Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

NOTICE

To: John Therriault, Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph, Suite 11-500
Chicago, Illinois 60601-3218

PLEASE TAKE NOTICE that I have today filed with the Office of the Pollution Control Board the Post-Hearing Comments of the Illinois Environmental Protection Agency, a copy of which is herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Dana Vetterhoffer
Assistant Counsel

DATED: August 28, 2015
1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

POST-HEARING COMMENTS OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Agency ("Illinois EPA" or "Agency"), by its attorney, hereby submits its post-hearing comments in the above rulemaking proceeding with regard to the hearings that took place on July 29, 2015, and August 4, 2015.

Sierra Club's Witnesses

The Sierra Club presented two witnesses at the third hearing in this matter—Ranajit (Ron) Sahu, and H. Andrew Gray. Generally, their testimonies set forth the witnesses' opinions, with few facts and scant supporting evidence.

Mr. Sahu offered pre-filed testimony regarding the Agency's proposed fuel sulfur content limitations, its modeling, Powerton's 30-day average, and emission reductions at Will County 4. Mr. Sahu's testimony contained numerous unsubstantiated claims. Instead of presenting evidence that supported his claims, or working with the Agency to obtain the information he claimed he needed for his analysis, Mr. Sahu relied chiefly on "arguments from ignorance" – he claimed he did not have the necessary information, so while he could not identify anything wrong with the Agency's proposal, he urged the Board to be wary that there might be. He then implied that any such issues could impact the Agency's ability to demonstrate attainment of the 2010 sulfur dioxide ("SO_2") National Ambient Air Quality Standard ("NAAQS").

At hearing, it became clear that Mr. Sahu could not substantiate his claims. Instead of conceding inaccuracies in, or misleading portions of, his pre-filed testimony, he often "clarified" such testimony, in effect asking the Board and the Agency to ignore its plain meaning. He continued to make unsupported statements, some of which were plainly incorrect. He often claimed ignorance regarding information that either was available to him prior to hearing or was easily ascertainable. For example:

1) Mr. Sahu claimed that the United States Environmental Protection Agency's ("USEPA") attainment designations are based on a "totality of the circumstances and data is one of them, but they have to look at some reasonable explanation that explains the trend and then the important question is what is reliability of the trend?" (Third Hearing at 61-62). This is incorrect. The USEPA bases its determination on three years of monitored data, and the likely contributors to monitored violations. There is no "totality" analysis, to the Agency's knowledge.

2) Mr. Sahu claimed that, even if fuel combusted by a unit has a sulfur content below 15 parts per million ("ppm"), a source could exceed the emission rate that was modeled by the Agency (which was, incidentally, based on the maximum allowable sulfur content). He testified, "Yes, it could. I mean, if somebody takes an engine and substitutes for a bigger engine, then they could." (Third Hearing at 111). Mr. Sahu later admitted, however, that sources are not allowed to randomly "upgrade" to a bigger engine and that doing so would require a construction permit from the Agency, facts that were conveniently omitted from his original testimony. (Third Hearing at 126-127).

3) Mr. Sahu testified that he could not say what data USEPA relied upon in designating the Lemont area as nonattainment, nor could he say how many years of data USEPA uses for such designations, despite the fact that the designations and related information are public records that Mr. Sahu claimed to have reviewed. (Third Hearing at 56-58).

4) Mr. Sahu claimed he did not know which sources subject to the rule are required to actually reduce emissions to comply with the rules (Third Hearing at 76-78), but the Agency provided that information to the Board prior to the second hearing (Agency Response to Board Question 6). Mr. Gray himself testified that he had reviewed such information, leaving unanswered the question of why Mr. Sahu had not. (Third Hearing at 148).

5) Mr. Sahu claimed ignorance regarding how certain sources were going to achieve the Agency's modeled 99% reduction in allowable emissions. He testified, "A lot of these other sources—the hospital, you know, the municipal landfill, the

University of Chicago Generators . . . They are relying on something to achieve 99.5 percent reduction in allowable emissions. I have no idea." (Third Hearing at p. 82). A simple comparison of the initial and final emission rates and units in question in the modeling information provided to the Sierra Club should have made it clear that those reductions were based on use of ultra-low sulfur diesel, particularly when read in conjunction with the Agency's response to the Board's questions (*See* Agency Response to Board Question 1(d)).

6) Mr. Sahu claimed he could not see a "reasonable explanation" for why the Pekin monitoring data was so high (Third Hearing at 107-108), despite that the significant impact of Aventine Renewable Energy on such monitor had been discussed in information provided to the Board in this rulemaking. (*See* Agency Response to Board Question 23). A simple question to the Agency could have easily clarified this issue for Mr. Sahu as well.

Mr. Sahu was also, at times, absurdly evasive, refusing to provide direct responses to even simple, noncontroversial questions. For example, the simple issue of the Agency's proposed compliance deadline took approximately two pages of testimony to ascertain. (Third Hearing at 44-45). When questioned about whether the Agency could estimate maximum emissions of diesel-burning units by using the operating capacity of a unit and the maximum sulfur content of diesel fuel used, Mr. Sahu responded by changing the subject to flares, which do not combust diesel fuel. (Third Hearing at 27-28).

In short, Mr. Sahu offered insufficient support for his opinions, and indeed, as far as the Agency could discern, failed to provide the Board with any actual useful information. As such, his testimony should be given absolutely no weight by the Board.

Mr. Gray testified regarding emission reductions at Will County 4 and the attainment strategy proposed by the Agency. Generally though, Mr. Gray's testimony focused on documentation he claimed was "missing" and supposedly needed for his review. As explained in more detail below, the Agency provided all information requested by the Sierra Club, or provided the opportunity for the Sierra Club to obtain it, belying any of Mr. Gray's claims regarding lack of transparency.

Neither Mr. Sahu nor Mr. Gray identified any actual problems with the Agency's proposal or its modeling, and neither claimed either that the Agency's proposal is insufficient to reach attainment of the SO_2 NAAQS. In fact, the Agency's proposal is sufficient to demonstrate attainment of the NAAQS, an assertion that has been thoroughly supported by the technical information, testimony, and responses to questions offered by the Agency in this rulemaking.

Information Provided to the Sierra Club

Both Mr. Sahu and Mr. Gray claimed that the Agency failed to provide the Sierra Club the information necessary to properly assess the Agency's modeling, and implied that the Agency had not been transparent in this rulemaking. The Agency recognizes that this topic may be viewed by the Board as a distraction from the substance of the rulemaking, and, in fact, the Agency agrees that it is; however, as this issue formed almost the entirety of the Sierra Club witnesses' testimony and their arguments against the Agency's proposal, the Agency feels it must again set the record straight.

Mr. Sahu claimed in his pre-filed testimony, "the documents provided through the current rule-making [sic] do not contain all of the details about to [sic] IEPA's modeling, including numerous assumptions that were made throughout the modeling process." (Pre-Filed Testimony of Ranajit (Ron) Sahu on Behalf of Sierra Club and ELPC ("Sahu Pre-Filed Testimony") at 4). At hearing, Mr. Sahu claimed that, while the Agency provided him emission inputs, issues surrounding those inputs need to be addressed before they should be used in the modeling. (Third Hearing at 18). He also claimed that he had asked the Agency to provide "the details of the emission calculations that have been used into the modeling . . . several times." (Third Hearing at 29). Oddly enough, Mr. Sahu testified at the very beginning of the hearing, "I have no reason to believe that the Agency didn't make all of its files available," and that the Agency staff he had

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

dealt with "were very cooperative and wanted to share what they had subject to whatever legal and other procedural constraints they were operating under." (Third Hearing at 16).

