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May 10, 1999
Environmental Quality Board

15th Floor
Rachel Carson State Office Building
P.O. Box 8477
Harrisburg, PA 17105-8477

Sent Via E-Mail to RegComments@dep.state.pa.us

Re: Proposed Interstate Ozone Transportation Reduction

Dear Environmental Quality Board:

RC Cement Company, Inc., is the corporate owner of Hercules Cement Company in Stockertown, Pennsylvania. Our goal is to work with the Pennsylvania Department of Environmental Protection (PADEP) to develop regulations that meet State and Federal agency criteria while concurrently maintaining a competitive economic position for cement manufacturers operating within the Commonwealth. We participated in the Pennsylvania Cement Industry NOx Workgroup in developing comments on the proposed rulemaking and incorporate those herein by reference. We have also prepared comments addressing the Proposed Interstate Ozone Transportation Reduction regulations, which are summarized below:

- The proposed standards for Portland cement kilns are more stringent than the Federal requirements and do not provide sufficient implementation flexibility. The Proposed rule should allow for NOx reduction technologies and controls.
- The emission-rate based limits proposed at §145.143 should account for industry variability and should not impose unattainable emission reductions. For facilities using alternate control technologies, the proposed emission based limits for Portland cement kilns should only be used for comparative purposes when evaluating the adequacy of those alternatives alternative control techniques.
- The terms Low-NOx Burner and Mid-Kiln System Firing System should be clearly defined.
- Flexibility and economic consideration should be taken into account for installation of alternative NOx-reduction technologies or controls.
- Compliance implementation and documentation for installed NOx reduction technologies or controls should be clear.
- Compliance demonstration should be based upon an average rate expressed as pounds of NOx per ton of clinker produced during the entire control season for those facilities wishing to comply with a PaDEP approved emission rate based limit, or choosing to comply with an alternative reduction strategy.

- Exceptions during startup, shutdown, malfunction, or scheduled maintenance activities should be allowed.
- Portland cement manufacturing facilities should be able to "opt-in" to the NOx budget trading program.
- NOx emission reduction credits should be transferable to and from other states.

- **Comment: <u>The proposed standards for Cement Kilns are more stringent than the Federal requirements and do not provide sufficient implementation flexibility. The proposed rule should allow for NOx reduction technologies and controls.</u>**

The Department is proposing standards at Pennsylvania Code Title 25, Chapter 145, Subchapter C that are substantially more stringent than those required by the U.S. Environmental Protection Agency (EPA) under authority of the Clean Air Act. We believe that the PaDEP standards should more closely mirror the options and flexibility provided in the proposed Federal standards. Such an approach would be in keeping with §4004.2 (b) of the Pennsylvania Air Pollution Control Act. It would also allow the cement industry to implement NOx control strategies deemed acceptable to the EPA, while remaining competitive in the domestic and offshore cement markets.

On October 21, 1998 the EPA proposed a Federal Implementation Plan (FIP) (63 FR 56394) detailing the requirements to be implemented in the event that any state subject to the NOx SIP Call fails to implement approved regulations. The proposed FIP provides potentially regulated entities with several options to comply with its requirements. These are:

1) the installation of a Low-NOx Burner; or

2) the installation of mid-kiln system fuel firing equipment; or

3) the use of an alternate control that will achieve similar NOx reductions to the above

As currently proposed, the FIP does not impose any emission limit on a source that chooses to implement either of the two prescribed technologies. The EPA indicates that implementation of these technologies is expected to result in the emission reductions desired of cement kilns. The proposed FIP provisions offering several compliance options obviously provides much greater flexibility of implementation for affected sources.

As explained above, not only should the rule provide emission-rate based limits for compliance, but it should also allow for the use of a technology-based standard for cement plants. It should also provide those plants that cannot install low NOx burners or mid-kiln system firing the option to determine an uncontrolled baseline and propose an alternative control technique to reduce NOx emissions by 30%. If the PaDEP wants to publish emission-rate based guidelines to compare the use of alternate technologies to the emissions expected from the prescribed technologies, the Department should use the methodology described in the following comment.

We believe it would be appropriate for the Department to incorporate these options into §145.143 of the proposed State rule.

- **Comment: <u>The emission-rate based limits proposed at §145.143 should account for industry variability and should not impose unattainable emission reductions. For facilities proposing to use alternate control technologies, the proposed emission based limits for Portland cement kilns should only be used for comparative purposes.</u>**

The PaDEP rulemaking proposes that after May 1, 2003, any Portland cement kiln subject to this rule may not emit NOx during the May 1– September 30 control period that exceeds the emission rates codified at § 145.143. Meeting the proposed emission rates is the only option for compliance. In the proposed rulemaking, cement plants are required to meet NO_x emission limits which are based on the averages of emission data used to develop USEPA emission factors. Requiring Pennsylvania cement plants to meet these limits will significantly disadvantage 30% to 50% of the cement plants in the Commonwealth. In fact, some of the plants may not be able to meet these limits and would have to shut down their operations during the ozone months.

The emission rates listed in §145.143 are obtained from the proposed FIP. These were provided as guidance to affected sources to help them determine which alternative technologies could meet an average emission rate expected from the installation of mid-kiln system firing or LNBs, and which alternative technologies may be considered for approval by the USEPA. The USEPA calculated the emission rates listed in the FIP by averaging two different NO_x emission factors for cement manufacturing: AP-42 factors and those found in the Alternative Control Techniques (ACT) document for cement manufacturing (EPA-453/R-94-004). The factors in these documents represent the average of a wide range of observed emission rates, expressed as pounds of NO_x per ton of clinker produced. The final average of the two emission factors is meant to represent average NO_x emissions from the various kiln types. The USEPA further assumes LNBs and mid-kiln system firing will achieve 30 percent reductions on average. Thus, the USEPA reduces the final average of the two emission factors by 30 percent to produce the comparative target emission rates that need to be achieved by any individual facility opting for alternative controls.

