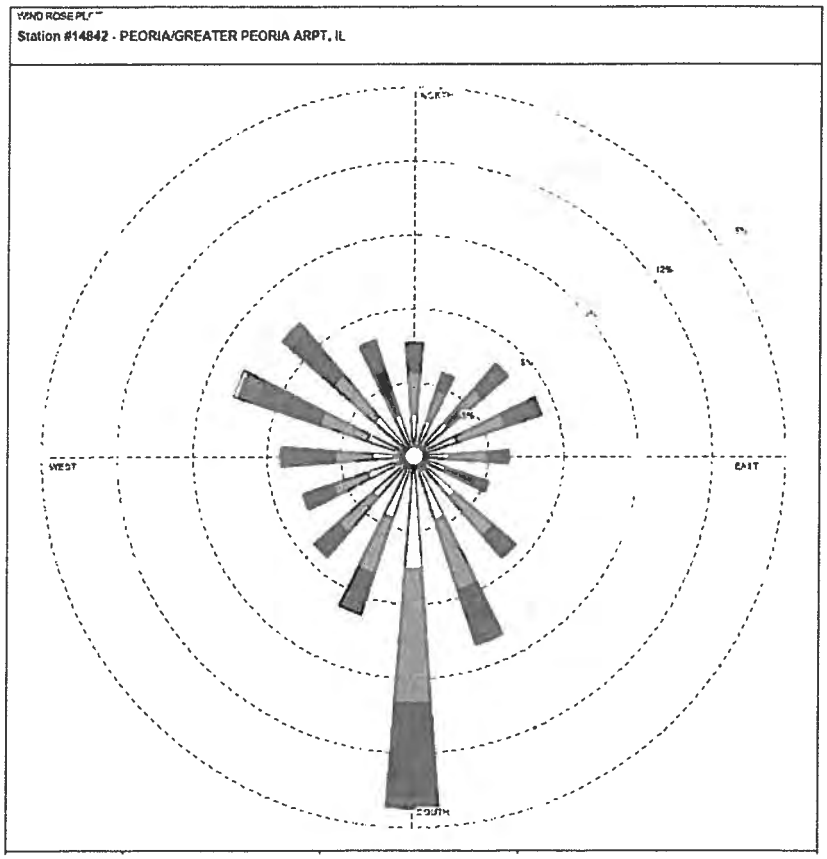


Figure 4 shows the pollution rose for the Pekin monitor, which depicts the wind directions associated with measured SO_2 concentrations exceeding 75 ppb at this location. Comparing the pollution rose in Figure 4 to Figure 5, which shows the locations of major SO_2 emission sources with respect to the Pekin monitor, it is apparent that the wind direction during exceedance hours is either from the west or west-southwest, which aligns the nearby Aventine facility, and, to a lesser extent, Midwest Generation – Powerton with the monitor location.

Figure 4 – Pekin Pollution Rose

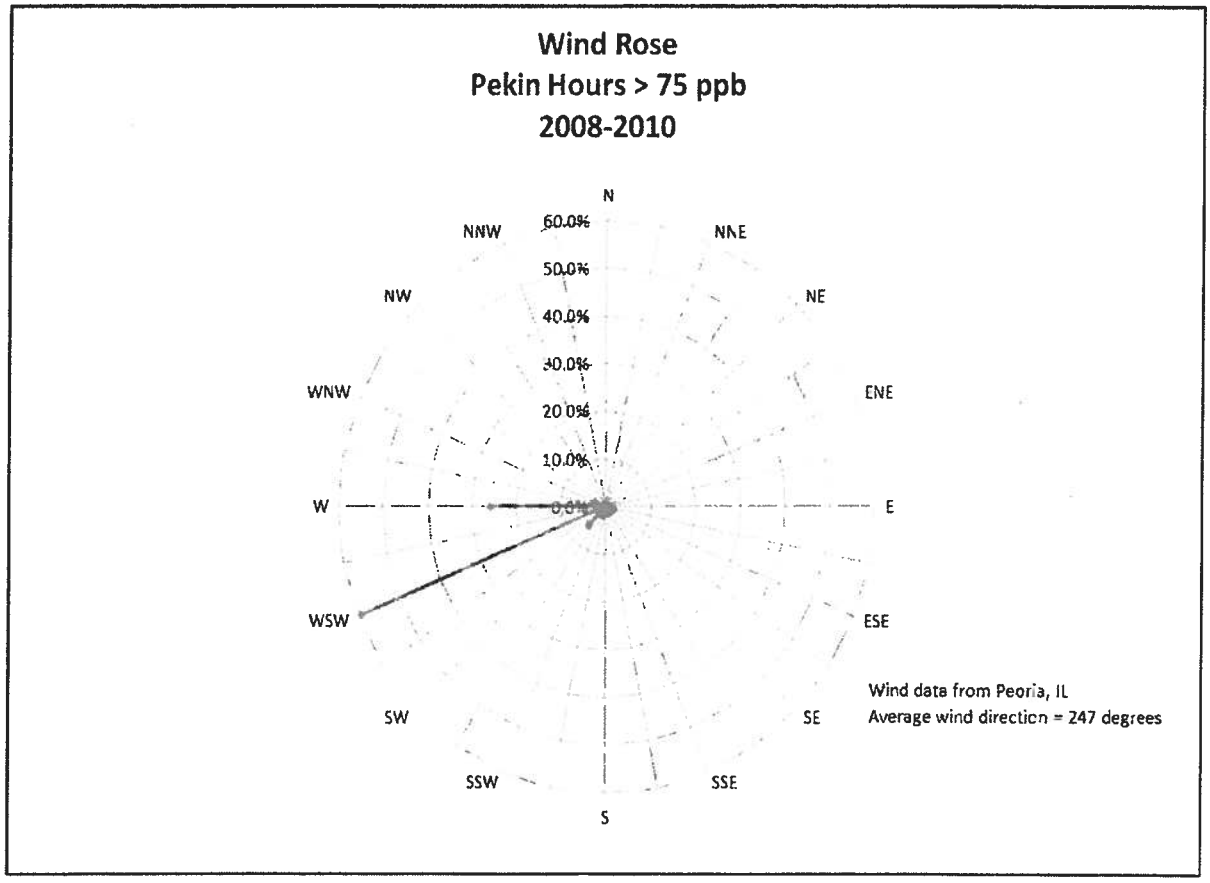


Figure 5 - Aerial Photo of the Pekin Monitor and nearby Facilities

Since the Pekin monitor is at a slightly higher elevation than the two facilities to the west-southwest, IEPA believes that the high concentrations that are occurring at this monitor are primarily due to emissions from these local sources.