Mr. Gray admitted that the information that the Agency previously provided to the Sierra Club, or offered to provide to the Sierra Club, included all of the information he identified in his pre-filed testimony as the "supporting documentation" supposedly needed for his analysis. (Third Hearing at 138). Mr. Gray claimed, however, that the Agency's "delay" in providing some of the requested information resulted in insufficient review time for the Sierra Club's witnesses. (Third Hearing at 138-140).

Information Provided Prior to Filing Rulemaking

As testified by the Agency at hearing, Mr. Sahu and Mr. Gray's claims that the Agency withheld information, or delayed providing requested information, are not only incorrect, but are exceedingly frustrating for the Agency. (*See generally* Third Hearing at 180-183). The Sierra Club has had a year's worth of opportunities to ask the Agency any and all questions it had regarding the Agency's modeling. As Mr. Bloomberg explained at hearing, outreach with the Sierra Club began over a year ago, in August 2014 when the Agency held an open meeting to share its modeling results. (Third Hearing at 181). In preparation for that meeting, the Agency provided its modeling input and output files, along with culpability spreadsheets, to the Sierra Club. Subsequently, the Agency engaged in numerous conference calls with the Sierra Club in which the Agency invited questions and provided multiple pieces of information requested by the Sierra Club. (Third Hearing at 181).

On or about February 19, 2015, the Sierra Club inquired about the Agency's technical support document ("TSD") and supporting modeling information; the Agency indicated to the Sierra Club that the TSD was still in rough draft form and was not ready to be released. On or

about February 26, 2015, the Agency provided the Sierra Club the "final scenario" AERMOD input and output files for both the Lemont and Pekin nonattainment areas ("NAA"), and associated culpability spreadsheets.

Also in February of 2015, the Agency provided a draft of its proposed revisions to Parts 214, 217, and 225 to stakeholders, including the Sierra Club, and solicited comments on the proposal. (Agency Response to Board Question 69). The Sierra Club provided comments on or about March 9, 2015. (Agency Response to Board Question 69). Nowhere in those comments did the Sierra Club request the specific modeling information identified by Mr. Sahu and Mr. Gray, or indicate that it felt key pieces of modeling information were missing. On March 16, 2015, the Agency engaged in a conference call with the Sierra Club to address the issues raised in its comments. Once again, the Sierra Club did not indicate on that call that it felt modeling information was missing.

Information Provided After Filing Rulemaking

On April 28, 2015, the Agency filed its rulemaking proposal with the Board, with all supporting documents. On June 8, 2015, the Agency again spoke with the Sierra Club, and in response to its requests, provided additional modeling information. On that call, the Agency advised the Sierra Club to contact the Agency with any specific questions regarding the Agency's proposal or its modeling.

On July 8, 2015, the Board held the first hearing in this matter. Representatives of the Sierra Club attended the hearing but failed to ask Agency witnesses, who included David Bloomberg, Rory Davis, and Jeff Sprague (who conducted the modeling supporting this rulemaking), a single question. Instead, counsel for the Sierra Club chose to make public

comments, some of which included questions directed to the Agency; none of these comments or questions regarded the supposed need for additional modeling information.

On July 15, 2015, two weeks prior to the second hearing, and approximately three weeks prior to the third hearing, the Agency spoke with the Sierra Club again; at this time, the Sierra Club requested additional modeling information (although, as Mr. Bloomberg explained at hearing, at no point did the Sierra Club request "the details of the emission calculations that have been used into the modeling," as claimed by Mr. Sahu (Third Hearing at 182)). On that same day, the Sierra Club filed with the Board a motion to extend the deadline for pre-filed testimony of its two witnesses by a week – from July 17, 2015, to July 24, 2015. The Sierra Club indicated to the Board that its witnesses needed extra time to review the modeling information the Agency agreed to provide, which "should enable Sierra Club's experts to conduct a reasonably thorough and rigorous analysis of the proposed Rule, including an analysis of the underlying modeling that justifies the decision." (Sierra Club's Motion to Extend the Expert Testimony Filing Deadline at 3). The Agency agreed not to object to this extension as long as the witnesses were available at the third hearing in this matter. The very next day, on July 16, 2015, the Agency provided the requested information to the Sierra Club and noted that the Agency was available to answer any additional modeling questions; the Sierra Club responded that it would be providing the information to its witnesses.

On that same day, the Sierra Club requested yet additional modeling information, based on feedback it had received from Mr. Gray. The Sierra Club acknowledged that the Agency had likely provided some of the requested information previously. The following day, on July 17, 2015, the Agency specifically responded that it would provide the Sierra Club everything the Agency had, including modeling information that had already been provided to it. The Agency

noted, however, that the information was voluminous and that the quickest way to provide it was on a portable hard drive. The Agency requested that the Sierra Club overnight a hard drive to the Agency, and promised that the Agency would then overnight it back. The Agency provided the mailing address that the Sierra Club should use to ensure it was received by the correct person at the Agency in the most timely fashion. In between July 17 and the second and third hearings in this matter, the appropriate personnel at the Agency never received a portable device and never received a request from the Sierra Club that the Agency provide the information via other means.[1] The Agency also never received any questions from the Sierra Club regarding the modeling information.

Instead, on July 24, 2015, the Sierra Club's witnesses filed testimony in this matter claiming lack of sufficient information and implying lack of transparency on the part of the Agency. Subsequently, the Board held the second hearing in this matter on July 29, 2015. Just as at the first hearing, the Sierra Club failed to ask Agency witnesses any questions seeking the information Mr. Sahu and Mr. Gray claimed they needed for their analyses.

Considering Mr. Sahu's and Mr. Gray's confusion regarding the Agency's modeling, it is incomprehensible to the Agency that the Sierra Club did not take advantage of any of three hearings in this matter, and the Agency witnesses' availability at those hearings, to clarify any of the lingering questions it supposedly had concerning the modeling. Even at the third hearing, when Mr. Sahu testified he wanted to know whether modeled Indiana sources were impacting

[1] The appropriate Agency personnel received a portable hard drive after the third hearing in this matter. The Agency was not made aware that the drive was on its way, and the Sierra Club failed to send it to the address requested by the Agency, resulting in delay in the appropriate Agency personnel receiving the drive. The Agency overnighted the additional modeling information to the Sierra Club on August 12. It included everything requested by the Sierra Club, except for files regarding the digitization of sources in the Lemont NAA, which would not fit on the drive provided by the Sierra Club (which was smaller in size than requested by the Agency). The Sierra Club eventually provided a sufficient storage device, and the Agency provided the remaining files.

nonattainment in the Lemont NAA, counsel for the Sierra Club failed to ask any such questions in her cross-examination of Agency witnesses. The Sierra Club opted to throw its hands up and cite ignorance rather than 1) request the specific information it claimed it needed; and 2) take the steps necessary to obtain information offered by the Agency.

At hearing, Mr. Gray testified that he received the Agency's additional modeling information on July 16, and would not have received the other information on portable hard drive (had the Sierra Club provided one) until July 21 or 22; thus, he claimed he did not have sufficient time to review it and prepare testimony by July 24th. (Third Hearing at 166-168). First, the Sierra Club obtained a one-week extension of time to file its testimony for the very purpose of providing its witnesses sufficient time to review the additional modeling information provided by the Agency.[2] Second, Mr. Gray may not have had sufficient time to review the additional information by the July 24 pre-filed testimony deadline, but he and Mr. Sahu certainly had sufficient time prior to the third hearing in this matter to review the information and develop questions for Agency witnesses (or even develop updated testimony to present at the third hearing). The Sierra Club took no steps toward this end, but rather continued to cite ignorance at hearing. Finally, Mr. Gray admitted that there was no reason he and the Sierra Club could not have asked the Agency for the information he allegedly needed back in April when the Agency filed the rulemaking. (Third Hearing at 160). Mr. Gray only testified that the Agency's modeling was "dumped" into his lap – presumably by the Sierra Club itself – and only then did he realize he needed additional materials. (Third Hearing at 160).