Since emission factors represent a wide range of actual emission rates, it is expected that about half of the plants sampled have emissions greater, and half below, those levels. In this context, such an average rate may be an appropriate comparison for those plants wishing to install alternate control technologies. However, the PADEP should understand that the USEPA's intent is that the use of these emission rates should be limited to this comparative purpose. It would be inappropriate, and in many cases infeasible, to suggest that such emission rates be the only compliance option available to affected Portland cement manufacturing facilities. To apply an average number—particularly one that already incorporates 30 percent reductions—as an emission ceiling is to fail to understand the mathematical principle of averages. Indeed, the AP-42 document is clear in the position that emission factors are merely averages of readily available data that can be used to make projections as to long-term averages. The report goes on to warn against the use of the factors as an emission limit or standard, since, the very nature of averages would result in roughly half of the sources emitting more than the average rate:

> "Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance." (United States Environmental Protection Agency, "Section 11.6 Portland Cement Manufacturing," *Compilation of Air Pollutant Emission Factors (AP-42)*, Fifth Edition, 1995)

If the emission rates, as proposed in Chapter 145, were applied, then average emissions from affected cement plants would be lower and the cement industry would be held to much more significant reductions than intended or necessary. Moreover, meeting these rates would be impossible at many plants. Without other options, these facilities might be unable to meet the rule requirements.

Cement plant NO_X emissions are highly variable from kiln to kiln, even within the same process type, and can range from 2.0 pounds of NO_X per ton of clinker to 20.0 pounds or greater of NO_X per ton of clinker. The following example indicates how averages can work. If the three sources listed in the table below were all long dry kilns, and were used to determine the controlled emission factor for long dry kilns, one can easily see that requiring all kilns to meet the same emission limit as determined by an emission factor is not equitable – one kiln must reduce 55%, one kiln must reduce 30%, and the low emitting kiln could petition the state to take a 3.0 pound per ton of clinker emission limit and attempt to sell the 1.9 pound per ton emission credits.

Source	Emission Rate – pounds of NO_X per ton of clinker	Emission limit - based on 30% reduction from the emission factor	Percent Reduction Required
Source 1	11	4.9	55%
Source 2	7	4.9	30%
Source 3	3	4.9	0%
Emission Factor	7		

It would be appropriate to maintain a rate based benchmark in the final rule. However, at a minimum, the rates contained in the right hand column of the following table should be used. These figures are derived from the standard EPA emission factor (see Volume I: ``Stationary Point and Area Sources," Chapter 11, ``Portland Cement Manufacturing Compilation of Air Pollutant Emission Factors," AP-42, Fifth Edition, EPA) and the ACT document's uncontrolled emission factors. In each case, the PA NOx Workgroup recommends that the greater of the two factors be used as the baseline, and then reduced by 30 percent, as demonstrated below. The values are expressed in pounds of NO_x per ton of clinker produced.

Kiln Type	**AP-42 Factor** Pound per ton clinker	**ACT Factor** Pound per ton clinker	**Greater of Two** Pound per ton clinker	**§ 145.143 Factor** Pound per ton clinker
Wet	7.4	9.7	9.7	6.8
Long Dry	6.0	8.6	8.6	6.0
Preheater	4.8	5.9	5.9	4.1
Prehtr./Precal.	4.2	3.8	4.2	2.9

- **Comment: <u>The terms Low-NOx Burner and Mid-Kiln System Firing should be clearly defined.</u>**

A Low-NOx burner (LNB) is a type of cement kiln burner that produces a flame that improves the mixing of fuel and air, and thus results in lower maximum flame temperature and a lower generation rate for thermal NOx. In addition, a LNB controls the shape of the flame to produce an oxygen deficiency in the initial combustion zone. This inhibits the generation of NOx because of the reducing conditions present and also reduces fuel NOx. The flame shape promotes internal combustion inside of the flame under reducing conditions while the atmosphere in the area of the kiln where the chemical reaction occurs remains oxidizing so product quality can be maintained. To accomplish this, a LNB for a cement kiln will have a series of channels or orifices that allow for the adjustment of the volume, velocity, pressure, and direction of the air carrying the fuel (known as primary air) and additional combustion air (known as secondary air) into the kiln. This LNB configuration is significantly different from a typical cement kiln burner which introduces the fuel through a pipe commingled with the combustion air. In order to distinguish between a typical cement kiln burner and a LNB, the PA NOx Workgroup proposes the following definition of a LNB to be included into Chapter 145. Subpart C:

> Definition: ***"Low-NOx Cement Kiln Burner: A type of cement kiln burner, or burner modification, that uses a series of channels or orifices which minimize NOx formation by introducing fuel and its associated primary air into a kiln by: (1) causing an internal and external re-circulation of combustion air so that the initial combustion of the fuel occurs in a fuel-rich (i.e. oxygen deficient) environment; (2) completes combustion in a fuel-lean (i.e. oxygen rich) environment at the middle and end of the flame, and (3) provides a uniform heat distribution in the flame to reduce sharp temperature peaks in the flame."***

Mid-Kiln System Firing is one of the several methods that apply the secondary combustion NOx reduction technology. Secondary combustion is also used in other kiln systems such as in a precalciner kiln where a portion of the fuel is burned in a specialized vessel with the raw materials before those materials enter the kiln. For the purposes of defining mid-kiln system injection and setting an implementation plan and compliance schedule for installing such a system to satisfy NOx reduction requirements, the PA NOx Workgroup proposes the following language inserted into Chapter 145. Subchapter C.:

> Definition: ***<u>"Mid-Kiln System Firing" means the secondary firing in Portland cement kilns by injecting fuel at an intermediate point in the kiln system using a specially designed feed injection mechanism for the purpose of decreasing NOx emissions through both of the following:</u>***
>
> ***<u>(A) Burning part of the fuel at a lower temperature</u>***
>
> ***<u>(B) Reducing conditions at the fuel injection point that may destroy some of the NOx formed upstream in the kiln burning zone."</u>***

We believe it would be appropriate for the PADEP to incorporate these definitions into the proposed State rule.

