



State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:

P.O. Box 1049
Columbus, OH 43216-1049

October 15, 2010

Attention EPA Docket Center, EPA West (Air Docket)
Attention Docket ID No. EPA-HQ-OAR-2009-0491
U.S. Environmental Protection Agency
Mail Code: 2822T
1200 Pennsylvania Avenue, NW.
Washington, DC 20460

Re: Comments on U.S. EPA's September 1, 2010, "Notice of Data Availability Supporting Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone" [75 FR 53613].

To whom it may concern:

The Ohio Environmental Protection Agency thanks U.S. EPA for the opportunity to comment on the above-referenced Notice of Data Availability (NODA) regarding the Proposed Transport Rule. These comments are a supplement to comments submitted by Ohio EPA on October 1, 2010 regarding the Proposed Transport Rule. [75 FR 45210]

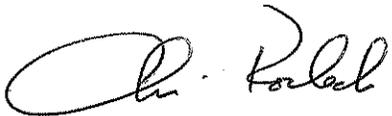
In this notice U.S. EPA acknowledges that the changes in assumptions in the latest modeling platform could impact the final rulemaking in a number of ways including changing emission projections that were used to determine which downwind areas have air quality concerns, which States contribute to those problems, and/or changing cost and emission projections used in the multi-factor test to determine the amount of emissions that represent significant contribution. In turn these changes will likely impact budget allocations. Ohio EPA is extremely concerned that given the ramifications of these data changes, additional concerns may arise, without the ability to comment, when the final rule is promulgated. **Ohio EPA requests U.S. EPA provides additional opportunities for notice and comment on the final data changes, including state budgets and allocations to specific units, prior to finalizing the Transport Rule.**

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Ohio EPA staff reviewed the background documentation the best that they could; however, finding the actual technical reason for the unit specific allocations was not clear in all cases. The basis for unit specific allocations was NEEDS V3.02. This was updated to NEEDS V4.10 (herein referred to as "NEEDS") as a part of this NODA. Ohio EPA has found it difficult, in the time afforded, to extensively investigate the accuracy of all of the information in NEEDS and the NODA and its potential affect on the proposal. However, Ohio EPA has found that it still contains errors that necessitate correction before a final Transport Rule can be completed. Attached, Ohio EPA provides comments on the most significant of the needed corrections and concerns regarding this data. We urge U.S. EPA to not rush, but develop a well thought out workable approach based on accurate data obtained by working with the states and regulated entities.

Again, Ohio EPA thanks you for this opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Korleski". The signature is fluid and cursive, with a large initial "C" and "K".

Chris Korleski
Director
Ohio EPA

/att

Cc: Bob Hodanbosi, Chief Division of Air Pollution Control, Ohio EPA

Comments

- 1. Ohio EPA is concerned with the lack of transparency on exactly which assumptions, and therefore, numbers, are used in determining allocations.** For example, the “State Budgets, Unit Allocations, and Unit Emissions Rates” Technical Support Document (TSD) from July 2010 contains Table 1 “Adjustments to Report Emissions to Account for Controls” and Table 2 “Adjustments to Reported Emissions to Account for Controls.” These tables contain a matrix of decisions for the procedure for adjustments. For NO_x, one such procedure includes choosing the greater of 0.06 lbs/mmBTU or the “removal rate from IPM documentation” under Table 1. Similarly for Table 2, a procedure for choosing the greater of the “removal rate from IPM documentation” or “emissions rate in controlled model projection.” A footnote for both tables states the removal rate in the Integrated Planning Model (IPM) is 90% for Selective Catalytic Reduction (SCR). In the IPM documentation NEEDS, there are four NO_x rates in lbs/mmBTU identified: Uncontrolled NO_x Base Rate, Controlled NO_x Base Rate, Controlled NO_x Policy Rate, and Uncontrolled NO_x Policy Rate. In Appendix 3-1.1 “NO_x Rate Development in EPA Base Case v.4.10” there is an additional decision making table describing how rates, and ultimately allocations, are decided. However, ultimately, within all of this documentation there is no indication as to which decision, rate, etc. is associated with each individual unit allocation.

Furthermore, within Appendix 3-1.1 it states:

“Calculations can get complex, so we’ll illustrate it here for coal units only and with the assumption that the data were absolutely complete and consistent with what engineering theory tells us its values should be. Otherwise, we apply additional screens. Explaining them is beyond the scope of this illustration. Basically, here’s how the values would be derived.”