[2] The Sierra Club complained about the amount of preparation time it was given, but yet attempted to present Mr. Sahu for questions at the second hearing alone, which would have provided the Agency and other participants in this rulemaking exactly one and a half days to review his pre-filed testimony and prepare questions. (*See* Sierra Club's Revised Notice, filed with the Board on July 27, 2015, and the Agency's objection, filed with the Board on July 28, 2015). The Sierra Club changed its mind following objections by the Agency and Midwest Generation.

Perhaps the Sierra Club waited too long to retain its witnesses.[3] Perhaps there were communication issues between the Sierra Club and its witnesses.[4] The Agency cannot provide insight on such matters. All the Agency can do is assure the Board that it has provided all of the information requested by the Sierra Club, or provided the Sierra Club an opportunity to obtain the information, and that it indeed takes offense at any implication that the Agency has not been transparent in these proceedings.

Ultra-Low Sulfur Diesel Requirements

Mr. Sahu claimed in his pre-filed testimony that the Agency's fuel sulfur content limitations were "unenforceable and lead to fluctuations in emissions." (Sahu Pre-Filed Testimony at 6). He stated that "[s]ulfur content of fuel varies" and that "given the fluctuations in the sulfur content of fuel, SO_2 emissions can easily exceed assumed limits." Therefore, he opined that the rule should set forth emission limitations for all modeled sources in addition to the Agency's proposed low-sulfur fuel requirements. (Sahu Pre-Filed Testimony at 5).

While Mr. Sahu claimed at hearing that he was "just speaking generally as to fluctuations," (Third Hearing at 23), his testimony was clearly intended to imply to the Board that the sulfur content of fuel fluctuates *above* the Agency's proposed fuel sulfur content limitation of 15 ppm, leading to emissions in excess of the limitations modeled by the Agency. Mr. Sahu, however, admitted that state and federal rules currently regulate diesel fuel and its sulfur content, and specifically stated that he is not contending that sulfur content of ultra-low

[3] Mr. Sahu testified that he began his review efforts "on and off" several months prior to the third hearing, but "[m]ore intensively just in the weeks prior to filing my testimony." (Third Hearing at 14). Mr. Gray admitted that his review efforts began only approximately two months prior to the third hearing. (Third Hearing at 134).

[4] For example, Mr. Gray claimed that he "kept asking" about a portion of the Agency's modeling regarding a 28% reduction at Will County 4, and received nothing in response. [Third Hearing at 147). Perhaps Mr. Gray asked Sierra Club representatives for this information, but neither he nor the Sierra Club ever asked the Agency.

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

sulfur diesel fuel leaving refineries regularly fluctuates above 15 ppm. (Third Hearing at 25). He further admitted he has no evidence that sources themselves add sulfur to their purchased fuel. (Third Hearing at 25-26). Mr. Sahu provided no other credible scenario under which sulfur content of fuel is likely to "fluctuate" above 15 ppm and thus risk exceeding the Agency's modeled limitations, and could cite no instance in Illinois where ultra-low sulfur diesel fuel was offered for sale with a sulfur content exceeding 15ppm. (Third Hearing at 104). Likewise, he offered no further justification of his claim that fuel sulfur content limits are unenforceable.

In response to Mr. Sahu's assertions, Mr. Bloomberg clarified at hearing that "whatever fluctuation there may be in sulfur content in diesel fuel is in the downward direction," lower than 15 ppm. (Third Hearing at 195). Refineries are subject to both state and federal requirements; when a refinery represents that it is distributing ultra-low sulfur diesel, the sulfur content of the fuel must be at or below 15 ppm. In fact, industry personnel consulted by the Agency explained that refineries are conservative, taking steps to ensure that the sulfur content is well below 15 ppm. The Agency even consulted the bureau chief for weights and measures at the Illinois Department of Agriculture, which tests fuel throughout the State; he could not recollect any instance when issues have arisen regarding the sulfur content of diesel fuels. (Third Hearing at 195-196).

Mr. Bloomberg went on to explain, "What this means is that while we might not know if the sulfur content of mandated ultra-low sulfur diesel is exactly 15 or 14 or even ten [ppm], we do know what the maximum is per the regulation, 15 ppm." (Third Hearing at 196). The Agency included in its model the maximum possible emissions from diesel-burning units, calculated based upon the maximum possible fuel use for each unit and the maximum sulfur content of the fuel. Mr. Bloomberg explained that the Agency's modeling is therefore overly conservative and

likely overestimates SO_2 emissions. (Third Hearing at 196). Mr. Sahu too reluctantly agreed that such modeling would reflect the maximum allowable emissions for diesel-burning units. (Third Hearing at 127-128).

Next, Mr. Sahu claimed that use of low sulfur fuel as the main vehicle for attainment is problematic because most of the reductions used to reach attainment are at small facilities that do not have a continuous emissions monitoring system ("CEMS") installed. (Sahu Pre-Filed Testimony at 14). He made a similar claim with regard to other emission limitations modeled by the Agency, stating that "the enforceability of the modeled emissions is problematic because most of the sources without hourly emissions limits do not appear to have" SO_2 CEMS, "so the public will not actually know how much SO_2 these facilities emit." (Sahu Pre-Filed Testimony at 8).

Mr. Sahu's characterization of the Agency's proposal as "problematic" because the majority of sources do not operate CEMS is completely meritless. The majority of sources subject to the Board's existing regulations as a whole do not have CEMS, as CEMS are required only for large sources. Contrary to Mr. Sahu's claims, this does not mean that those regulations, or the proposed regulations currently before the Board, are unenforceable, or that the Agency or the public has no means of ascertaining how much of each pollutant facilities emit. Other methods of monitoring compliance are of course available to sources, such as stack testing or fuel testing. When confronted at hearing, Mr. Sahu admitted that CEMS are not the only way to determine how much sulfur dioxide a source is emitting—"It can be by other means. It all depends on the source and the actual type of source." (Third Hearing at p. 31).

Including emission limitations for every stationary source combusting diesel fuel would be duplicative of the Agency's proposed fuel sulfur content limitations, and completely

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

unnecessary. It would entail setting forth in the Board's regulations emission limitations for approximately 2,000 sources, with simply no benefit to regulated sources or to air quality. The Board has recognized in the past that redundant limitations are unnecessary and serve no practical purpose; for example, the Board's rules governing volatile organic materials ("VOM") set forth VOM content limitations alone, with no corresponding emission limitations (and incidentally, with no corresponding CEMS requirement). These types of limitations are fully enforceable, and are indeed currently enforced at both the state and federal levels.

Mr. Sahu also claimed that low-sulfur fuel limits alone cannot achieve the 99 percent reductions modeled by the Agency, and that to get such reductions implies that current allowable emissions are based on 1,500 ppm diesel fuel. (Third Hearing at 111-112). Mr. Sahu is incorrect. The Agency based allowable sulfur dioxide emission rates (as specified by permit or determined from rule limits) for fuel oil fired combustion sources on an estimated or known sulfur content of the fuel allowed to be combusted. Historically, values of 0.28 weight percent sulfur in distillate oil and 0.98 weight percent sulfur in residual fuel oil have been used in source permitting, but departures or deviations from these values were relatively common. In comparison to these high sulfur content levels, the requirement for use of 15 ppm (0.0015 weight percent sulfur) ultra low sulfur diesel and 1000 ppm (0.1 weight percent sulfur) residual fuel oil will result in dramatically lower amounts of sulfur being emitted. When expressed as percentage reductions, the lower sulfur content limits can be expected to result in an approximate 99.5% reduction in allowable sulfur dioxide emitted from a combustion source when using distillate fuel oil and an approximate 90% reduction in allowable sulfur dioxide emitted from a combustion source when using residual fuel oil.