- **Comment: <u>Flexibility and economic consideration should be taken into account for installation of alternative NOx-reduction technologies or controls.</u>**

In a scenario where a cement manufacturing plant cannot install and/or operate LNBs or mid-kiln system firing, we recommend the rule allow for the use of alternative NOx reduction technologies or controls. These technologies would be approved by the PADEP and the USEPA on a case by case basis and must achieve a 30% NOx emission rate reduction during the control season. The use of the alternative control technology should provide for an economic consideration which would also be reviewed on a case by case basis. Cement manufacturing facilities needing to install an alternative control technology shouldn't be required to exceed a cost-effectiveness of more than $5,000 per ton of NOx reduced. We recommend this cost effectiveness consideration based on USEPA's NOx SIP Call Regulatory Impact Analysis (RIA). In the RIA, under Chapter 7: Results of Cost Emission Reductions, and Economic Impact Analyses for Non-electricity Generating Units, Page 5; the USEPA uses a figure of $5,000 as the maximum cost per ton of NOx reduced.

- **Comment: Compliance implementation and documentation for prescribed NOx reduction technologies or controls should be clear.**

The monitoring and/or implementation requirements of installing a LNB, mid-kiln system firing equipment, (i.e. prescribed technologies) should not include the continuous monitoring of emissions or production operations. The implementation should include documentation that the control technology is installed by May 1, 2003, and that the technology is operated during the ozone season. The technology would undergo an initial performance test according to the requirements of 40CFR part 60, appendix A, Method 7, 7A, 7C, 7D, or 7E. The owner or operator of a subject unit should produce and maintain records for the period of May 1 through September 30, which would include: (1) the control season NOx emissions produced from the facility; (2) the date, time, and duration of any startup, shutdown, or malfunction in the operation of the subject cement kiln; and, (3) the results of an performance test conducted in support of the Chapter 145 requirements.

- **Comment: Compliance demonstration should be based upon an average rate expressed as pounds of NOx per ton of clinker produced during the entire control season for those facilities wishing to comply with a PaDEP approved emission rate based limit, or choosing to comply with the option of an alternative NOx reduction strategy.**

For facilities complying with the PaDEP approved emission-rate based limit, or an alternative NOx reduction strategy outlined above, compliance demonstration should be based on an average rate expressed in pounds of NOx per ton of clinker produced during the entire control season. Such facilities should document their clinker production and hours of operation during the control season. Periods of malfunction, startup, shutdown, or scheduled would be excluded from the emission calculations. The facility should demonstrate that the control season emissions, when divided by the clinker production and hours of operation, do not exceed the permitted emission rate limit.

- **Comment: Exceptions during startup, shutdown, malfunction, or scheduled maintenance activities should be allowed.**

For all of the above NOx reduction activities the rule must allow for an exception from the requirements at §145.143 during periods of start-up, shut-down, malfunction, or regularly scheduled maintenance activities. An allowance for exemption under these circumstances should be provided in the final rule and outlined under Part §145.143.

- **Comment: <u>Portland cement manufacturing facilities should be able to "opt-in" to the NOx budget trading program.</u>**

In addition to the above comments, we believe that clarifications needed for the ability of a subject cement manufacturing plant to opt-in to the NOx budget trading program. It is our understanding that the Opt-in provisions extend to all industries regulated under Chapter145; however, the wording of the regulation has left some confusion. The definition of "Opt-in" refers to a "...unit...". The definition of a "unit" in Subchapter A does not describe a cement kiln system. Therefore, it would appear that there is no provision for the cement industry to take advantage of the Opt-in provision as the rule is currently written.

We request the wording of the rule make it clear that all industry regulated under Chapter 145 be allowed to take advantage of the Opt-in provision. We suggest the PaDEP insert language from §145.4 in Subchapter C that defines a subject unit; and that such subject units are eligible for the Opt-in provisions should the affected so desire. The Opt-in unit would be subject to the same requirements outlined in the Opt-in Process under parts §145.80 through §145.85.

- **Comment: <u>NOx emission reduction credits should be transferable to and from other states.</u>**

NOx credits generated in other affected states should be allowed to be banked in the Commonwealth's supplemental compliance pool. We feel the program should be as broad as possible and therefore favor the interstate use of emission reduction credits across the entire 22-state region.

Once again, we would like to thank the Environmental Quality Board for the opportunity to comment on the proposed rulemaking outlined under Part 145. We look forward to working jointly with the PaDEP to take the necessary measures to improve ambient air quality standards, while still maintaining a competitive business climate for the cement manufacturing industry in Pennsylvania.

Sincerely,

Daniel B. Nugent
Director, Environmental Affairs

DBN

cc: K. Williams

Procter&Gamble

The Procter & Gamble Paper Products Company
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May 6, 1999

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400 Market Street
Harrisburg, PA 17105-8477

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Dear Sir or Madam,

Outlined below please find comments submitted on behalf of the Procter and Gamble Paper Products Company on the Environmental Quality Board's proposed rulemaking concerning Interstate Ozone Transport Reduction, 25 PA Code Chapters 123 and 145. As proposed, the regulations would have a significant effect on our facility, and we are pleased to have the opportunity to comment on the rulemaking.