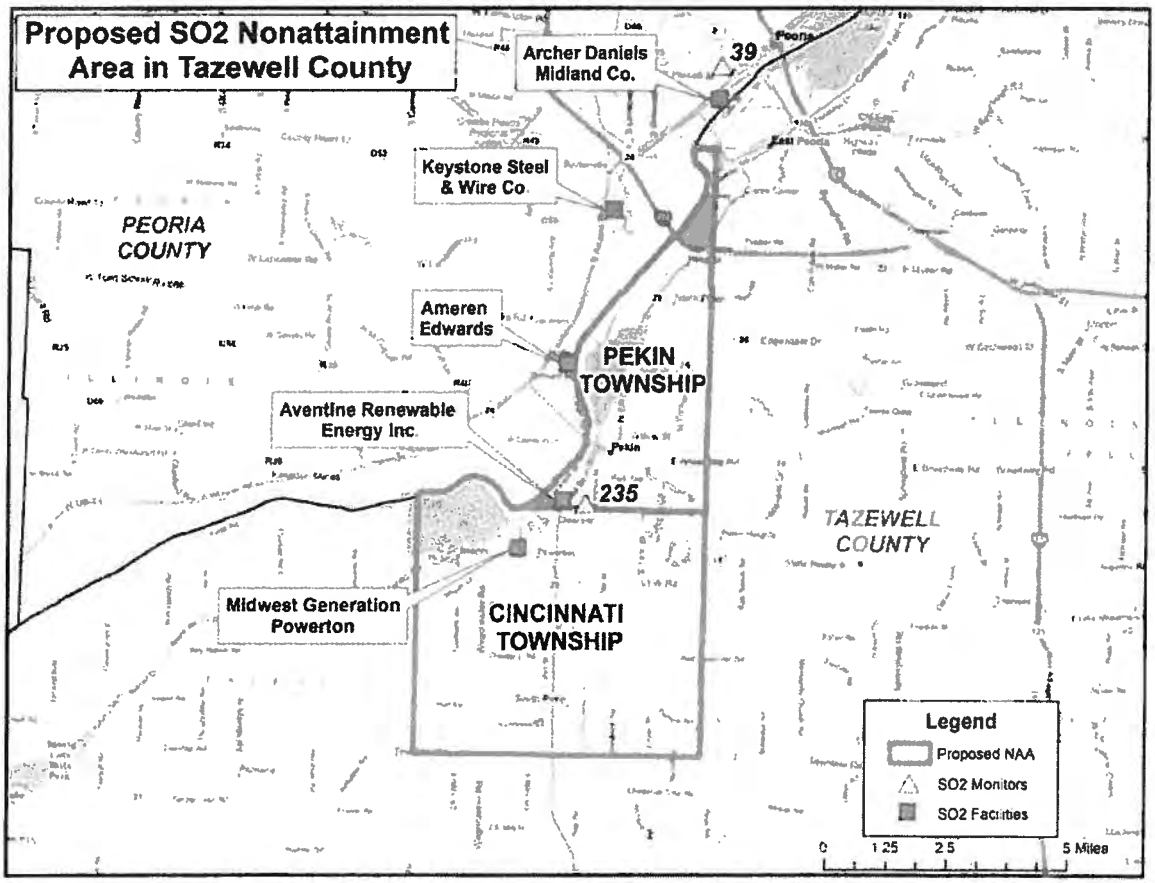
Jurisdictional Boundaries

The Illinois EPA is responsible for air quality regulatory programs for every county in the state. Jurisdictional boundaries considered in this analysis are consistent with recommended geographic boundaries, or "presumptive boundary" definitions, outlined in U.S. EPA's guidance documentation. Boundaries in this study reflect the 2009 political township boundaries provided by the Property Tax Division of the Illinois Department of Revenue. Based on the geographic location of Pekin and the individual sources, it is expected that the coordination of planning activities required to address the nonattainment designation can be carried out in a cohesive manner.

Recommendation

Based on the factors discussed above, Illinois recommends that Pekin and Cincinnati Townships in Tazewell County be designated as nonattainment for the 2010 1-hour SO_2 NAAQS (see Figure 6). These two townships contain both the violating monitor and the two most culpable emission sources.

Figure 6 – Proposed SO_2 Nonattainment Area Boundary for Tazewell County



La Salle County

Air Quality

There is one SO_2 monitor in La Salle County located in Oglesby. Monitoring data for this site is listed below in Table 4. The 2008-2010 design value for the Oglesby monitor currently exceeds the revised 1-hour NAAQS. However, the 2008 through 2010 annual 99th percentiles show a large decline in SO_2 values measured at the Oglesby site related to the suspension of operations at the Lone Star Industries cement plant in 2008. The 99th percentiles for both 2009 and 2010 were the lowest values in the state and the Oglesby monitor is expected to attain the revised 1-hour NAAQS by the end of 2011.

Table 4 – La Salle County Air Quality Data for 2008-2010 (ppb)

AQS Code	County	Site	Annual 99th Percentiles			Design Value
			2008	2009	2010	
170990007	La Salle	Oglesby	326	8	14	116

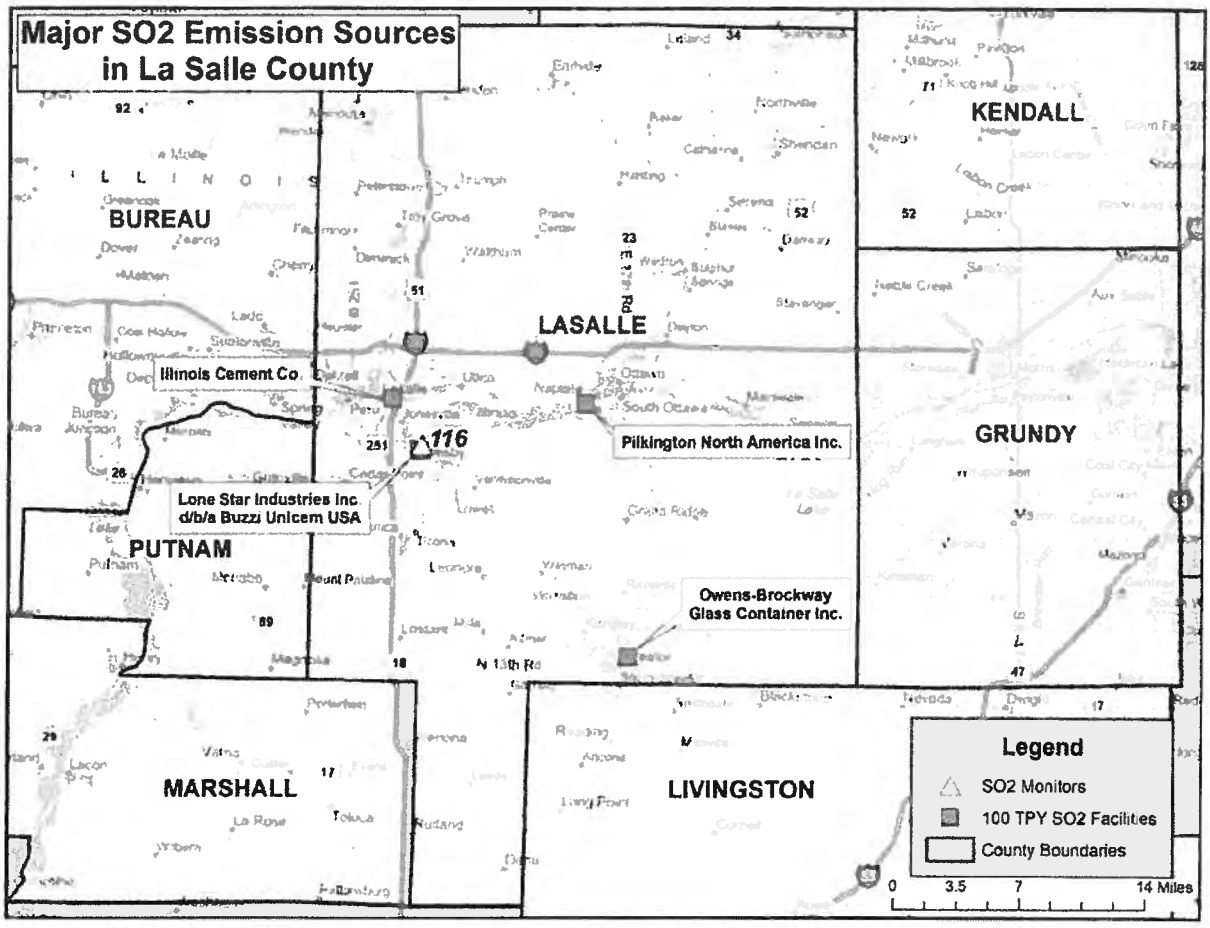
Emissions

Table 5 lists the major SO_2 emission sources (reported SO_2 emissions over 100 tons per year for at least one of the years from 2007 through 2009) in La Salle County. The locations of these sources are shown in Figure 7. From Figure 7, there is only one source in the vicinity of the violating monitor in Oglesby: Lone Star Industries. This facility has been closed since 2008, which is reflected in the large decrease in SO_2 emissions shown in Table 5. There has also been a significant reduction in SO_2 emissions at the Illinois Cement Company plant in La Salle, although this facility remains operational.

Table 5 – La Salle County Reported SO_2 Emissions for 2007-2009

County	ID Number	Facility Name	Reported SO_2 Emissions (Tons per Year)		
			2007	2008	2009
La Salle	099030AAZ	Illinois Cement Co	167.8	160.34	90.17
La Salle	099490AAD	Owens-Brockway Glass Container Inc	228.24	221.72	208.69
La Salle	099816AAF	Lone Star Industries Inc	2937.16	2241.18	0.00
La Salle	099825AAG	Pilkington North America Inc	293.66	255.1	308.22

Figure 7 – Location of Major SO_2 Emission Sources in La Salle County



Meteorology

The Oglesby monitor is in north-central Illinois, roughly the same distance from NWS stations at the Rockford Airport and at the Peoria Airport. Figure 8 shows the climatological wind rose for the Rockford airport. The Rockford wind rose looks very similar to the Peoria wind rose, presented previously in Figure 3. There is a pronounced maximum frequency of southerly winds at Rockford, as at Peoria, with a secondary maximum from the northwest. The IEPA considers these NWS stations to generally be representative of conditions occurring in La Salle County, although it is recognized that the Vermillion River valley, where the Lone Star facility is located, may cause localized meteorological influences.