For example, for one of the four Navistar, Inc. (Facility ID# 043055AAE) diesel-powered generators represented by Modeling ID# 224726, the permitted emission rate is 2.01 lbs/hour. This is calculated from the power output (805 HP) and the permit-specified emission rate (0.0089 x S Lbs/HP-Hr, where S equals the weight percent sulfur [0.28] in the fuel) as follows: (805 HP) x [(0.0089) x (0.28) Lbs/HP-hr] = 2.01 Lbs/Hr. The percentage reduction of sulfur dioxide emissions from this generator, under the newly proposed allowable limit of 15 ppm sulfur content (0.0015 weight percent sulfur), can be determined as follows: (2.01 Lbs/Hr) x [(0.0015% sulfur)/(0.28% sulfur)] = 0.0107 Lbs/Hr; (0.0107 Lbs/Hr)/(2.01 Lbs/Hr) = 0.0053 = 99.5%.

<u>Modeling</u>

Both Mr. Sahu and Mr. Gray claimed that the Agency failed to provide sufficient justification regarding its modeling. First, in his pre-filed testimony, Mr. Sahu expressed concern that the Agency failed to "include emissions limits for all modeled sources in Section 214.603," even for the largest sources modeled. He presented "Table A—Highest Emitting Sources Modeled for Lemont Non-Attainment Area," and pointed out that roughly 80% of the listed sources are not included in Section 214.603. Similarly, he presented "Table B—Sources for Lemont with Highest Modeled Impacts at the Lockport 11 Receptor," arguing that the Agency's failure to include sources impacting this receptor in Section 214.603 "creates a concern over limits not being set for the sources with the highest impacts, which throws into question the enforceability of the modeled emissions that demonstrate attainment." (Sahu Pre-Filed Testimony at 7-8).

Important to note is the fact that Mr. Sahu did not claim that the Agency's proposal fails to demonstrate attainment. Instead, he attempted to cast suspicion on the Agency's proposal and

its ability to demonstrate attainment by pointing out theoretical, and in fact nonexistent, "problems" with the Agency's attainment strategy. The simple response to Mr. Sahu's claims is that the Agency modeled all sources in the area surrounding the violating monitor to determine which sources were significantly impacting nonattainment.[5] The Agency then included those sources in its proposal. The Agency did not include every single modeled source in the rule because a modeled source does not equate to a culpable source, at which reductions must occur to demonstrate attainment. If a source impacting a receptor was not included in the Agency's proposed Supbart AA, that indicates that reductions at that source were not necessary to demonstrate attainment, likely because sufficient reductions occurred at a different source impacting the receptor.

Mr. Sahu, however, claimed with regard to modeled but not culpable sources, "there isn't an accounting in the rulemaking documents . . . that states here are how we account for these various emissions sources . . . [There] are no details in the rule as far as I could see." (Third Hearing at 21-22). Mr. Sahu admitted that he has no reason to disagree with the Agency's testimony that all of the limitations it modeled, including for sources that are not subject to Subpart AA, are enforceable through other regulations or permit conditions (Third Hearing at 22); he claimed only that "when I'm looking at a number that's been modeled, I don't understand how that number was developed for all these different sources."

First, as mentioned above, the Agency has testified that sources that it modeled, but which were not significant contributors to nonattainment and therefore were not included in Subpart AA, are still subject to enforceable limits through existing regulations or permit

[5] The phrase "significant impact on nonattainment" does not refer to any specific numerical level triggering emission reduction consideration. Rather, it is solely a relative description, indicating a source or sources whose contribution(s) to modeled impacts are greater than other sources at receptors showing violations of the NAAQS.

conditions. (Transcript of July 29, 2015, Hearing ("Second Hearing") at 43-44, 60). Of course the Agency did not restate those limits in this rulemaking; doing so will not make the limits any more enforceable than they already are, but rather will result in duplicative requirements and very lengthy regulations.

Second, all modeled emission limitations were provided to the Sierra Club. Mr. Sahu's claim is that the Agency did not also provide an accounting of, or citation to, the specific existing regulation or permit condition that originally established the current, existing emission limitations for approximately 2,000 sources. Such detailed information is unnecessary for evaluation of any of the issues in this rulemaking. Putting that aside, however, Mr. Sahu never once asked the Agency for such an accounting. At no point prior to Mr. Sahu's testimony did the Agency anticipate that Sierra Club would claim it needed documentation of the "point of origin" for all modeled sources' current emission limitations, particularly for sources not subject to the rule. The Agency routinely relies upon permits and its internal databases, such as "ICEMAN," for applicable emission limitations. It does not normally create or file a detailed accounting of the origin of such information with a rulemaking.

Consequently, if the Sierra Club supposedly required this information, it needed to specifically ask for it. The Agency simply could not anticipate every piece of information the Sierra Club would claim it needed for its analysis, particularly information like this that has no direct bearing on whether the Agency's proposal is sufficient to meet air quality standards. The Sierra Club chose instead to cite ignorance and rest on the erroneous implication that this information is essential to evaluation of the Agency's proposal.

Mr. Gray's testimony also focused mainly on the modeling information he claimed was missing. He testified, "I'm not saying that you did wrong. In fact, the more I look at it, the

more it seems reasonable." (Third Hearing at 156). He only claimed that he had to make "guesses about looking over your [the Agency's] shoulder about what you did rather than being able to actually look over your shoulder and having you say this is why we chose this source to be controlled and not that source." (Third Hearing at 156-157).

Again, the Agency provided all information requested by the Sierra Club, or provided the opportunity for the Sierra Club to obtain it. On a more basic level, however, Mr. Gray's testimony highlights the crux of the Sierra Club's claims concerning the Agency's modeling. The Agency's modeling efforts represent a total of approximately 18 months of analysis. The Agency provided to the Board everything it believed necessary to support its proposed emission limitations, and provided interested parties and the Board all additional information requested, whether or not the Agency believed such information was necessary for purposes of this rulemaking. The Sierra Club wants more though. It would like to look over the Agency's shoulder regarding the minutiae of its modeling—every step, judgment call, calculation, every piece of information it considered, including details that USEPA itself does not require for its review of states' modeling. The Sierra Club essentially contends that, in response to its general requests for "supporting modeling information," the Agency should have provided everything necessary for the Sierra Club to "stand in the shoes" of the Agency. The Agency cannot recall ever providing such an extreme level of detail regarding the Agency's internal process in support of any prior rulemaking submittal to the Board, and cannot recall any instance in which the Board required such detail.

The Agency has an excellent track record of approvable attainment demonstrations. Illinois EPA has submitted numerous such modeling-based attainment demonstrations to the USEPA in the past, and cannot recall any instance when such a demonstration was rejected as

inaccurate or unsupported. Further, as explained at hearing, the Board has historically relied upon the Agency's technical expertise in matters such as modeling. (Third Hearing at 199).

Powerton's 30-Day Average

Mr. Sahu repeatedly questioned the Agency's justification for Powerton's 30-day average and claimed twice that USEPA's guidance requires that states set supplemental limits in addition to longer-term average limits. (Sahu Pre-Filed Testimony at 10-12).

First, contrary to Mr. Sahu's testimony, USEPA's guidance does not require that states set supplemental limits in addition to longer-term average limits. This is not the Agency's opinion—it is based on clear, unambiguous language in USEPA's guidance. Mr. Sahu, however, refused to admit his testimony was incorrect, but rather "clarified" that "the word ['requires'] here is not meant in a legal sense." (Third Hearing at 41).