It is very difficult to give meaningful comments regarding unit-by-unit level assumptions in NEEDS and the associated modeling results when it is not clear which of the multiple “complex” levels of calculations, adjustments (or screens) and assumptions are applied to a specific unit. While we understand the desire to produce a rule as soon as possible and the amount of work involved, U.S. EPA is not allowed to forgo the appropriate procedural mechanism because it is too complex or difficult. It is imperative that states and owners of these units are provided detailed unit-by-unit information as to the basis of allocations in order to ensure appropriate information is used for future allocations.

- 2. Ohio EPA is concerned with the Integrated Planning Model’s (IPM) one size fits all assumptions and the affect of these assumptions on unit level**

allocations and costs. In Chapter 5 of the documentation (Emissions Control Technology), U.S. EPA describes the two types of Flue Gas Desulfurization (FGD) technologies applied to the modeling and states "In EPA Base Case v.4.10 when a unit retrofits with a Lime Spray Dryer (LSD) SO₂ scrubber, it loses the option of BG, BH, and LG coals due to their high sulfur content." Ohio EPA is concerned with the model applying these types of one size fits all assumptions that do not take into account the specific circumstances of each plant. For example, for some "mine - mouth" plants, the infrastructure (no barge or inadequate rail) may not be available to handle large quantities of low sulfur coal. If an LSD type scrubber is assumed for one of these plants, at a specific cost threshold, it may be incorrect or impractical. And ultimately, those assumptions will dictate the unit level allocations received forcing certain plants to install a wet FGD system, when an LSD system was assumed, which could ultimately affect the cost thresholds and allocations received.

- 3. Ohio EPA has concerns regarding the level of emission reduction assumed for NO_x controls.** In Chapter 5 of the documentation (Emissions Control Technology) U.S. EPA states "Potential (new) coal-fired, combined cycle, and IGCC units are modeled to be constructed with SCR systems and designed to have emission rates ranging between 0.01 and 0.06 lb NO_x/MMBtu. In Appendix 5.2A, "IPM Model – Revisions to Cost and Performance for APC Technologies, SCR Cost Development Methodology" by Sargent and Lundy it is recommended that the "lower level of NO_x removal is recommended as 0.07 NO_x lb/mmBtu" for bituminous coal. Yet, U.S.EPA appears to make the assumption that older coal-fired units retrofitted with SCRs can also achieve a 0.06 lb NO_x/mmBTU rate. Ohio EPA is not as confident that this one size fits all rate is achievable for retrofits.

- 4. Cardinal Units 1, 2 and 3**

NEEDS identifies units 1 and 2 as having a wet scrubber installed in 2007. Our records indicate March 2008. NEEDS identifies a 98% removal efficiency for unit 1. The owner indicates unit 1 is achieving approximately 95.5%. No assumptions are identified for unit 2.

NEEDS identifies unit 3 as having a wet scrubber in 2010 with no indication of removal efficiency. This unit is currently not scrubbed; however, it is required to have scrubbing by 12/31/2011.

It appears there have been adjustments to annual NO_x emissions under both the reported and projected methods for all three units. NEEDS identifies a SCR install date of 2003 which is consistent with our records. However, it is not clear if U.S. EPA accounted for this SCR beginning continuous operation starting in 2009 based upon a Consent Decree.

5. J M Stuart Units 1, 2, 3 and 4

NEEDS identifies the installation of a wet scrubber in 2008. Although these were installed in early 2008 full operation did not begin until July of 2009 which is apparent by the actual emissions identified for these units.

NEEDS identifies these units as achieving 96% (unit 1) to 98% (units 2, 3 and 4) scrubber efficiency; however, these units are more closely achieving 95% according to the owner.

All units at J M Stuart installed SCRs in 2004 and began continuous operation of the SCRs in May of 2009. With the understanding that 2009 was a year of low demand due to the economic state of the country, Ohio EPA looked at the 2007 to 2009 average ozone season NOx emissions for each of these units. Ohio EPA is concerned regarding the ozone season NOx allocations for these units and believes they may not be sufficient. Each unit, controlled by an SCR, is receiving allocations that are only 44 to 57 % of the average 2007 to 2009 ozone season emissions. It is not transparent as to what assumptions were made as part of the IPM process that would result in such a drastic reduction in allocations for highly controlled units and just how those allocations may be affected by the newest IPM runs.

6. Gavin Units 1 and 2

NEEDS identifies these units as being controlled by scrubbers achieving 96.6% (unit 1) and 98% (unit 2) efficiency while the owner indicates they are in the range of 94.5%.