We support the Board's general approach to achieving the federal State Implementation Plan (SIP)-required regional NOx reductions via a flexible "cap and trade" program which should provide for emissions reductions at the least possible cost. We also encourage the Board to pursue steps to minimize to the greatest extent possible any administrative changes (permitting, monitoring program approval, etc.) required for existing NOx Budget program-affected sources to comply with the proposed rule.

Our specific comments on the proposed rulemaking are as follows:

Emission Monitoring Requirements

In the preamble to the proposed rulemaking, the Board has stated that the monitoring requirements included in Sections 145.70 - 145.76 are generally consistent with the provisions of the existing NOx budget rule. The monitoring requirements in the Department's current regulations at Chapter 123 reference the procedures contained in the Guidance for Implementation of Emission Monitoring Requirements for the NOx Budget Program ("OTC Monitoring Guidance"). The provisions in the current proposed rulemaking mirror those included in the EPA model rule, and refer specifically to requirements outlined at 40CFR Part 75. There are a number of significant differences between the OTC Monitoring Guidance document and the Part 75 requirements, including more restrictive system relative accuracy requirements, additional monitoring requirements for units exhausting to multiple stacks, and additional bias factors for small emission units using default emission factors. Use of the proposed Part 75 monitoring requirements will impose additional monitoring and compliance costs on primarily smaller (non-Part 75) emission sources. Many of these affected facilities have recently completed modifications to continuous emission monitoring (CEM) systems to comply with the OTC Monitoring Guidance for the current NOx budget program. The OTC

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Monitoring Guidance was developed in partnership with US EPA to insure these facilities accurately accounted for emissions in a cap and trade program virtually identical to that included in the Board's current proposed rulemaking. As the regulations are proposed many affected sources will likely be required to again modify their CEM systems, with no significant environmental or emissions trading program quality gain. We would encourage the Board to include reference to the existing NOx OTC Monitoring Guidance document in the Chapter 145 regulation, and to permit existing approved and certified NOx Budget Program emissions monitoring systems to continue to operate as approved monitoring systems under this current regulation.

Allowance Banking

The Board has requested comment on whether to allow the use of banked allowances from the existing NOx Budget Program in the years 2003-2004 under the new proposed rule. We support allowing the full use of excess allowances generated and banked during 1999-2002 under the future program, as this will provide additional certainty to the allowance trading system, will aid in achieving the required NOx reductions in the most cost effective manner possible, and may encourage greater early emission reductions. Further, the flow control provisions included in the proposed rulemaking provide insurance that excess NOx emissions in any one ozone season are prevented. We recommend that the Board enable the full use of allowances generated under the current NOx Budget Program for use in any year following the implementation of Chapter 145 SIP call regulations, subject to the flow control provisions included in the proposed rule.

Small (< 25MW) Electrical Generating Units

The Board has further requested comment as to whether Pennsylvania's SIP call NOx control regulation should include sources connected to electric generating units of 15MW or greater capacity, rather than follow the EPA model rule level of 25MW as a cut off for regulation. EPA's analysis in the development of the SIP call model rule indicated that controlling emissions of sources below 25 MW to the level envisioned in the rule (i.e. 0.15 pounds NOx/mmBTU) would not be highly cost effective, and that control of emissions from these sources would have a minimal effect in improving regional air quality. Given the relatively large number of these smaller sources and the low total NOx emissions from these sources, we would encourage the Board to modify the proposed regulation and include only those electrical generating unit (EGU) sources of greater than or equal to 25 MW. Further, consistent with previous federal regulatory actions, we would encourage the Board to regulate as EGUs only those units with significant net sales of electricity to minimize regulatory impact on smaller, energy efficient industrial cogeneration facilities.

Allowance Allocation

The Board has proposed at Section 145.42 that initial allowances from non-EGU affected units be established based on 1995 actual heat input, while initial allowance allocation for EGU affected units would be based on the average of the two highest years' heat input during the period 1995 - 1997. Non-EGU industrial sources may face similar variability in year to year utilization and heat input as EGU units. We would recommend that the

Board modify the regulation to use the same methodology (average of the highest two years) to allocate initial allowances for both EGU and non-EGU sources.

Internal Combustion Engines

The Board has proposed to exempt large emergency standby electrical generation units with limited annual operating hours from the provisions of this rulemaking. We would encourage the Board to extend this exemption to other (non-electrical generation) emergency standby internal combustion engines with a similar restriction on operating hours. As these units would be expected to be infrequently used and have a very small contribution to regional NOx emissions, the cost for controlling and monitoring emissions from these sources would not appear to be justified.

We appreciate the opportunity to offer comment on this important proposed rulemaking. Please feel free to contact me with any questions on our comments.

Sincerely,

J. Andrew Hadley, P.E.
Site Environmental Manager

Lynn I. Ratzell
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May 7, 1999

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Comments by PP&L, Inc.
On 25 PA Code Chapters 123 and 145
Interstate Ozone Transport Reductions
Proposed Rulemaking of March 6, 1999
25 Pa. Bulletin 1319

Gentlemen:

Enclosed are comments by PP&L, Inc. on the Environmental Quality Board's Interstate Ozone Transport Reduction proposed rulemaking which was published in the *Pennsylvania Bulletin*, Volume 29, No. 10, March 6, 1999. PP&L, Inc. is an investor-owned utility with over 1.3 million customers. PP&L, Inc wholly or partially owns six fossil fuel fired generating stations containing 17 coal-fired boilers and two combination oil and gas boilers with a combined generating capacity of approximately 5,700 megawatts.