Second, Mr. Sahu claimed that the Agency's TSD "does not provide all the technical information EPA guidance requires to support the longer, 30-day averaging period," including information regarding emissions variability. (Sahu Pre-Filed Testimony at 10-11). Mr. Sahu admitted, however, that he has not spoken to USEPA regarding the Agency's justification for Powerton's average and whether USEPA believes it is sufficient. (Third Hearing at 42). When asked whether he was aware that the Illinois EPA had already submitted its justification to USEPA and that USEPA had approved it as consistent with its guidance, Mr. Sahu responded that he did not "doubt that" but that he had "not talked with the EPA. So I'll have to take your word for it." (Third Hearing at p. 42-43).

Mr. Sahu failed to substantiate his claims. The Agency explained clearly in its TSD that it in fact provided information regarding emissions variability to USEPA prior to filing this rulemaking with the Board. Per USEPA's guidance, the Agency provided proxy emissions data

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

that reflected the expected emissions distribution at Powerton, assuming the Agency's proposed rule is implemented. This data was based on emissions from similar units with similar types of control devices for the length of time recommended in USEPA's guidance. (TSD at 9). Mr. Sahu did not identify any problems with this proxy data set, and provided nothing supporting his blanket statement that the information was insufficient.

Likewise, the Agency's TSD clearly stated that "prior to the filing of this rulemaking with the Board, [the Agency] has consulted with USEPA regarding this 30-day averaging methodology. USEPA was given the same methodology and data set used to determine the 30-day average limit as has been submitted to the Board. USEPA confirmed that Illinois EPA's analysis and methodology were consistent with their published guidance on the subject, and that the 30-day average limit in the proposed amendments is an appropriate limit for the source." (TSD at 10). Mr. Sahu even referenced this portion of the TSD in his testimony. (Sahu Pre-Filed Testimony at 9-10). His refusal at hearing to simply acknowledge the position USEPA has taken regarding this matter is enigmatic, highlighting his evasive approach to testifying.

USEPA's guidance recommended, "States that wish to set emission limits with averaging times longer than 1 hour are advised to consult with their respective EPA Regional Office to assure that the adjustments to the emission limits are appropriately justified and the frequency and magnitude of allowable occurrences of elevated emissions are sufficiently constrained before formally submitting NAA SIPs. The justification for use of the longer term average limits and the justification for the established limit will then provide the formal basis for the EPA's case-by-case review of whether the plan adequately provides for attainment of the standard." (USEPA's *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions* ("Guidance") at 36). As mentioned above, the Agency followed this guidance and submitted the required justification to

USEPA Region V for approval. Region V found the Agency's justification consistent with its own guidance, belying any claims by the Sierra Club that it is insufficient. Thus, to be clear, in requesting that the Board adopt supplemental emission limitations or a shorter averaging period, the Sierra Club is asking the Board to go beyond what is required by USEPA.

Similarly, Mr. Sahu's insistence that Powerton's plan to use dry sorbent injection does not "support the need for a 30-day averaging time" is contrary to USEPA's guidance. (Sahu Pre-Filed Testimony at 12). As explained in the Agency's responses to the Board's pre-filed questions, variation in emissions at the Powerton unit, based on the unit type and the control equipment used, can make compliance with an hourly limit difficult. USEPA specifically discussed this potential variability for coal-fired units with dry scrubbers in its guidance regarding averaging, explaining that this is the type of unit that it expected to need a longer averaging time with a more stringent numerical limit. (Agency Response to Board Question 18; s*ee also* USEPA's Guidance, Appendix D). Mr. Rory Davis with the Illinois EPA reiterated this point at hearing, testifying that units like those at Powerton are the "ones that are kind of singled out in the guidance as units that may need a longer averaging period." (Second Hearing at 69-70). Mr. Sahu is clearly asking the Board to rely on his unsupported opinions regarding variability, and ignore USEPA's contrary determination.

Third, in his testimony Mr. Sahu erroneously implied that longer averaging times are only available to sources if a circumstance exists that prevents compliance with the 1-hour standard. (Sahu Pre-Filed Testimony at 10). As explained in the Agency's post-hearing comments related to the first hearing, USEPA gave states the option of averaging in an effort to strike an "appropriate balance between providing a strong assurance that the NAAQS will be attained and maintained, while still acknowledging the necessary variability in source

operations." (Guidance at 24). Contrary to Mr. Sahu's claims above, the Agency is not aware of any USEPA guidance indicating that longer averaging periods are only appropriate when compliance with a 1-hour average is "prevented" or "impossible." Instead, USEPA agreed in its guidance that longer-term averaging is appropriate to address emissions variability and that certain types of sources may need longer averaging periods.

As the Agency testified at the third hearing, Appendix D of USEPA's guidance details USEPA's study of different averaging times for coal-fired EGU's that are uncontrolled, those controlled by wet scrubbers, and those controlled by dry scrubbers. The guidance provides, "This review was intended to determine typical relationships among emission limits reflecting different averaging times that might be considered to be comparably stringent." (Guidance at D-1). Mr. Bloomberg explained that USEPA's study "indicates that for typical units with dry scrubber technology, which is the equipment to be installed at the Powerton units, a 37 percent reduction from a modeled one-hour limit would typically be required to demonstrate the equivalent stringency for a 30-day average. The guidance suggests that downward adjustments of this magnitude are sufficiently protective of the [NAAQS]. The 30-day average limit for the Powerton units, in fact, represents an even greater downward adjustment, 42 percent or five percent more than that which is noted in the guidance of being protective. As previously explained by the Agency, this conclusion was reached by USEPA because the modeling methodology that must be employed to demonstrate attainment of the standard is overly conservative in a number of ways." (Third Hearing at 185-186). The Agency estimated that a similar "downward adjustment" for a daily average would actually result in an increase of over 6,000 tons per year in allowable emissions at Powerton compared to the 30-day average, and

would likely be no more effective in preventing periods of elevated emissions. (Third Hearing at 186-188).

In summary, the Powerton 30-day average is comparably stringent to the 1-hour average and is sufficiently protective of the NAAQS. Neither a shorter averaging period nor a supplemental limit is necessary in this case to demonstrate attainment of the NAAQS.

Clarification

The Agency would like to clarify that, as a practical matter, since the proposed emission limitation for Powerton is on a 30-day average basis, compliance with the limitation will not be determined until the end of the 30th operating day following the Agency's January 1, 2017, compliance deadline.

Possible Amendment to Powerton's Averaging Provision

As stated in detail above, the Agency does not support the establishment of a supplemental limitation for Powerton, as the existing 30-day average limitation is sufficiently stringent and protective of the NAAQS, and the Agency believes that any emission exceedances above 6,000 lb/hr (the limit modeled by the Agency) will be infrequent. Further, as the Agency testified at hearing, any modification to that average without taking into account all of the necessary variables risks placing Powerton in a position of being unable to comply with the rule, while achieving no environmental benefit. (Third Hearing at 188-189). The Agency does not know if USEPA would even approve a different limit without evaluation and discussion on their part. (Third Hearing at 189).