Similar to the J M Stuart units, Gavin installed SCRs in 2001 and began continuous operation in 2009; yet allocations are 69-89% of the average 2007-2009 ozone season emissions. Looking at allocations (based upon the IPM modeling), annual NOx allocations do not appear to be sufficient. Gavin's units, controlled by an SCR for all of only the first three quarters of 2009, had NOx emissions of 2,469 to 2,516 tons while allocations for four quarters are 2,384 to 2,584. Based on these historical controlled operations, Gavin will be left with insufficient allocations for at least a quarter of the year. Again, it is not transparent as to what assumptions were made and how allocations may be affected by the newest IPM runs.

7. Avon Lake Units 10 and 12

Avon Lake unit 10 received no SO₂ allocations for 2014 based upon IPM model runs. There is no indication of this unit ceasing operations and it is not transparent as to whether the revised IPM runs have corrected this. Ohio EPA does not believe it is appropriate to allow IPM to retire units when allocations are based upon these runs.

Unit 12, a 671 MW uncontrolled unit with 2007 to 2009 average annual SO₂ emissions of 29,382 tons, received 2014 allocations of 2,466 tons of SO₂ based upon the IPM runs. Yet a similar sized unit with recent scrubber technology installed in 2008, J M Stuart unit 4 (573 MW, and 2007 uncontrolled SO₂ annual emissions of 27,610 tons), received allocations of 3,529 tons of SO₂ for 2014. And IPM, based on NEEDS, assumed a 98% efficiency for the J M Stuart unit. Ohio EPA is concerned that the multitude of assumptions made by IPM, for which allocations are made, does not make practical sense and creates inconsistencies. It is not transparent as to what assumptions were made and how allocations may be affected by the newest IPM runs.

8. Conesville Units 3, 4, 5 and 6

Conesville unit 3 appears not to exist in the NEEDS file and, therefore has received no allocations. This unit is running and the owner has indicated no intent of retiring this unit. It should receive allocations.

Conesville unit 4 received 266 tons of SO₂ allowances in 2012 and 5,539 tons in 2014. It is not transparent as to what data or assumptions resulted in this 2012 allocation and if it has been corrected. Ohio EPA assumes the 2012 allocation must be an error that has been or will be corrected in the IPM runs. This unit installed a 98% efficient scrubber in 2009; however, it is an 800 MW unit with historical uncontrolled emissions of 72-92,000+ annual SO₂ emissions.

The Proposed Transport Rule states that 2012 NO_x reductions will come from operating "existing SCRs on a year-round basis and up to their design removal efficiencies and the installation of limited amounts of low NO_x burners are possible by 2012." Conesville units 5 and 6 do not have advance NO_x control and their 2007 to 2009 average annual NO_x emissions are 5,172 and 4,838 tons, respectively. Yet they received NO_x allocations of 2,855 and 2,808. It is not transparent as to what assumptions were made but it appears in order to maintain emissions commiserate with the allocations these units may need to be underutilized or install advanced controls, which was not the intent of this proposal. This analysis is also applicable to the ozone NO_x season allocation.

9. Zimmer Unit 1

This unit is controlled by a wet scrubber installed in 1990 operating year-round. NEEDS identifies this scrubber with a 98% control efficiency yet the owner

approximates a 91-93% efficiency is achieved and that it may be possible to optimize to 95%; however, 98% would not be achievable from this unit. The 2007 to 2009 average annual controlled SO₂ emissions are 15,661 tons, yet they only received allocations of 5,775 tons in 2014. This would not be achievable without replacement of the wet scrubber which would be very difficult by 2014.

NEEDS accurately identifies an SCR installed in 2004. The owner has operated the SCR continuously since 2009. However, this unit was allocated 13,515 tons of annual NO_x but only 882 tons of ozone season NO_x. Ozone season NO_x emissions for 2009, when the SCR was being operated continuously, were 1,457 tons. It is not transparent as to what assumptions were made, but it appears unrealistic that this newer SCR could be optimized to a point to make up for a 40% reduction in NO_x ozone season allocations compared to 2009 emissions.

10. Hamilton Unit 1

This unit does not have advance NO_x control and the 2007 to 2009 average annual NO_x emissions are 245 tons. Yet they received NO_x allocations of 141 tons. It is not transparent as to what assumptions were made but it appears in order to maintain emissions commiserate with the allocations this unit, which serves a municipality, must be underutilized or install advanced controls, which was not the intent of this proposal. This analysis is also applicable to the ozone NO_x season allocation.