Figure 8 - Greater Rockford Airport Climatological Wind Rose

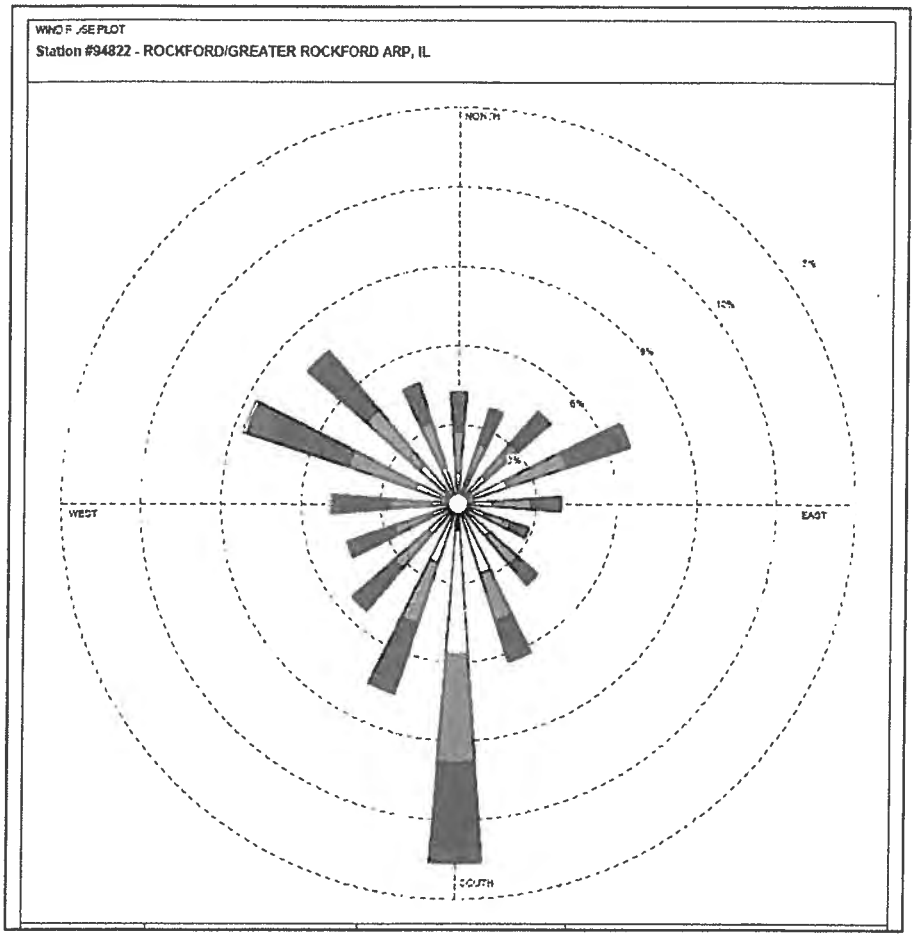


Figure 9 shows the pollution rose for the Oglesby monitor, while Figure 10 is an aerial photo that shows the relationship of the one large source to the monitor. The pollution rose shows that the wind direction during exceedance hours is primarily from the southwest, which corresponds well with the location of Lone Star Industries, which is located to the south and southwest of the monitor. Based on this analysis, the IEPA concludes that exceedances of the revised 1-hour SO_2 NAAQS at Oglesby are due primarily to emissions from the Lone Star facility.

Figure 9 – Oglesby Pollution Rose

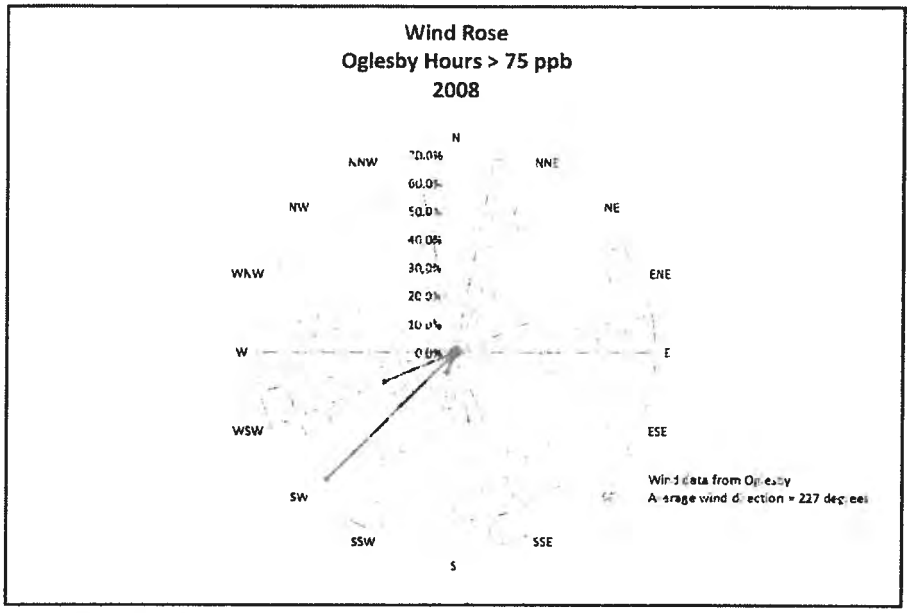


Figure 10 - Aerial photo of the Oglesby Monitor and nearby Facility

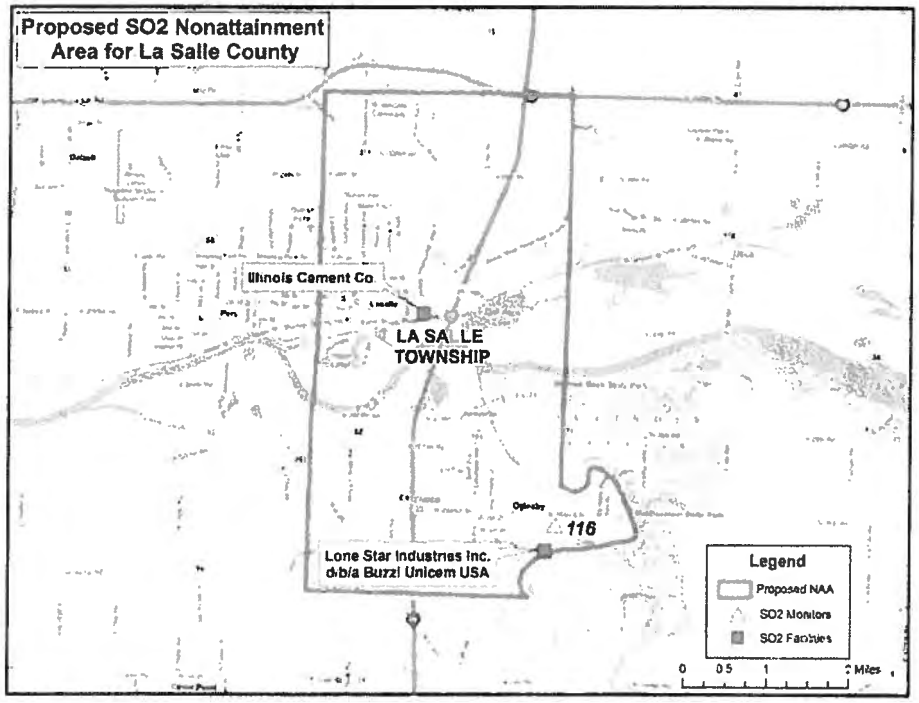
Jurisdictional Boundaries

The Illinois EPA is responsible for air quality regulatory programs for every county in the state. Jurisdictional boundaries considered in this analysis are consistent with recommended geographic boundaries, or "presumptive boundary" definitions, outlined in U.S. EPA's guidance documentation. Boundaries in this study reflect the 2009 political township boundaries provided by the Property Tax Division of the Illinois Department of Revenue. Based on the geographic location of Oglesby and the individual sources, it is expected that the coordination of planning activities required to address the nonattainment designation can be carried out in a cohesive manner.

Recommendation

Based on the factors discussed above, Illinois recommends that La Salle Township in La Salle County be designated as nonattainment for the 2010 1-hour SO_2 NAAQS (see Figure 11). This township contains both the violating monitor and the most culpable source of SO_2 emissions.

Figure 11 – Proposed SO_2 Nonattainment Area Boundary for La Salle County



Cook and Will Counties

Air Quality

There are seven SO_2 monitors located in Cook and Will Counties. Monitoring data for these sites are listed below in Table 6. The 2008-2010 design values for all of the sites are well below the revised 1-hour NAAQS, except for the monitor at Lemont. As can been in Figure 12, the distribution of design values across northeastern Illinois indicates that the Lemont monitor represents a "hot spot" due to impacts from local emission sources.