If the Board believes that an additional limitation is required for adoption, however, the following is a possibility. The Agency has consulted with Midwest Generation and determined

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

that it is achievable by the Powerton units. The Agency likewise consulted USEPA Region V, which indicated approval of the supplemental limit, set forth in the new subsection (e)(4) below:

Section 214.603 Emission Limitations

e) Midwest Generation Powerton — lb/hr

1) Boilers 51, 52 (Unit 5) and 61, 62 (Unit 6) combined — 3452.00

2) The owner or operator must comply with the emission limitation set forth in subsection (e)(1) of this Section on a 30-operating day rolling average basis. For purposes of this Subpart, an operating day is a calendar day in which any emission unit addressed in subsection (e)(1) of this Section combusts any fuel;

3) Within 24 hours of the end of each averaging period, the owner or operator must use the following equation to determine the combined SO_2 emission rate of the emission units addressed in subsection (e)(1) of this Section for each averaging period, which concludes at the end of each operating day. The SO_2 emission rate must not exceed the limitation set forth in subsection (e)(1) of this Section:

$$E_{avg} = \frac{\sum_{h=1}^{n} E_h}{n}$$

Where:

E_{avg} = SO_2 emission rate for the averaging period, in lb/hr.

E_h = SO_2 emission rate for stack operating hour "h" in the averaging period. For purposes of this Subpart, a stack operating hour is a clock hour in which valid data is obtained, and in which gases flow through the monitored stack or duct for the emission units addressed in subsection (e)(1) of this Section (either for part of the hour or for the entire hour) while at least one of the units is combusting fuel.

n = Number of stack operating hours in the averaging period in which valid data is obtained.

4) The SO_2 emission rate for the emission units addressed in subsection (e)(1) of this Section must not exceed 6,000 lb/hr in more than 5% of the stack operating hours ("n" in the equation above) in any averaging period.

Will County 4

Both Mr. Sahu and Mr. Gray provided testimony regarding the Agency's proposed exemption of Will County 4 from the requirement for flue gas desulfurization ("FGD") equipment set forth in the Combined Pollutant Standard ("CPS"). First, Mr. Sahu claimed that although Will County 4 has the highest impact on the Lemont NAA, the Agency is requiring only allowable emission reductions from it. Therefore, "attainment is supposedly achieved on the backs of hundreds of smaller sources." (Sahu Pre-Filed Testimony at 14-15).

Mr. Sahu provided no justification for this supposed "inequity" argument; in fact, cross-examination revealed that his testimony was not based on any evidence at all, as far as the Agency could discern. He did not refute that the majority of regulated sources are required only to achieve allowable emission reductions, not actual emission reductions. (Third Hearing at 77). He reluctantly admitted that he has no actual knowledge of any source subject to the Agency's proposal, other than Midwest Generation, that will have to take steps to make actual reductions to comply with the Agency's proposal. (Third Hearing at 83-84). He later testified that he knew of only one other source (out of the approximately 2,000 sources modeled) that would be required to spend hundreds of thousands of dollars, if not millions of dollars, to comply with the rule. (Third Hearing at 92-94). As Midwest Generation is one of only two or three sources that will be required to take steps to reduce actual emissions, there is clearly no "inequity" presented by the allowable, and not actual, emission reductions required at Will County 4.

Second, Mr. Gray testified regarding Will County 4's contribution to the peak receptor in the Lemont NAA. (Pre-Filed Testimony of H. Andrew Gray on Behalf of Sierra Club and Environmental Law and Policy Center ("Gray Pre-Filed Testimony") at 3). His testimony on this point, however, appears to be based on a misreading of the Agency's modeling; Mr. Gray

did not understand that the modeling results to which he referred already assumed the conversion of Joliet 6, 7, and 8, and Will 3 to natural gas or diesel fuel.[6] As such, it is unsurprising that these units' contribution to the peak receptor was small. Indeed, if the units operate as expected, on natural gas, they will have an even lesser impact.

Regardless of the impact of these units, however, Mr. Gray admitted that Will County 4's impact on the peak receptor, and the total impact of all modeled sources on the peak receptor, is less than the NAAQS SO_2 design value of 196.32 $\mu g/m^3$. (Third Hearing at 144-145). He further admitted that the Agency's proposal is therefore sufficient to demonstrate attainment. (Third Hearing at 145). Mr. Gray also volunteered that, as a practical matter, "You want to put on the cheapest controls first to get you the biggest bang for the buck and then work your way down putting on the less effective controls as you go along until you get down to the air quality goal that you have. You would be foolish to put on the most expensive controls first in lieu . . . of your inexpensive ones." (Third Hearing at 157-158). When asked whether it would therefore be foolish to require that any source install multi-million dollar controls that are not needed to reach attainment, Mr. Gray agreed, stating, "Once you've reached attainment, you don't need to necessarily put on additional controls, I agree." (Third Hearing at 157-158). The Agency's proposal reduces Will County 4's emissions to the levels needed to demonstrate attainment, eliminating any need for the installation of FGD equipment.

At the second hearing, a representative of the ELPC commented that the Joliet 6 unit originally obtained the FGD exemption "given it's [sic] lifespan that was dwindling," and that the exemption was not "blanket" but rather "was a special exception given its lifespan." (Second Hearing at 84). A similar comment was made by the Sierra Club at the first hearing. (Transcript of July 8, 2015, Hearing at 53).

[6] Mr. Gray admitted at hearing to some confusion on this point. (Third Hearing at 146-149).

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

As explained in the Agency's responses to the Board's third set of questions, there has been no evidence provided in this proceeding to support the claim that the basis of the Joliet 6 FGD exemption was due to the unit's shorter life span, and none of the Agency personnel who worked on the CPS rule has any recollection that this was the case. (Agency Response to Board Question 68). Furthermore, the CPS addressed units that were known to be shutting down by requiring such shutdowns by specified dates; Joliet 6 was not included among these units. The CPS does not require that Joliet 6 shut down and therefore, from a regulatory standpoint, its "life span" under the CPS is indefinite. (Agency Response to Board Question 68).

As indicated at hearing, the Agency remains in support of the exception from FGD requirements for Midwest Generation's Will County 4 unit as originally proposed. (*See generally* Third Hearing at 190-194). Over the course of the rulemaking, the Agency has detailed the reasons that this exception was included in the proposed amendments; specifically, the exception for Will County 4 was part of a larger voluntary package of requirements for the Midwest Generation units impacting the Lemont NAA. This package requires that four coal-fired EGUs permanently cease using coal as a fuel, resulting in significant reductions in SO_2 emissions in Illinois, beyond what would have occurred under the requirements of the CPS and beyond what the Agency likely would have proposed to demonstrate attainment of the SO_2 standard. These conversions will also result in reductions of other pollutants, including NO_x, PM, mercury, and greenhouse gases.

Significantly, the installation of FGD equipment on Will County 4 is not necessary to demonstrate attainment of the NAAQS. Additionally though, as previously explained, the Agency's proposal will result in actual and localized reductions of SO_2 emissions of approximately 30-35% at the Will County facility as a whole. (Agency Response to Board

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

Question 67). On the other hand, in the absence of the Agency's proposed amendment package, emission reductions from Joliet 6, 7, and 8 and Will County 3 would be significantly smaller, and any alternative plan involving proportional reductions from those units, such as those discussed in response to the Board's third set of questions, would be much less cost effective and in fact less stringent on an annual basis than the rates set forth in the CPS or the Agency's proposed revisions. (Agency Response to Board Question 66).

Further, the conversions of these units are voluntary measures that could potentially cost Midwest Generation in excess of $100 million dollars. In its responses to the Board's third set of questions, the Agency estimated that the capital cost for FGD equipment for Will County 4 would range between $24 million and $90 million, and that annual operation and maintenance costs would range between $2.4 million and $6 million. Midwest Generation has stated in previous Board proceedings that capital costs for trona systems average around $38 million per unit, excluding subsequent operating costs. (Agency Response to Board Question 62(d)). Considering the capacity of all four units together, the Agency also estimated that the combined cost of conversions of Joliet 6, 7, and 8 and Will County 3 could range between $100 million and $150 million, excluding pipeline infrastructure costs or costs associated with the loss of electricity sales from these units, as the converted units are only expected to operate on an intermittent basis. (Agency Response to Board Question 65). As explained above, Midwest Generation is one of only a few companies that must take actual action to comply with the Agency's proposal, and is one of two or three companies that will be required to expend sums in the hundreds of thousands or potentially millions of dollars. The FGD exemption for Will County 4 is the single provision requested by Midwest Generation that would defray some of these conversion costs.