PP&L, Inc. appreciates the opportunity to provide comments on these important issues. Included with these comments is a one-page summary of PP&L's major comments for distribution to the Board members. If you have any questions on the enclosed comments, please call Thomas Keller, Senior Environmental Engineer at 610/774-5029.

Sincerely,

Lynn I. Ratzell
Manager, Environmental Management Division

Enclosures

Comments by PP&L Inc.
On
25 PA Code Chapters 123 and 145
Interstate Ozone Transport Reductions
Proposed Rulemaking of March 6, 1999
25 Pa. Bulletin 1319

INTRODUCTION

PP&L, Inc. (PP&L)[1] hereby submits its comments on the interstate ozone transport reduction rulemaking proposed on March 6, 1999 by the Environmental Quality Board (EQB) pursuant to the 1998 SIP call issued by the United States Environmental Agency (EPA) (29 Pa. Bulletin 1319). PP&L supports the broad regional approach taken in EPA's State Implementation Plan (SIP) call to address ozone problems in the eastern half of the country. Without these broad regional reductions, Pennsylvania cannot come into attainment with the ambient ozone standard. Accordingly, PP&L supports, in general, the various actions Pennsylvania has taken to implement its share of nitrogen oxides (NO_x) reductions under EPA's broad, regional approach and to encourage other states to do their fair share. The EQB's proposed rulemaking and the Section 126 petitions filed by Pennsylvania are among those actions.

PP&L is concerned, however, that the Pennsylvania rule as proposed does not adequately account for potential changes to the SIP Call resulting from current litigation or actions by contiguous states that could put Pennsylvania at a competitive disadvantage.

PP&L already has invested $114 million in NO_x control to reduce its NO_x emissions by 50% since 1990, and PP&L will likely invest a comparable amount over the next four years to comply with the new rule. Other industry in Pennsylvania will also be burdened by these new rules. It is important that Pennsylvania's rulemaking recognize the competitive disadvantage Pennsylvania's industry may suffer if Pennsylvania's neighbors do not cap their NO_x emissions on the same schedule as required within Pennsylvania.

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1 PP&L is an investor-owned utility with over 1.2 million customers. PP&L wholly or partially owns six fossil fuel fired generating stations containing 17 coal-fired boilers and two combination oil and gas boilers with a combined generating capacity of approximately 5,700 MW.

PP&L is also concerned with the restriction on carry forward of banked allowances. Restrictions on banking limit the effectiveness of the cap and trade program. Comments on these and several technical issues are presented below by order of importance to PP&L.

1. Pennsylvania's Rulemaking Should Be Structured to Take into Account any Subsequent Changes to the SIP Call to Avoid Placing Pennsylvania at Competitive Disadvantage with Respect to Other States.

EPA's SIP Call issued to 22 states, including Pennsylvania and contiguous states, caps NO_x emissions in those states commencing in 2003. Several states have challenged EPA's SIP call and/or have submitted NO_x emission reduction proposals that significantly differ from the SIP Call. The SIP Call may ultimately be invalidated or modified to remove the cap or allow for implementation schedules that have compliance dates later than those that Pennsylvania is working toward. Alternatively, states may promulgate regulations that do not cap NO_x emissions or that have later implementation dates. Pennsylvania's rules do not take such contingencies into account. As electricity generation is deregulated, this could put Pennsylvania at a competitive disadvantage and could be environmentally counterproductive, as generation could shift from Pennsylvania to the lower-cost, higher-emitting states.

Such a situation currently exists with respect to the 1999 NO_x reductions agreed to by Pennsylvania and other ozone transport region states. Pennsylvania is proceeding with those reductions, although Maryland and Delaware are not. This may well result in a shift in generation from Pennsylvania's relatively cleaner units to dirtier Maryland units. Such a shift harms Pennsylvania's economy by reducing electricity production within the state. Also, such a shift harms Pennsylvania's air quality by increasing NO_x emissions upwind of Pennsylvania's ozone non-attainment areas.

Of course, EPA apparently intends to avoid such imbalance through its Federal Implementation Plan (FIP) rulemaking, but that rulemaking (and all related judicial challenges) have not yet been completed. States in the Midwest and Mid-Atlantic region have filed petitions for judicial review of EPA's SIP Call which may result in EPA agreeing to less stringent emission standards or in implementation schedules that have compliance dates that are later than those that Pennsylvania is working toward.

As required by the SIP Call, Pennsylvania expects to finalize its regulations by September 1999. This will be before ongoing litigation by other parties challenging the SIP Call has concluded. Recognizing this situation, EPA itself has represented to the D.C. Circuit Court in its response to the motion for stay filed in the SIP Call litigation by several states that states can include contingency clauses in their regulations. Pennsylvania's rulemaking should, therefore, be structured to take these contingencies into account. The following language should be incorporated into

General Provisions of Chapter 145. Interstate Pollution Transport Reductions Subchapter A. NOx Budget Trading Program:

> "These regulations shall be revised as necessary to remain consistent with any modifications to or partial invalidation of EPA's October 1998 SIP call. These regulations shall not take effect if EPA's October 1998 SIP Call is wholly invalidated or any state contiguous to Pennsylvania does not have a federally enforceable NOx cap imposed on it by 2003."

Such a contingency clause does not, of course, preclude Pennsylvania from continuing to take a leadership role in seeking NO_x reductions in the entire 22-state region as required under EPA's SIP Call. PP&L applauds Pennsylvania's efforts to date in this regard and encourages Pennsylvania to continue with its efforts while at the same time protecting Pennsylvania from competitive disadvantage.