11. Killen Unit 2

NEEDS accurately identifies an SCR installed in 2004. This unit was allocated 494 tons of ozone season NO_x and 1,127 tons of annual NO_x. Ozone season NO_x emissions for 2009 were 901 tons and the 2007 to 2009 average ozone seasons NO_x emissions are 1,393 tons. It is not transparent as to what assumptions were made, but it appears unrealistic that this newer SCR could be optimized to a point to meet the NO_x ozone season and annual allocations.

12. Lake Road Unit 11

This unit is identified in NEEDS as having a capacity of 85 MW, and therefore subject to this program. However, this unit has a name plate capacity of 20.2 MW as confirmed by the owner. It should not be a subject source.

13. Kyger Units 1, 2, 3, 4 and 5

Currently these units are not controlled by an FGD. The owner is in the process of installing FGDs but, due to technical difficulties they do not anticipate installation will be complete by the 2014 deadline. However, it was assumed these FGDs would be installed based on their allocations. We wish to reiterate,

as identified in our October 1, 2010 comments, that it may be difficult for some units to achieve the schedule, which has no case-by-case flexibility built in.

NEEDS accurately identifies an SCR installed in 2003 for these units. The owner has operated the SCRs continuously since 2009. It is not transparent as to what assumptions were made, but it may be difficult for these newer SCRs to achieve the NOx ozone season and annual allocations compared to 2009 emissions, which were low due to the economic downturn.

14. Lima Energy Unit 1

This unit received allocations although it does not appear to meet the criteria for consideration as an existing unit. The owner did begin some construction in late 2005 which was suspended in the middle of 2006. Significant additional construction will be necessary before this unit could begin operating. We believe it is more appropriate to treat this source as a new source.

15. Miami Fort Units 5-1, 5-2, 6, 7, and 8

Units 5-1 and 5-2 are not identified in NEEDS V4.10 but were identified in NEEDS V3.02, which was the basis for the unit level allocations. These units are permanently shutdown. Although not transparent in the information provided for the new IPM modeling, it is assumed allocations provided to these units will not be in the final Transport Rule.

NEEDS accurately identifies an SCR installed in 2003 on units 7 and 8. The owner has operated the SCRs continuously since 2009. However, unit 7 was allocated 355 tons of ozone season NOx and 879 tons of annual ozone NOx. Ozone season NOx emissions for 2009, when the SCR was being operated continuously, were 520 tons. Likewise, unit 8 was allocated 368 tons of ozone season NOx and 2,505 tons of annual ozone NOx. Ozone season NOx emissions for 2009, when the SCR was being operated continuously, were 442 tons. It is not transparent as to what assumptions were made and why there is such a disparity between annual NOx for each of these units. It appears unrealistic that this newer SCR on unit 7 could be optimized to a point to achieve the allocations compared to 2009 emissions.

16. Muskingum River Units 1, 2, 3, 4 and 5

Currently these units are not controlled by a scrubber. The owner is required by a Consent Decree to retire, retrofit, or repower by the end of 2015. Based upon allocations it appears IPM has "assumed" units 1 and 2 will retire prior to 2014 as no allocations were provided. Ohio EPA does not believe it is appropriate for U.S. EPA to use IPM to predict retirement and therefore eliminate allocations.

It appears based on allocations and documentation that the IPM modeling has assumed unit 5 will install an FGD by 2011. The owner has indicated an FGD will not be on line in 2012, and that it may be difficult by 2014. It is not apparent if the updated modeling will affect allocations to account for the FGD not being installed in 2011.

Units 1 through 4 do not have advanced NOx control. The 2007 to 2009 average annual NOx emissions range from 2,890 to 3,399 tons. Yet the annual NOx allocations range from 1,842 to 2,047 tons. It is not transparent as to what assumptions were made but it may be difficult, if not impossible, to meet the annual allocation budget without installation of more advanced controls.

17. Niles Units 1 and 2

Units 1 and 2 are both 120 MW units. NEEDS correctly identifies a wet scrubber was installed in 1995 on unit 1. Unit 1 has 2007 to 2009 average annual controlled SO2 emissions of 6,486 tons while allocations are set at 4,925 tons in 2012 and 870 tons in 2014. Unit 2 does not have advanced SO2 control. Unit 2 has 2007 to 2009 average annual controlled SO2 emissions of 5,717 tons while allocations are set at 2,913 tons in 2012 and 1,852 tons in 2014. It appears from these allocations IPM is assuming an FGD will be installed on unit 2. It is not transparent as to what assumptions were made, and why the disparity between 2014 allocations for these units. It appears unrealistic that the scrubber on unit 1 could be optimized to a point to meet the 2014 allocations.