Table 6 – Cook and Will County Air Quality Data for 2008-2010 (ppb)

AQS Code	County	Site	Annual 99th Percentiles			Design Value
			2008	2009	2010	
170310050	Cook	Chicago - SE Police	35	19	21	25
170310063	Cook	Chicago – CTA	26	21	14	20
170310076	Cook	Chicago - Com Ed	26	24	20	23
170311601	Cook	Lemont	97	114	90	100
170314002	Cook	Cicero	43	29	31	34
170314201	Cook	Northbrook	13	17	15	15
171970013	Will	Joliet	56	32	24	37

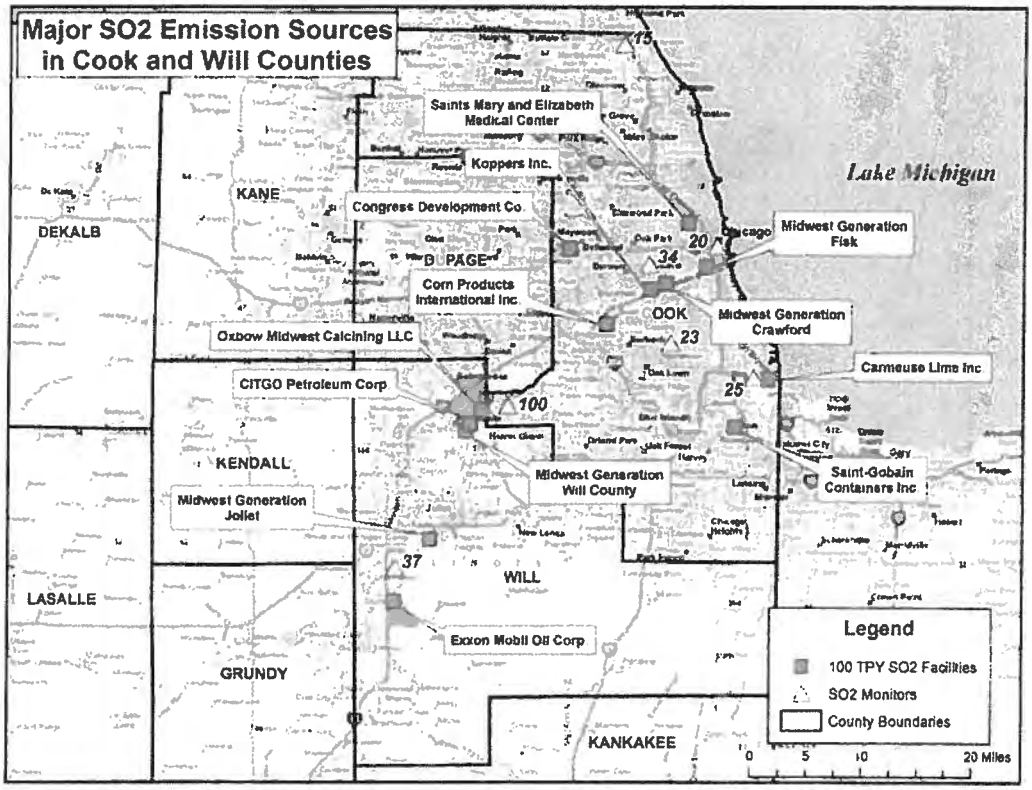
Emissions

Table 7 lists the major SO_2 emission sources (reported SO_2 emissions over 100 tons per year for at least one of the years from 2007 through 2009) within Cook and Will counties. The locations of these sources are shown in Figure 12. From Figure 12, there are three sources in the vicinity of the violating monitor in Lemont: Oxbow Midwest Calcining, CITGO Petroleum, and Midwest Generation – Will County. It should be noted that all three nearby sources are located in Will County, although the Lemont monitor is located in Cook County. Overall, SO_2 emissions in Cook and Will counties have dropped by almost 50% since 2007, with the most significant reductions occurring at the two oil refineries (CITGO and Exxon Mobil).

Table 7 – Cook and Will County Reported SO_2 Emissions for 2007-2009

County	ID Number	Facility Name	Reported SO_2 Emissions (Tons per Year)		
			2007	2008	2009
Cook	031012ABI	Corn Products International Inc	1942.00	2203.00	991.00
Cook	031069AAI	Saint-Gobain Containers Inc	354.05	344.84	300.30
Cook	031123ABP	Congress Development Co	57.43	81.33	204.00
Cook	031300AAJ	Koppers Inc	846.80	823.17	705.38
Cook	031600ADY	Carmeuse Lime Inc	359.57	321.46	0.00
Cook	031600AIN	Midwest Generation - Crawford	8881.90	6626.90	7107.50
Cook	031600AMI	Midwest Generation - Fisk	4954.51	4485.561	4217.56
Cook	031600CTF	Saints Mary and Elizabeth Med. Center	0.07	0.10	125.01
Will	197090AAI	CITGO Petroleum Corp	14170.75	6135.86	336.62
Will	197800AAA	Exxon Mobil Oil Corp	22095.05	16404.03	1914.79
Will	197803AAK	Oxbow Midwest Calcining LLC	7153.21	6204.85	4990.62
Will	197809AAO	Midwest Generation – Joliet	20265.72	18281.72	17996.87
Will	197810AAK	Midwest Generation - Will County	17310.81	16496.78	12602.53

Figure 12 – Location of Major SO_2 Emission Sources in Cook and Will Counties



Meteorology

The Lemont monitor is located in Cook County, so the nearest NWS site is at Chicago's O'Hare Airport. Since the Lemont site is a similar distance from Lake Michigan as O'Hare airport, the effect of Lake Michigan on local wind directions should be comparable. Figure 13 shows the climatological wind rose for O'Hare Airport. Unlike the Peoria and Rockford wind roses shown previously, a higher frequency of wind directions occur at O'Hare from southerly through westerly, with a secondary maximum from the northeast.

Figure 13 – Chicago-O'Hare Airport Climatological Wind Rose

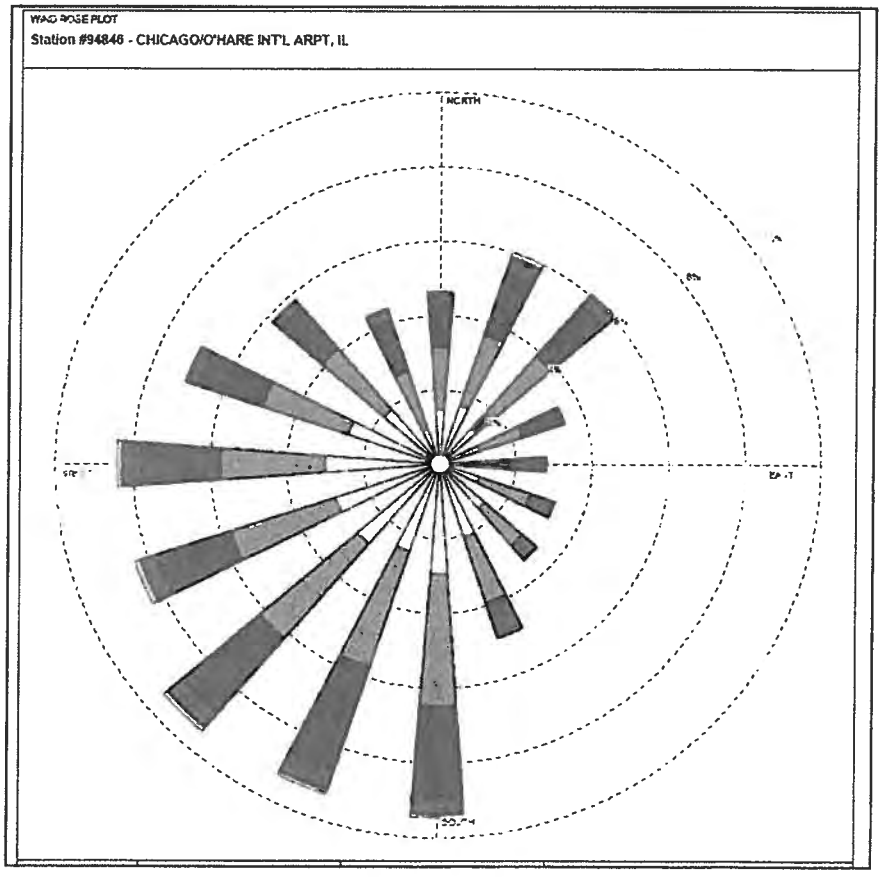


Figure 14 shows the pollution rose for the Lemont monitor, while Figure 15 is an aerial photo that shows the spatial relationship of major emission sources to the monitor. The pollution rose shows that the wind direction during exceedance hours is mostly from the west, which indicates likely contributions from Oxbow Midwest Calcining, and, to a lesser extent, CITGO Petroleum. With the close proximity of major sources upwind from the monitor on high concentration days, IEPA believes that nonattainment at the Lemont monitor is primarily due to these local sources.