2. All allowances banked under the NOx Allowance Requirements in Section 123(a) (3) should be transitioned for use as banked allowances under the proposed rule.

Section 145.55(c) of the proposed regulations limits the number of banked allowances under the current program that can be transferred into the 2003 program. This has the effect of devaluing allowances banked under the current program as further described below, thereby reducing the benefits of the banking provisions under the current program.

A simple, flexible banking program is essential to the successful operation of any cap-and-trade system and it offers important environmental and economic benefits. Without banking, not only do costs rise, but there can be wide fluctuations in emissions over the course of a season.[2] Without the protection of a bank, sources will tend to save allowances at the beginning of each season to deal with potential shortfalls later in the season (e.g., due to nuclear units going off-line unexpectedly). As the season progresses, in most cases the early-season cushion will prove unnecessary, the price of those allowances will plummet, making it more economical to run higher emitting units, thus increasing emissions. Without banking, there is no opportunity cost to using up allowances, because they will have no value after the current season. In contrast, with banking there is no reason to build an early season cushion, and extra allowances can be saved, so there is no need to use them in large quantities towards

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[2] See A. Nichols and J. Farr, The Timing of NO_x Emissions and Emissions Trading in the Ozone Transport Region, Palo Alto, CA: Electric Power Research Institute, December 1996, Figure 5-2. See also A. Nichols and G. Hester, "Issues in Designing a Banking Program for NO_x in the OTR," which is included in Appendix C of that same report.

the latter part of the season. Thus, banking reduces variation both in emissions and in prices, enhancing the economic and environmental benefits of a cap and trade program.

Banking also produces the environmental benefit of encouraging early reductions. Getting reductions earlier has two key advantages:

- They occur generally when overall emissions are higher from other source categories, so that they reduce higher ozone levels, with larger health and other benefits.

- The principle of discounting is well established in benefit-cost analysis, which means that earlier benefits are more valuable than later ones.

Limiting the number of banked allowances that can be transitioned for use in 2003 reintroduces the uncertainties that the banking provisions in the current program were meant to address. Allowances banked under the current program could become valueless in 2003 and there would be a strong incentive for sources to use them all up by the end of the 2002 season.

For the reasons stated above, all allowances banked under Section 123(a)(3) should be transitioned for use as banked allowances under the proposed rule. Section 145.55 of the proposed rule limits the number of banked allowances in Pennsylvania that can be carried forward into 2003 to the number of allowances in Pennsylvania's share of the compliance supplement pool (CSP).

EPA developed the CSP number based on EPA's assumption that approximately 1/3 of the generation in the 22-state region would require an additional year beyond 2003 to install control technologies so as to avoid disruption of electric supply. Under this assumption, EPA established a CSP of 200,000 allowances and allocated a portion of this to each state. Pennsylvania's share of the CSP is 13,716 allowances. This number bears no rational relationship to the number of allowances that will be banked due to overcompliance during the OTR cap and trade program.

PP&L believes that EPA has included the CSP limitation in its SIP Call because it fears that allowing large numbers of banked allowances into the 2003 program may result in emissions in excess of the annual state budgets. EPA's single-mined focus on the annual budget seems particularly inappropriate given the way in which these budgets have been calculated. They are based on a rough assessment of the general magnitude of the needed reductions and EPA's beliefs about the control levels that are possible and cost effective. The budgets are also based on projected activity levels a decade in the future; EPA adjusted them upwards from the initial numbers by roughly 15%, based on errors discovered in the original projection method. In light of the way in which the cap has been set and adjusted, it hardly seems rational to worry about the kinds of minor year-to-year fluctuations (with any increases offset by decreases in other years) that additional banked allowances would allow.

Even if EPA's concerns were legitimate, limits on the total size of the bank make no sense. The only legitimate environmental rationale for limits on banking is to prevent excessive emission in any one year. The most effective approach to addressing that concern is to limit the rate at which banked allowances may be withdrawn, and the focus should be on total emissions – the use of current plus banked allowances. The "flow-control" system in the current rules and in the proposed rules does precisely this. In any one year, it allows banked allowances to be withdrawn on a one-for-one basis up to 10% of that year's allocation. Withdrawals beyond that level can only be made on a two-for-one basis; i.e., for every two withdrawn from the bank, only one can be used to cover emissions. These flow control provisions already provide far more protection against possible concentrated use of banked allowances and the associated emissions "spike" than needed. Limits on the number of banked allowances that can be transitioned for use commencing in 2003 goes even further and becomes environmentally counterproductive as explained above.

PP&L recognizes that the CSP limitation on banked allowances is in the "nondiscretionary" part of EPA's SIP call. PP&L has, therefore, challenged this provision of the SIP call in a petition filed in the D.C. Circuit and fully expects the Court to invalidate the CSP limitation on crediting early reductions. PP&L urges the Department to discuss this important issue with EPA and seek clarification from EPA on EPA's willingness to allow OTC states greater latitude to incorporate into the state's rules environmentally beneficial provisions encouraging early reductions pending a decision from the Court. Pennsylvania, as a leader among coal burning states in implementing the SIP call, should insist that EPA not impose limitations on Pennsylvania's rules that are not only economically burdensome but in fact also environmentally counterproductive in the context of Pennsylvania's current program.

If the final rule allows all banked allowances to be transitioned for future use, the compliance supplement pool should be used to provide tons to sources that demonstrate a need for a compliance extension.