As installation of these multi-million dollar controls on Will County 4 are unnecessary to demonstrate attainment of the NAAQS; as actual emission reductions will be realized at the Will County facility as a whole; and as the conversions/exemption package of requirements referenced above will result in significant emission reductions not only of SO_2 but of other pollutants as well, the exemption of Will County 4 from the requirement to install FGD is warranted.

Possible Amendment to Will County's Emission Limitation

As discussed above, Will County 4's contribution of 150 $\mu g/m^3$ to the most impacted receptor in the Lemont NAA is well below the NAAQS design value of 196.32 $\mu g/m^3$, and in fact, all of the contributions to that receptor combined equal only 191.5 $\mu g/m^3$, also below the NAAQS design value. The Agency's proposed emission limitation for Will County 4 is therefore protective of the NAAQS, and further reductions are unnecessary, meaning the use of a control device is unnecessary. The Agency thus does not recommend lowering the emission limitation for Will County 4. However, if the Board believes that a lower limitation is required for adoption, the following amendment is a possibility. The Agency has consulted with Midwest Generation and determined it is achievable by Will County 4. Such an amendment would represent an approximately 23% reduction in Will County 4's allowable emissions, which would translate to a reduction of roughly 30 $\mu g/m^3$ in the modeled design value at the most impacted receptor referenced above in the Lemont NAA (as well as reductions at all other nearby receptors), creating an even greater margin of safety than already exists in the Agency's current proposal and rendering the installation of FGD equipment at Will County 4 even more unwarranted. Furthermore, this eliminates suggestions that have been raised in comments that

any sort of modeling "error" might cause a change that would possibly elevate modeled concentrations above 196.32 µg/m^3, since the safety margin would now be so large:

Section 214.603 Emission Limitations

f)	Midwest Generation Will County		lb/hr
	1)	Unit 3	145.14
	2)	Unit 4	5,000.00~~6520.65~~

Joliet Units' Impact on Lemont NAA

Questions/comments arose at hearing regarding the impact of Joliet 6, 7, and 8 on the Lemont NAA. (S*ee generally* Second Hearing at pp. 32-50). Specifically, Keith Harley with Citizens Against Ruining the Environment implied that the "transfer" of the FGD exemption from Joliet 6 to Will County 4 could not be justified unless the Joliet facility impacts the Lemont NAA, as only then will the Lemont area benefit from the planned conversions of the Joliet units. He indicated his intention to introduce as an exhibit the technical support document that accompanied the Agency's attainment designation recommendations to USEPA for the SO_2 standard, assumedly with an eye toward demonstrating that the Joliet units were not identified as likely significant contributors to nonattainment in the Lemont NAA.[7] (Second Hearing at 47).

The Agency has explained, both in its TSD and at hearing, that the Joliet units are significant contributors to nonattainment in the Lemont NAA, based on the Agency's modeling. (TSD at 8; Agency Response to Board Question 26). This is the very reason the Agency included the Joliet units its proposed Subpart AA. The requirement that the Joliet units cease combusting coal in Part 225, and the related hourly SO_2 limits in Part 214, will yield significant

[7] This technical support document has already been provided to the Board as Exhibit 2 to the Agency's response to the Board's Question 23.

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

SO_2 emission reductions that will assist Illinois in demonstrating attainment of the SO_2 standard in the Lemont NAA. (Second Hearing at 38; TSD at 10).

Whether the Joliet facility was identified in the Agency's attainment designation recommendation as a major contributor to Lemont nonattainment is irrelevant. As explained at hearing, the attainment recommendations were not based on modeling, but rather on monitored data and a five-factor analysis prescribed by USEPA. (Second Hearing at 49). The Agency identified major emitters of SO_2 in the area surrounding the violating monitor, and, considering factors such as meteorology, climatology, and topography, estimated which sources were likely contributing to nonattainment. (Second Hearing at 49).

Once USEPA designated the Lemont area as nonattainment for the standard, however, the Agency was required to conduct an in-depth modeling analysis to determine specifically which sources were significantly contributing to nonattainment in the Lemont NAA. This analysis revealed that some sources originally believed to be significant contributors, such as CITGO Petroleum Corp., were not in fact. Similarly, some sources that were not identified in the Agency's recommendation, such as Midwest Generation's Joliet facility, were found to be significantly contributing to nonattainment. (*See* Agency Responses to Board Questions 22-26). Any argument that the Joliet units do not impact nonattainment in the Lemont NAA, or that reductions at the Joliet units will not aid attainment in the Lemont NAA, is simply incorrect and reveals a lack of understanding of the differences between the attainment designation process and the more involved attainment demonstration process.[8]

At hearing, Mr. Harley also asked whether there are any ambient air quality monitors that are closer to the Joliet facility than the Lemont monitor. The Agency responded that a monitor

[8] The Sierra Club's own witness, Mr. Gray, testified that the Joliet facility significantly impacts the Lemont NAA. (Third Hearing at 163).

that may have been closer than the Lemont monitor may have been removed from the Agency's monitoring network. The Agency subsequently looked into this issue, and determined that a Joliet air monitor was discontinued in 2010. At that time, the monitor met federal requirements for discontinuation, with concentrations well below the NAAQS standard of 75 ppb; in 2008, the 99th percentile one-hour average was 56 ppb; in 2009, it was 32 ppb; and in 2010, it was 24 ppb.

This monitor was located approximately 3.5 miles southwest of the Joliet generating station. The Lemont NAA is north and northeast of the Joliet station – in essentially the opposite direction. So when winds blow emissions from the Joliet units toward the Lemont NAA – which is the most prevailing wind direction in that area – the emissions are being blown *away* from the location of the previous monitor. As such, the discontinuation of the Joliet monitor due to low ambient SO_2 concentrations reveals *nothing* about the impact of the Joliet units on Lemont nonattainment.

<u>RACT/RACM</u>

Comments were made both at the second and third hearings regarding what constitutes reasonably available control technology ("RACT") and reasonably available control measures ("RACM") under the SO_2 NAAQS. Commenters indicated that an analysis of available control technology is necessary in the current rulemaking, and argued that the Agency's proposed emission limitations for Will County 4 and the units at the E.D. Edwards facility fail to constitute RACT/RACM for such units. (Second Hearing at 85-88, 99; Third Hearing at 235).

As previously explained by the Agency, USEPA interprets RACT and RACM differently for sources subject to RACT under Title 1, Part D, Subpart 1 of the Clean Air Act ("CAA") alone (which includes Section 172 of the CAA), and those subject to pollutant-specific RACT requirements under other Subparts of Part D. (*See* Third Hearing at 201-202). Rather than

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

describing specific control systems to be used to address the necessary SO_2 reductions, USEPA has interpreted the terms RACT and RACM for purposes of Section 172(c)(1) requirements as "the level of emissions control that is necessary to provide for expeditious attainment of the NAAQS within a nonattainment area." *Withdrawal of the Prior Determination or Presumption that Compliance with the CAIR or the NOx SIP Call Constitutes RACT or RACM for the 1997 8-Hour Ozone and 1997 Fine Particle NAAQS*, 79 Fed. Reg. 32892, 32894 (June 9, 2014).