Figure 14 - Lemont Pollution Rose

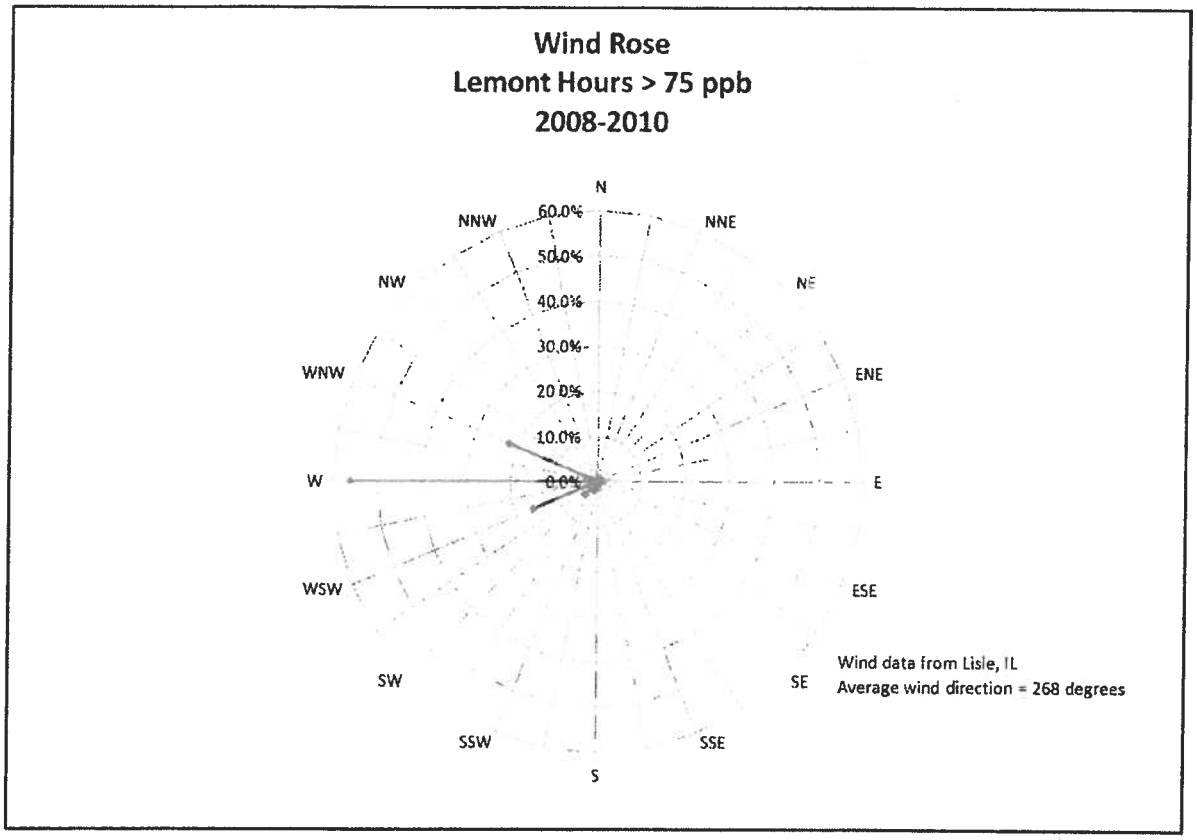


Figure 15 - Aerial photo of the Lemont monitor and nearby Facilities

Jurisdictional Boundaries

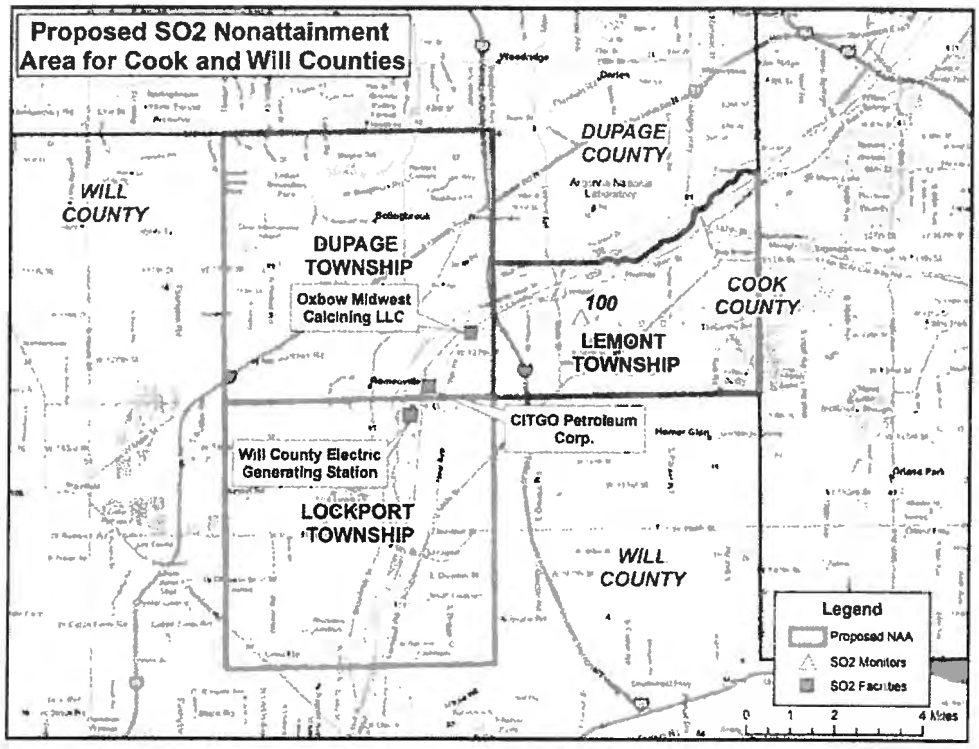
The Illinois EPA is responsible for air quality regulatory programs for every county in the state. Jurisdictional boundaries considered in this analysis are consistent with recommended geographic boundaries, or "presumptive boundary" definitions, outlined in U.S. EPA's guidance documentation. Boundaries in this study reflect the 2009 political township boundaries provided by the Property Tax Division of the Illinois Department of Revenue. Based on the geographic location of Lemont and the individual sources, it is expected that the coordination of planning activities required to address the nonattainment designation can be carried out in a cohesive manner.

Recommendation

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 SO_2 NAAQS (see Figure 16). These three townships contain both the violating

monitor and the most culpable sources of SO_2 emissions impacting the Lemont monitor.

Figure 16 – Proposed SO_2 Nonattainment Area Boundary for Cook and Will Counties



Madison County

Air Quality

There are three SO_2 monitors in the Metro-East area. Two of the monitors are located in western Madison County, while the third monitor is located in East St. Louis in St. Clair County. Monitoring data for all three sites is listed in Table 8. The 2008-2010 design values for the Wood River and East St. Louis monitors are well below the revised 1-hour NAAQS, while the design value for the South Roxana monitor exceeds the revised 1-hour NAAQS. The 2008 through 2010 annual 99th percentiles decreased at all three sites, with the most significant improvement occurring at the South Roxana monitor.

Table 8 – Metro-East Area Air Quality Data for 2008-2010 (ppb)

AQS Code	County	Site	Annual 99th Percentiles			Design Value
			2008	2009	2010	
171191010	Madison	South Roxana	152	81	57	97
171193007	Madison	Wood River WTP	67	46	54	56
171630010	St. Clair	East St. Louis	35	30	31	32