If the final rule retains the restriction on carry-forward of banked allowances, it should treat all banked allowances the same. There is no rational basis for distinguishing between banked allowances. Source owners are continuously buying and selling NO_x allowances based on the price of NO_x allowances and should not be penalized if they happen to own allowances with non-Pennsylvania source designations in 2003. For example, PP&L may sell 500 NO_x allowances with Pennsylvania source designations this week when NO_x allowance prices are higher and purchase 500 NO_x allowances with New York source designations next week when NO_x allowance prices are lower. At the end of next week, 500 of PP&L's NO_x allowances with Pennsylvania source designations would be replaced with 500 NO_x allowances with New York source designations. There is no rational reason to penalize PP&L for this by restricting the flow-through of the New York designated NO_x allowances. Such a restriction would add even more uncertainty to the viability of allowances banked before 2003 which would only increase the adverse environmental and economic consequences described above.

3. The Early Reduction Credit Provision Should Be Deleted.

The existing program establishes a clear mechanism for banking allowances for emission reductions made in the years 1999, 2000, 2001 and 2002. Under proposed Section 145.55(c)(9) such banked allowances are deemed to meet the requirements of early reduction credits. However, proposed Section 145.55(c)(3) also provides another mechanism to obtain early reduction credits: by reducing a budget unit's NO_x emission rate to less than .25 lb/mmBtu and 80% of the units NO_x emission rate in the 2000 control period. It is not clear how these early reduction credits differ from banked allowances and whether such early reduction credits could be used in addition to the unused allowances that would become available as a result of the reductions generating such early reduction credits. Because Pennsylvania has an established emission cap and trade program operating in conjunction with the Northeast Ozone Transport Commission, provisions for early reduction credits are unnecessary and confusing. We, therefore, recommend that Subsection 145.55(c) be deleted in its entirety.

4. The allowance allocation approach included in the EPA model rule is an acceptable allocation approach.

In its public comments presented at the April 8 public hearing, PP&L endorsed the allocation approach in the proposed rule. While PP&L continues to believe it is inequitable to allocate a scarce resource (i.e., NO_x emission allowances) to a source in an amount clearly in excess of that source's needs, PP&L views the EPA model rule allocation as an acceptable alternative to address concerns some commenters have expressed with the proposed allocation approach. The most positive aspects of the EPA model rule are that it is simple and straightforward, and that it serves as the basis of a regionwide emission trading program. In allocating emission allowances to repowered sources and to new sources on the same emission rate basis as existing sources (i.e. 0.15 lb. NO_x per million Btu, subject to budget reconciliation), the EPA model rule is intended to provide an incentive to these sources. It can be argued that such incentives are equally warranted for both new and repowered sources because both have high efficiency and low emission rates and both will are equally likely to displace generation from presumably older and higher emitting sources.

PP&L remains concerned, however, that the EPA model rule may create an emission allowance windfall for existing sources having low current emission rates to the extent the allocations exceed the needs of those sources. This windfall would result from no new control efforts by these sources and at the expense of the large majority of existing sources who are to be allocated far fewer allowances than their needs, and who as a result will bear the greatest expense of reducing Pennsylvania's NO_x emissions. In this regard we note that ARIPPA, which represents most if not all of the existing sources with permitted emission less than 0.15 lb. NOx per million Btu, has indicated that some of its members are seeking exceptional treatment in the allocation process because those members have atypically low baseline heat inputs. We believe that the hurdle for

claiming exceptional circumstances should be set high. Perhaps the EPA model rule's windfall to ARIPPA members would be the most simple and straightforward way to diminish, if not eliminate entirely, the need for such exceptional treatment.

In consideration of the simplicity of the EPA allocation approach, PP&L views the EPA model rule, incorporated without change, as an acceptable – though less preferable – alternative to the allocation approach proposed by the Department.

5. The Final Rule Should Apply only to Electric Generation Units of 25 Megawatts or Greater.

In its public comments presented at the April 8 public hearing, PP&L responded to the Board's question regarding what level of electric generation is appropriate for regulation under Pennsylvania rule by noting that if the Department continues to regulate generating sources down to the level of 15 megawatts, the NO_x budget needs to be adjusted to account for sources less than the 25 megawatt cut-off in the budget assigned by EPA. An alternative put forth by other commenters – an alternative proposing that the final rule should apply only to electric generation units of 25 megawatts or greater – is the practical equivalent of the approach recommended by PP&L and as such can be supported by PP&L. In view of the wide range of other commenters, - viz., the Electric Power Generation Association, the Department's Air Quality Technical Advisory Committee, the Pennsylvania Chamber – endorsing an acceptable alternative, PP&L wishes to go on record that it can also endorse the 25-megawatt applicability criterion.

Using the federal applicability level will allow Pennsylvania to meet EPA SIP call requirements and to join in a regional emission trading program with states that elect to conform to the federal model rule.

However, should the Department choose to use 15 megawatts as the applicability criterion, Pennsylvania must work with EPA to increase Pennsylvania's inventory and allowable emissions to account for the additional sources in order to avoid making Pennsylvania's program more stringent than required under EPA's SIP call. If Pennsylvania should depart from the federal applicability level, Pennsylvania would have to take into account the emission budget difference between the group of generating units greater than 15 megawatts and the group of generating units greater than 25 megawatts. Accounting for that budget difference would require a significant amount of quality assurance effort by EPA, the Department and the affected sources.

As noted above, an acceptable alternative to accounting for the difference in emission budgets is to conform to the federal applicability level. Conforming would not only remove the risk of emission budget inconsistencies, but would also assure the Pennsylvania generating units in the 15 to 25 megawatt range would not be competitively disadvantaged by the rule with regard to similar sources in neighboring states. Using the federal applicability criterion was endorsed by the Department's Air Technical Advisory Committee at its April 22, 1999 meeting.

6. Diesel generators operating less than 208 hours during the ozone season should be exempt from the requirements of Subchapter B.