18. Orrville Unit 12

This unit is identified in NEEDS as having a capacity of 28.7 MW, and therefore subject to this program. However, this unit has a name plate capacity of 25.0 MW as confirmed by the owner. It should not be a subject source.

19. Picway Unit 5 (identified as unit 9 in NEEDS)

Based upon allocations it appears IPM has "assumed" this unit will retire prior to 2012 as no NOx allocations were provided or 2014 SO2 allocations (although 2012 SO2 allocations were provided). Ohio EPA does not believe it is appropriate for U.S. EPA to use IPM to predict retirement and therefore eliminate allocations.

20. R.E. Burger Units 5, 6, 7 and 8

Units 5 and 6 did not operate in 2009 due to the economic down turn. Therefore, it appears 2012 SO2 allocations were based upon IPM rather than historical emissions during periods of running. For example, 2007 SO2 emissions were 723 (unit 5) and 671 (unit 6) tons. SO2 allocations for each of these units during

2012 are 7,793 tons. This analysis is also applicable to the annual and ozone NOx season allocations.

Units 7 and 8 are accurately identified as converting to biomass.

21. **Gorsuch Units 1, 2, 3 and 4**

The owner, AMP Ohio, has signed a Consent Decree that requires shutdown of the facility by the end of 2012.

22. **W.H. Sammis Units 1, 2, 3, 4, 5, 6 and 7**

These units are currently operating under a Consent Decree agreed to by U.S. EPA.

23. Lastly, Ohio EPA would like to reiterate an October 1, 2010 comment made regarding the Proposed Transport Rule:

Ohio EPA has concerns regarding the methodology to determine allocation budgets based on actual emissions. **U.S. EPA must use appropriate years representative of normal operation when calculating allocations based upon actual emissions.**

- a. Ohio EPA is concerned with what appears to be an arbitrary decision; using quarter 4 of 2008 and quarters 1, 2 and 3 of 2009 to establish 2012 budgets¹ – both of which were low demand years yet U.S. EPA believes this more accurately represent emissions from these sources. It appears U.S. EPA is not recognizing the nation, and particularly the Midwest, was in a severe economic downturn during in 2008 and 2009.
- b. Ohio's budget, and unit specific allocations, are being established based on a specific period of time, a time of economic crisis, without any future adjustment to being considered to those base budgets for improvement in economics, and therefore, demand. The variability limits are not sufficient to make up for this situation of severely low demand years in the base budgets. In addition, some units were not operating for some or all of this period in order to install controls to address CAIR. While it appears from the technical support documents U.S. EPA intended to substitute other quarters in the calculations when emissions were zero; however, if emissions were obviously drastically under previous quarter emissions (e.g., a unit may have operated for only a small part of a quarter) there was no such adjustment. In many cases, units are allocated budgets for 2012 and 2013 that assumes demand is as low as it was in 2008 and

¹ When actual emissions are lower than modeled 2012 projections.

2009. Such units may be forced to be underutilized if demand does improve.

- c. Ohio EPA believes it is imperative U.S. EPA take the time to ensure the appropriate historical emissions and assumptions are used when establishing allocations of the budgets as these allocations are not adjusted in the future. Ohio EPA believes it would be appropriate to use a similar methodology used when establishing the variability limits; averaging a series of years. The variability limit is based on the average heat input over several years but starting budget allocations account for emissions in one arbitrary year only, and in this case, a low demand year. A multi-year averaging approach should be used, continuing to account for controls put in place since such time, and making appropriate corrections and substitutions for periods of non (or very low)- operation.

This comment applies to the following units' emissions:

- a. Ashtabula unit 1: all quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn. Especially Q2 and Q3 of 2009.
- b. Eastlake units 1 to 4: Q1 and Q2 SO₂ emissions were significantly below historical emissions due to the economic down turn.
- c. Hamilton unit 9: all quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn.
- d. Lake Shore unit 18: all quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn.
- e. Muskingum River units 1 to 4: all quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn.
- f. Niles units 1 and 2: all quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn.
- g. O.H. Hutchings units H-1 to H-6: all quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn. Also, some of the smaller units are peaking units and given the 2014 modeled allocations, the 2012 SO₂ allocations do not appear to be sufficient if additional utilization is needed.
- h. Picway unit 5: all quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn.
- i. W.H. Sammis units 3 and 5: Q2 emissions were very low due to the tie in of the scrubber.
- j. Bayshore units 2 to 4: all 2009 quarters used to establish the 2012 SO₂ allowances were well below historical emissions due to the economic down turn.