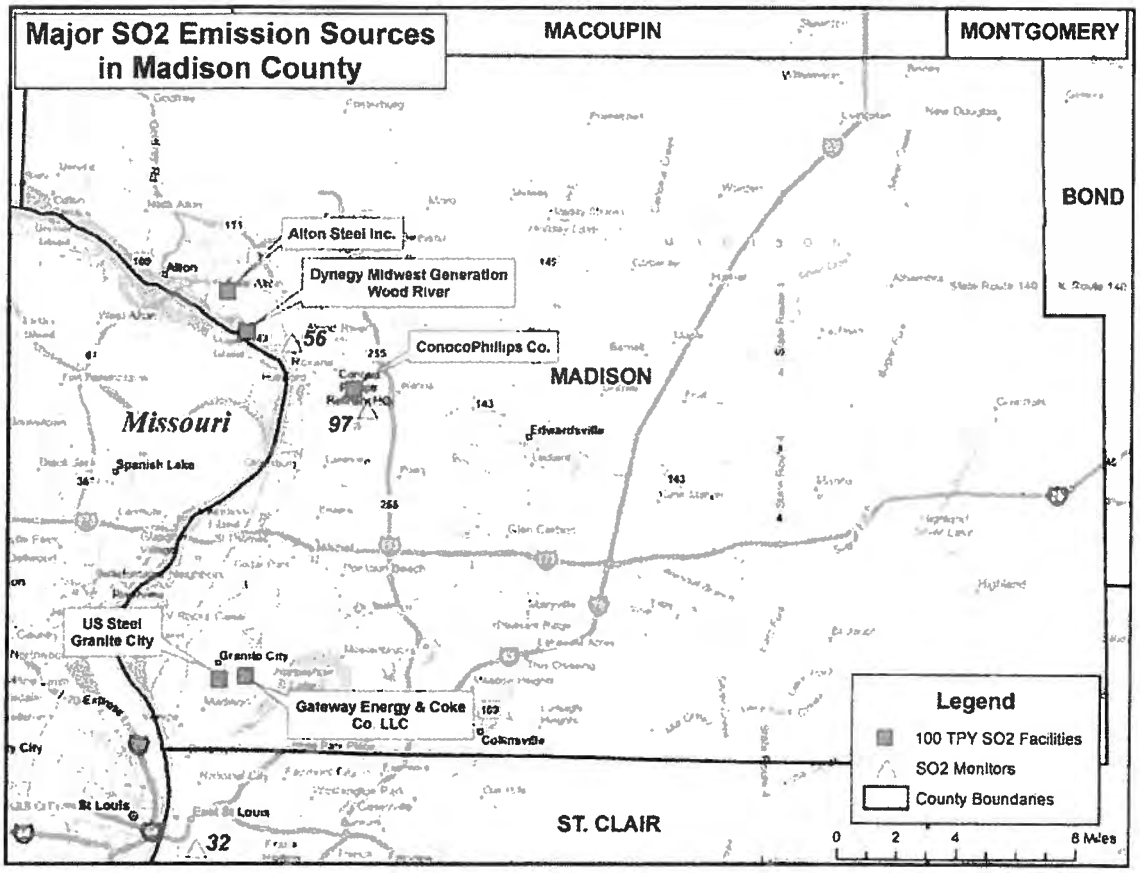
Emissions

Table 9 lists the major SO_2 emission sources (reported SO_2 emissions over 100 tons per year for at least one of the years from 2007 through 2009) in Madison County. The locations of these sources are shown in Figure 17. From Figure 17, there is only one source in proximity to the violating monitor in South Roxana: ConocoPhillips. SO_2 emissions in Madison County have decreased significantly during the 2007-2009 period. The largest reductions occurred at the ConocoPhillips oil refinery, which is located near the South Roxana monitor, and US Steel's Granite City Works.

Table 9 – Madison County Reported SO_2 Emissions for 2007-2009

County	ID Number	Facility Name	Reported SO_2 Emissions (Tons per Year)		
			2007	2008	2009
Madison	119010AAE	Alton Steel Inc	121.43	142.88	63.25
Madison	119020AAE	Dynegy Midwest Gen. – Wood River	6462.30	6873.20	9089.10
Madison	119040ATN	Gateway Energy & Coke Co LLC	0.00	0.00	580.34
Madison	119090AAA	ConocoPhillips Co	13629.96	12273.72	5761.00
Madison	119813AAI	US Steel - Granite City	6187.15	5612.67	1428.31

Figure 17 – Location of Major SO_2 Emission Sources in Madison County



Meteorology

The nearest NWS site to Madison County is Lambert Field in St. Louis. Figure 18 shows the climatological wind rose for Lambert Field. Unlike the wind roses previously shown, the most frequent wind directions are from the south through southeast, with a strong secondary maximum from the northwest. The IEPA considers the meteorological conditions at Lambert Field to generally be representative of conditions occurring in Madison County, although it is recognized that the South Roxana monitor is located on the flood plain of the Mississippi River and may experience some localized differences.

Figure 18 - St. Louis-Lambert Field Climatological Wind Rose

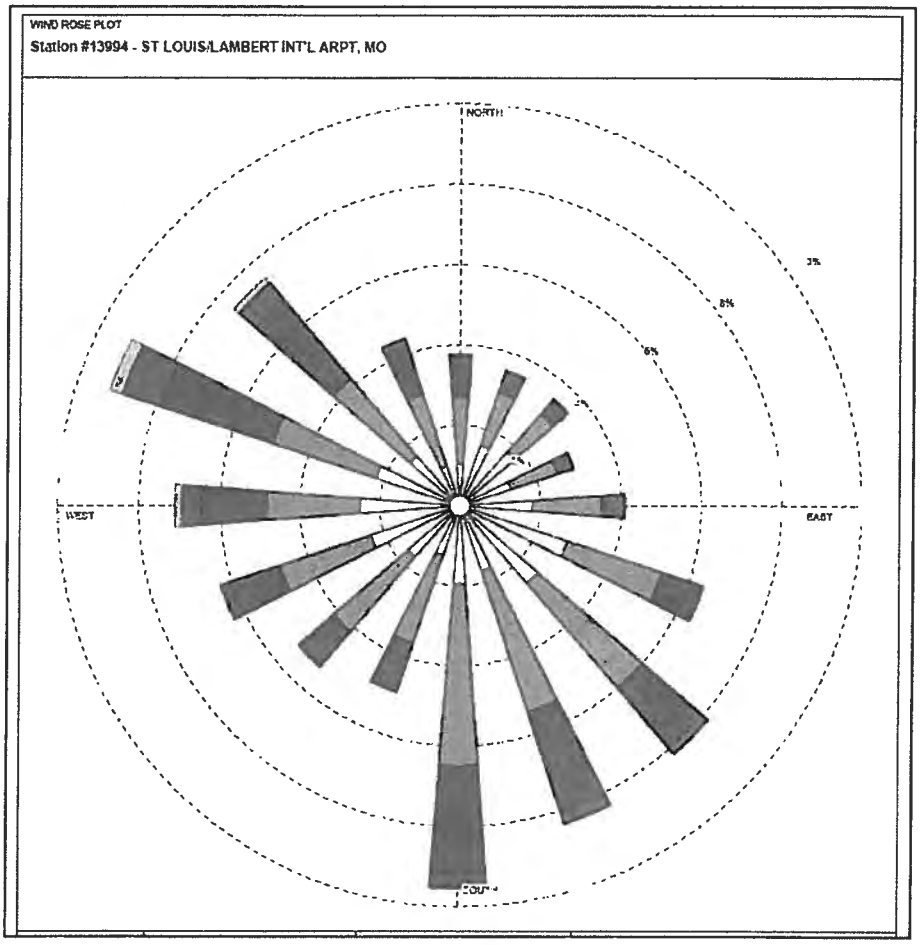


Figure 19 shows the pollution rose for the South Roxana monitor, while Figure 20 is an aerial photo that shows the relationship of the one large source to the monitor. The pollution rose shows that the wind direction during exceedance hours is primarily from the northwest which aligns the nearby ConocoPhillips refinery with the monitor location. With the proximity of this major nearby source to the monitor, IEPA concludes that emissions from this facility are primarily responsible for exceedances of the revised 1-hour SO_2 NAAQS at South Roxana.