In *Natural Resources Defense Council v. Environmental Protection Agency*, the D.C. Circuit Court of Appeals upheld this interpretation of the statute with respect to nonattainment SIPs. *Natural Resources Defense Council v. Environmental Protection Agency*, 571 F.3d 1245 (D.C. Cir. 2009). The Court explained, "To the extent an area is already achieving attainment as expeditiously as possible, imposition of additional control technologies would not hasten achievement of the NAAQS. In such a situation, the EPA may reasonably conclude that no control technologies are reasonably available and the area need not implement further technologies to satisfy the RACT requirement." 571 F.3d 1245, 1253. The Court opined, "[T]he EPA may reasonably extend to the RACT requirement its interpretation of RACM as requiring only those control measures that would facilitate expeditious attainment of the NAAQS." *Id.*

The Agency's proposal sets forth the level of emissions control that is necessary to demonstrate attainment of the SO_2 NAAQS and therefore fully satisfies the RACT/RACM requirements set forth in Section 172(c) of the CAA. Additional controls are unnecessary at Will County 4 or Units 1, 2, and 3 at the E.D. Edwards facility to demonstrate attainment or to satisfy CAA RACT/RACM requirements.

Attainment Demonstration

Both Mr. Sahu and Mr. Gray testified that the Agency's attainment demonstration should either be part of this rulemaking, or that the Board should delay this rulemaking until the attainment demonstration is completed. (Gray Pre-Filed Testimony at 1; Sahu Pre-Filed Testimony at 4-5). As explained by the Agency at hearing, contrary to the Sierra Club's assertions, the attainment demonstration should not, and for practical purposes, cannot, be included in this rulemaking process. (*See generally* Third Hearing at 197-199). Generally, the Agency does not proceed with an attainment demonstration public notice and comment period until the regulation before the Board is final or the Board has at least adopted a final order. The attainment demonstration then takes the limitations and control requirements adopted by the Board in a rulemaking, or in several rulemakings, analyzes those requirements, and demonstrates to USEPA that they are sufficient to demonstrate attainment of the NAAQS. As explained at hearing, the Agency holds a 30-day public notice and public comment period and, if requested, a separate Agency hearing, and USEPA subsequently goes through its own public comment period following receipt of the demonstration. (Third Hearing at 198). The public has the opportunity to provide comments at both of these phases of the process.

This is the process the Agency has historically used, and that the Agency continues to use. The Agency explained at hearing, "As a final attainment demonstration must include final, enforceable requirements, it is not advisable for the Agency to put the draft attainment demonstration out for public comment before it knows with reasonable certainty the emission limitations and control requirements that will be adopted by the Board in an underlying rulemaking. The Agency would run the risk that its rulemaking proposal will be changed by the

Board, which could necessitate changing [the] attainment demonstration and restarting public notice and comments."[9] (Third Hearing at 198-199).

Important to note is that, while the attainment demonstration is not final at this point, the modeling supporting this rulemaking is final, at least to the extent that the Board adopts the provisions proposed by the Agency. Therefore, the Agency has been prepared throughout this process to answer any questions regarding its modeling, including underlying assumptions, why certain sources were not included in the rule, etc. For that reason, and as an attainment demonstration cannot be finalized until a rule is adopted, the Board should reject the Sierra Club's request that this rulemaking be delayed.

Stringency of Proposal

The Board should likewise reject the Sierra Club and other commenters' assertion that the Board should delay adoption of this rule until it is made "more stringent." The Agency's proposal is sufficiently stringent to demonstrate attainment of the NAAQS, a federal air quality standard designed to protect human health with an adequate margin of safety. (Third Hearing at 209). Additionally, the Agency included a margin of safety in its modeling approach by including intermittent sources, not mandated by USEPA's modeling guidance, and by including small sources, whether or not they cause a "significant concentration gradient" under federal regulations governing modeling. (Agency Response to Board Question 56). The Sierra Club and other commenters provided no support for their assertion that an even greater margin of safety is justified here.

[9] Indeed, if the Board believes that a lower limitation for Will County 4 is necessary for adoption, the Agency will conduct additional modeling for its attainment demonstration, providing an apt example of why the Agency does not proceed with its attainment demonstration until the rulemaking is complete.

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

Bifurcation of Rulemaking

Comments and questions have arisen regarding whether the Agency's proposed amendments to Parts 225 and 217 could be addressed in a separate proceeding, such as a rulemaking, variance, or adjusted standard. As the Agency explained in its responses to Board questions and at the third hearing, Parts 214, 217, and 225 were proposed by the Agency as a package that, at this point, cannot be feasibly bifurcated. (*See generally* Third Hearing at 194, 220; Agency Response to Board Question 63). The Agency's proposed changes to Parts 217 and 225 are inextricably linked to its proposed changes to Part 214. The Agency's proposed emission limitations in Section 214.603 for Will County 3 and Joliet 6, 7, and 8, reflect the cessation of coal combustion at those units; the requirement that the units cease combusting coal, however, is in Part 225. Similarly, the proposed emission limitation for Will County 4 in Part 214 assumes that the unit will not be installing FGD; the exemption from FGD, however, appears in Part 225. The revisions to Part 217 are likewise linked, as they (as well as proposed revisions to Part 225) clarify that units that no longer combust coal remain subject to the NO_x limitations in the CPS.

If Part 225 were removed from this rulemaking, the Agency would need to completely reassess the corresponding provisions in Part 214; this reassessment would entail multiple rounds of additional modeling and could result in additional sources being required to make reductions. Further, as a practical matter, removing Parts 217 and 225 from the rule would cause considerable uncertainty for Midwest Generation regarding its obligations with respect to these units, such as the NO_x limitations applicable to converted units and converted units' obligations under the CPS. (Agency Response to Board Question 63).

For the reasons set forth above, the Agency opposes any bifurcation of the amendments proposed in this rulemaking.

Conclusion

None of the speculative testimony offered by the Sierra Club in this matter justifies changes to the Agency's proposal. The Sierra Club's attempts to cast doubt on the Agency's careful, considered modeling efforts and its attainment strategy are meritless and completely unsupported by the evidence before the Board. The Agency, on the other hand, has offered considerable technical support, documentation, and testimony demonstrating the adequacy of its proposed amendments. The Agency's proposal is sufficient to demonstrate attainment of the NAAQS, refuting any claim that the Board should adopt more stringent provisions. The Agency therefore urges the Board to adopt the rule amendments as proposed by the Agency.

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Dana Vetterhoffer
Assistant Counsel

DATED: August 28, 2015

1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

CERTIFICATE OF SERVICE

I, the undersigned, an attorney, affirm that I have served the attached Post-Hearing Comments of the Illinois Environmental Protection Agency upon the following person(s) by e-mailing it to the e-mail address(es) indicated below:

Daniel Robertson, Hearing Officer
Illinois Pollution Control Board
daniel.robertson@illinois.gov

I affirm that my e-mail address is dana.vetterhoffer@illinois.gov; the number of pages in the e-mail transmission is 39; and the e-mail transmission took place today before 5:00 p.m.

I also affirm that I am mailing the attached by first-class mail from Springfield, Illinois, with sufficient postage affixed, to the following persons:

SEE ATTACHED SERVICE LIST

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Dana Vetterhoffer
Assistant Counsel

DATED: August 28, 2015

1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-5544

Electronic Filing - Received, Clerk's Office : 08/28/2015 - ***PC# 282 ***

Service List R15-21

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

Matthew Dunn, Chief
Environmental Enforcement/Asbestos
Litigation Division
Office of the Illinois Attorney General
500 South Second Street
Springfield, IL 62706

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

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

Andrew N. Sawula
Schiff Hardin, LLP
One Westminster Place
Lake Forest, IL 60045

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

Keith I. Harley
Chicago Legal Clinic, Inc.
211 West Wacker Drive, Suite 750
Chicago, IL 60606

Faith Bugel
Sierra Club
1004 Mohawk
Wilmette, IL 60091

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