Figure 19 - South Roxana Pollution Rose

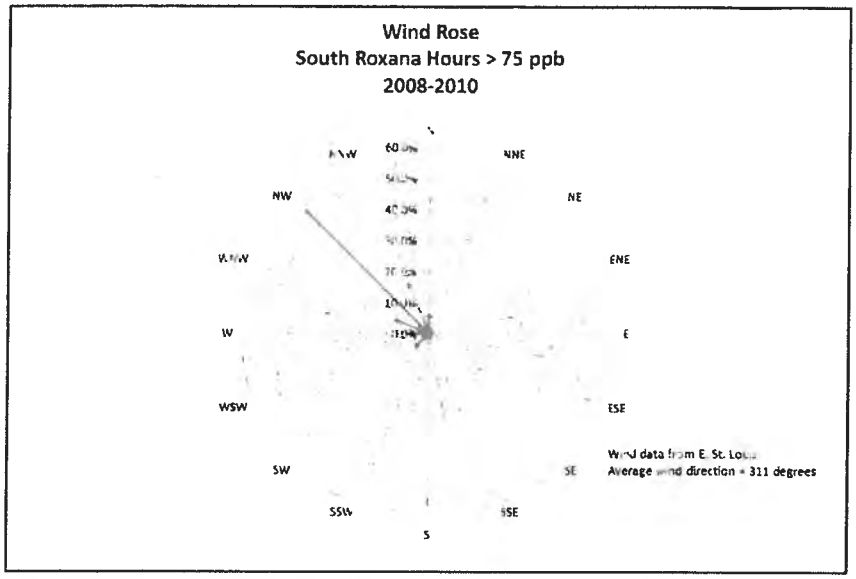


Figure 20 - Aerial photo of the South Roxana Monitor and nearby Facility

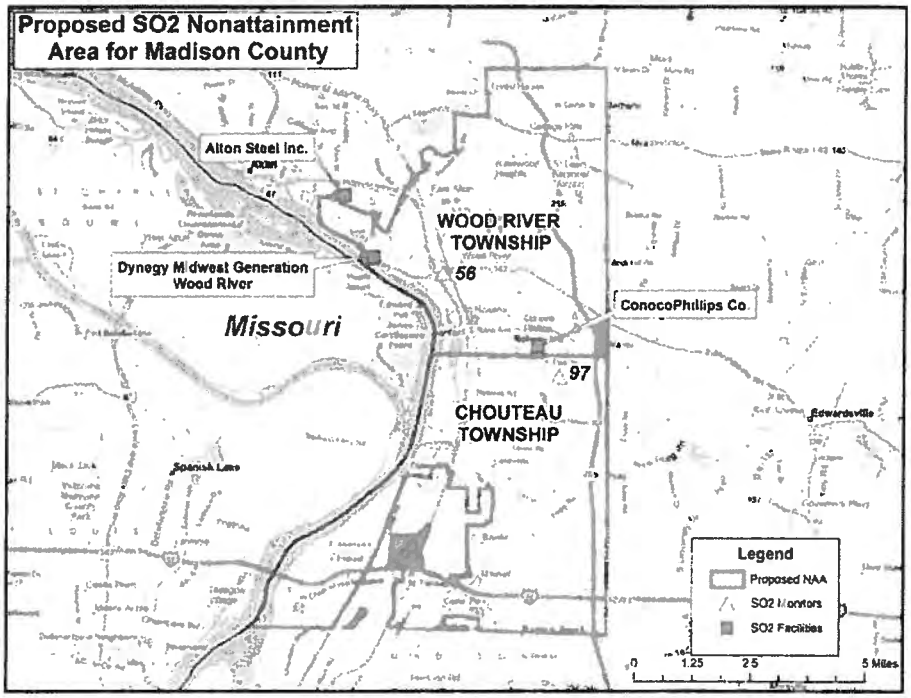
Jurisdictional Boundaries

The Illinois EPA is responsible for air quality regulatory programs for every county in the state. Jurisdictional boundaries considered in this analysis are consistent with recommended geographic boundaries, or "presumptive boundary" definitions, outlined in U.S. EPA's guidance documentation. Boundaries in this study reflect the 2009 political township boundaries provided by the Property Tax Division of the Illinois Department of Revenue. Based on the geographic location of Roxana and the individual sources, it is expected that the coordination of planning activities required to address the nonattainment designation can be carried out in a cohesive manner.

Recommendation

Based on the factors discussed above, Illinois recommends that Chouteau and Wood River Townships in Madison County be designated as nonattainment for the 2010 1-hour SO_2 NAAQS (see Figure 21). These two townships contain both the violating monitor and the most culpable source of SO_2 emissions impacting the South Roxana monitor.

Figure 21 – Proposed SO_2 Nonattainment Area Boundary for Madison County



Recommendations

IEPA's recommendations for attainment/nonattainment boundary designations in Illinois for the 2010 revised 1-hour SO_2 national ambient air quality standard are contained in Table 10. Current air quality data collected by the IEPA indicates that the 2010 revised primary SO_2 NAAQS is not being met in the areas listed in Table 10, and that they should be designated as nonattainment areas. The locations of IEPA's recommended SO_2 nonattainment areas for the State of Illinois are shown in Figure 22.

The Clean Air Act does not specify the geographic boundaries, size, or the extent to which source contributions would require that an area be designated as nonattainment for the 2010 revised primary SO_2 standard, nor has U.S. EPA promulgated rules prescribing such. IEPA's recommendations are consistent with the guidance memorandum provided by U.S. EPA and are based on an evaluation of current air quality, the location and magnitude of SO_2 emission sources, and other factors. The IEPA recognizes that each of the factors considered in this evaluation, when evaluated individually, are not necessarily conclusive. Rather, IEPA's recommendations are based on consideration of all of the factors taken together. It is expected that the coordination of planning activities required to address the nonattainment designations can be carried out in a cohesive manner. The data sources utilized in the preparation of this report are summarized in Table 11.

Figure 22

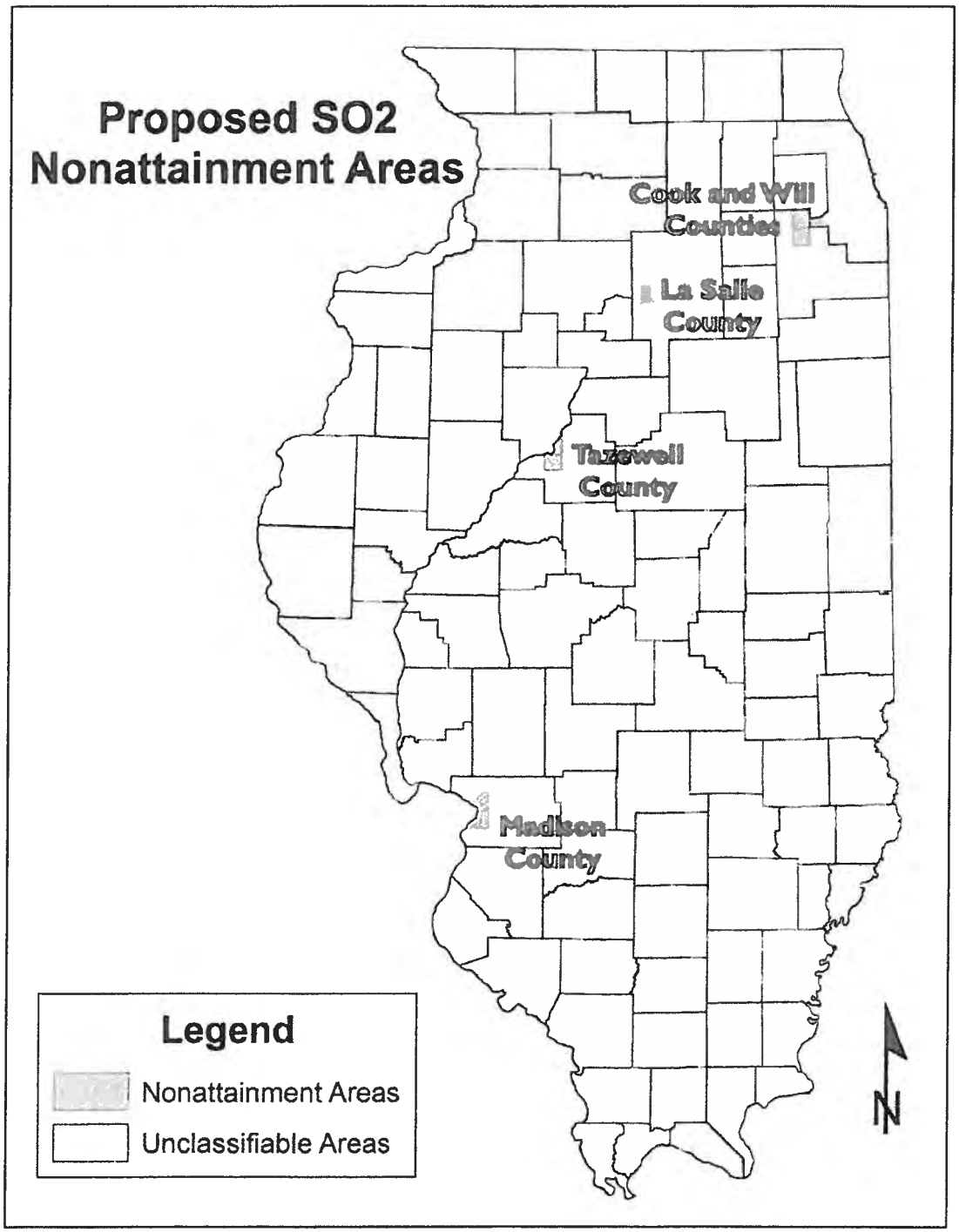

Proposed SO2
Nonattainment Areas
Cook and Will
Counties
La Salle
County
Tazewell
County
Madison
County
Legend
Nonattainment Areas
Unclassifiable Areas
N

Table 10

Recommended Attainment/Nonattainment Designations in Illinoisfor the 2010 Revised Primary 1-hour SO_2 National Ambient Air Quality Standard

County (Partial)	Designation	Name of Area
Tazewell County: • Pekin and Cincinnati Townships • Remainder of Tazewell County	Nonattainment Unclassifiable	Tazewell County
La Salle County: • La Salle Township • Remainder of La Salle County	Nonattainment Unclassifiable	La Salle County
Cook County: • Lemont Township • Remainder of Cook County	Nonattainment Unclassifiable	Cook County
Will County: • Lockport and DuPage Townships • Remainder of Will County	Nonattainment Unclassifiable	Will County
Madison County: • Chouteau and Wood River Townships • Remainder of Madison County	Nonattainment Unclassifiable	Madison County
All Other Counties	Unclassifiable	Illinois

Table 11

SO_2 NAA Five Factor Documentation

Factor	Data Analysis	Data Source	Date of Study
1. Air Quality	SO_2 2008-2010 Design Values at individual monitors (statewide)	IEPA BOA Database, Air Monitoring Section	2008-2010
2. Emissions	Emission inventory information for SO_2	IEPA 2007-2009 Reported Emissions,	2009
3. Geography/Topography	Statewide elevations	Google Maps Data	2008
4. Jurisdictional Boundaries	Illinois Department of Revenue, Political Townships	Illinois Department of Revenue, Property Tax Division, Springfield, Illinois	2009
5. Meteorology	Weather patterns – Wind Roses and Pollution Roses. 1961 – 1990	National Weather Service, Illinois State Climatologist Office	October 7, 2004

IPCB Case No. 2013-24

Exhibit G

U.S. EPA response to Illinois' Recommendations for SO_2 Designations Under the New 1-Hour Standard

February 6, 2013

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 (SO_2). 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 SO_2 emissions is an important part of EPA's commitment to a clean, healthy environment. Exposure to SO_2 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 SO_2 by establishing a standard for 1-hour average SO_2 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 SO_2 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 SO_2 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 SO_2 standard:

Nonattainment Area	County
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 SO_2 standard that focuses resources on identifying and addressing unhealthy levels of SO_2. 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 SO_2 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 SO_2 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 SO_2 standard. For additional information regarding initial designations on the SO_2 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 SO_2 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 (SO_2) 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)	Nonattainment	Nonattainment
- Cincinnati Township,		
- Pekin Township	Unclassifiable	Nonattainment
Peoria County (partial)		
- Hollis Township		
Lemont, IL		
Cook County (partial)	Nonattainment	Nonattainment
- Lemont Township		
Will County (partial)	Nonattainment	Nonattainment
- Dupage Township		
- Lockport Township		

Background

On June 3, 2010, EPA revised the primary SO_2 NAAQS (75 FR 35520, published on June 22, 2010). EPA revised the primary SO_2 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 SO_2. 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 SO_2 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 SO_2 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 SO_2 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 SO_2 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 SO_2 NAAQS** – The NAAQS for SO_2 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.

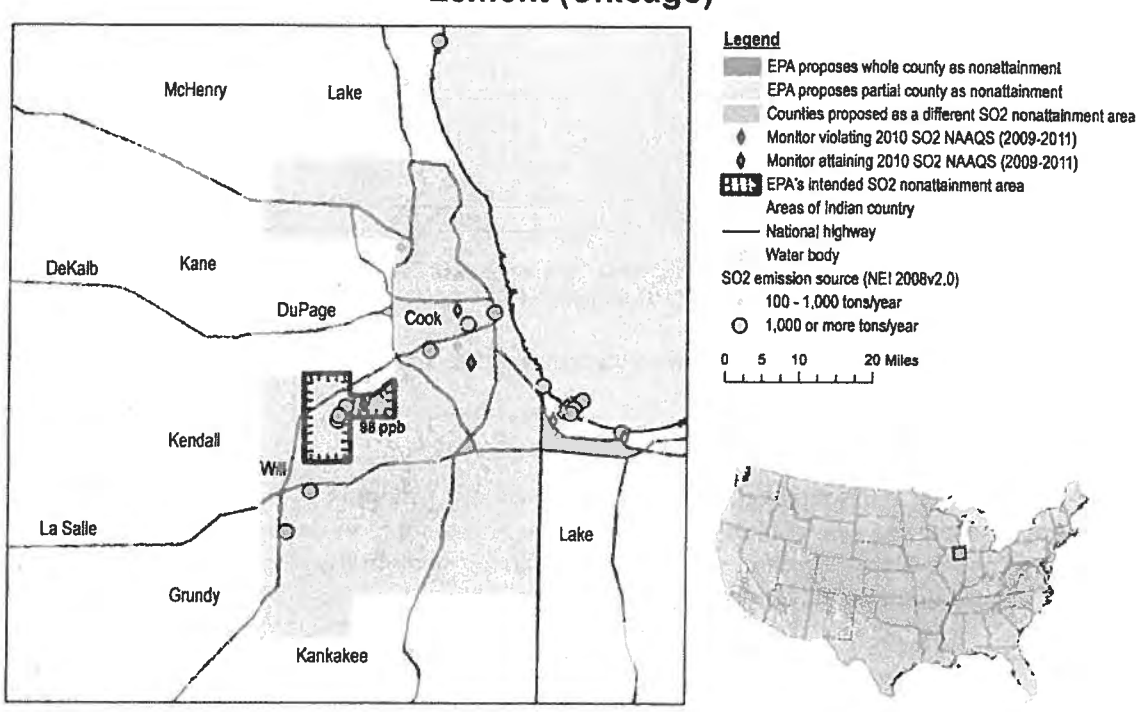
Technical analysis for the Lemont, IL Area

Introduction

This technical analysis for the Lemont, IL area identifies Cook County with a monitor, in Lemont, that violates the 2010 SO_2 NAAQS, and evaluates nearby counties for contributions to SO_2 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 SO_2 NAAQS.

Detailed Assessment

Air Quality Data

This factor considers the SO_2 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 SO_2 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 SO_2 NAAQS.

Emissions and Emissions-Related Data

Evidence of SO_2 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 SO_2 and any growth in SO_2 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 SO_2 (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 SO_2 according to the 2008 NEI.

Table 3. SO_2 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 SO_2 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.

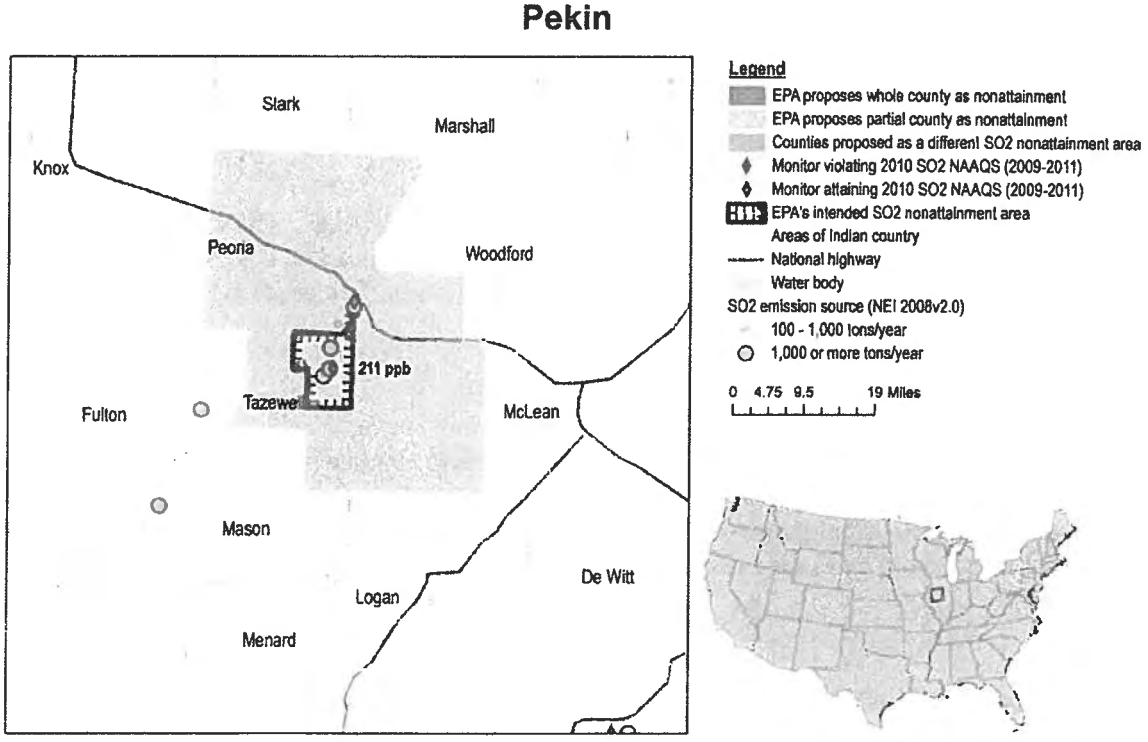
Technical analysis for the Pekin, IL Area

Introduction

This technical analysis for the Pekin, IL area identifies a Tazewell County monitor that violates the 2010 SO_2 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 SO_2 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 SO_2 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 SO_2 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 SO_2 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 SO_2 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 SO_2 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 SO_2 and any growth in SO_2 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 SO_2 (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 SO_2 according to the 2008 NEI.

Table 5. SO_2 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 SO_2 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 SO_2 NAAQS.