Subchapter B of the proposed regulation sets prescriptive emission concentration standards for internal combustion engines. Those standards are independent of the NO_x emission trading program and, therefore, sources do not have the option of acquiring emission allowances to meet compliance obligations. The subchapter should provide an appropriate exemption for low utilization diesel generators. Without an adequate exemption, extremely costly emission control technology could be required on units with negligible cumulative NO_x emissions.

In addition to a cumulative operating hour criterion of 208 hours per ozone season, the current exemption language restricts use of diesel generators solely to times of "catastrophic failure" at the generating plant served by the diesel generator. The "catastrophic failure" condition is overly restrictive and would not allow for other normal electric industry operating scenarios such as periodic availability testing. Diesel generators used in electric utility applications are typically very small (1 to 4 megawatts), operate at less than a 5 percent capacity factor, and typically emit no more than 1 or 2 tons per ozone season. We recommend that the definition in Section 145.101(d) be revised to make operating hours the only applicability criterion. The following is suggested exemption language:

> "(d) A diesel generator which has a permit limitation of a maximum cumulative operation of 208 hours per control period is exempt from the requirements of this subchapter."

7. Emission Monitoring and Reporting Requirements to Implement the Program Should be Consistent with the Requirements to Implement the Ozone Transport Commission Model Rule.

The monitoring and reporting requirements EPA intends to use for implementing the trading program for non-Part 75 sources are more stringent than necessary. The EPA requirements will result in reported emission levels that are significantly higher than actually occur. Such over-reporting will increase costs to the sources which will need to obtain more allowances than necessary, and will shrink the number of available allowances for everyone else. The OTC states had developed a monitoring and reporting protocol that had been viewed as acceptable by EPA until the Agency came forward with the 22 state SIP call. PP&L has raised this issue in its court challenge to the SIP call and urges the Department to work with the other OTC states to obtain EPA approval of continued use of the OTC monitoring and reporting protocol. We would be happy to join the Department in its discussions with EPA on this issue.

8. Subsection 145.90 (b) Should Be Deleted

PP&L commends the Department for continuing in 2003 the current provisions allowing NO_x affected sources to create, use and transfer emission reduction credits (ERCs). However, the proposed rules continue the problematic prohibition against banking allowances and creating ERCs. Proposed § 145.90(b) states that "emission reductions made through overcontrol curtailment or shutdown, for which allowances are banked are not surplus and may not be used to create ERCs." This provision indicates that "banking" allowances invalidates an otherwise valid control strategy for generating ERCs. This prohibition makes no sense and should be deleted. PP&L believes that proposed §§ 145.90(c) and 145.90(d) provide adequate protection from any concerns about the duplicative use of ERCs and NO_x allowances. PP&L had previously commented on the identical provision in Section 123.118(b) and incorporates those comments herein by reference.

9. Penalties for Noncompliance Are Arbitrary and Excessive

Subsection 145.54 of the proposed rules continues the excessive, unreasonable multi-layered penalty scheme under the current NO_x cap and trade program in Chapter 123. PP&L has previously commented on the unfairness of the identical penalty scheme in Chapter 123 and incorporates those comments herein by reference.

As in Chapter 123, Section 145.54 imposes a three to 1 allowance surrender penalty for excess emissions on sources that fail to hold sufficient allowances in their compliance accounts as of the NO_x allowance transfer deadline. In addition, the source could be subject to significant monetary penalties under both state and federal law with each day in the ozone season and each ton of excess emission being considered a separate violation.

This proposed multi-layered penalty scheme is extreme and unreasonable. The proposed penalties of § 145.54 are particularly excessive in light of the "flow control" provision for banked allowances under Section 145.55. Under proposed Section 145.55, if the NO_x allowances banked are 110% or greater than the NO_x allowances allocated for the NO_x control period at issue, then a certain portion of the banked allowances can be used for compliance purposes only at a ratio of two to one. This two to one ratio applies to all NO_x affected sources regardless of the amount of banked allowances they individually hold. Therefore, sources that use banked allowances for compliance could be forced, through no fault of their own, to surrender allowances at a ratio of two to one.

If allowances on the market are relatively scarce, the two to one allowance surrender requirement could result in the source having insufficient allowances to surrender for compliance.[3] The source would then be subject to the multiple penalties under proposed § 145.54 due to circumstances beyond its control. This example highlights the extreme unreasonableness of the Department's proposed penalty scheme.

PP&L objects to the proposed penalty provisions of the program and urges the Department to develop a reasonable penalty scheme that better suits the violation at issue. The proposed draconian penalty provisions are simply unnecessary to ensure compliance with the NO_x allowance program.

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[3] Even if the bank is at 110% of the allowance allocation for the control period at issue, there is no guarantee that such allowances will be available for sale. If sources hoard their allowances, then the source that needs such allowances for compliance may not be able to acquire sufficient allowances to meet the two for one allowance surrender requirement.

One Page Summary of Major Comments by PP&L Inc.
on
25 PA. CODE CHS 123 and 145
Interstate Ozone Transport Reduction
Proposed Rulemaking of March 6, 1999 25 Pa. Bulletin 1319

1. **Pennsylvania's Rulemaking Should Be Structured to Take into Account any Subsequent Changes to the SIP Call to Avoid Placing Pennsylvania at Competitive Disadvantage with Respect to Other States.**
   Pennsylvania must ensure that any additional NOx reductions it requires be consistent with those required by the other 22 states in the EPA SIP call. Failing to do so could put Pennsylvania at a competitive disadvantage and could be environmentally counterproductive as generation could shift to the lower cost, higher-emitting states. Pennsylvania's rulemaking should, therefore, be structured to take these contingencies into account. Specific language to structure the Pennsylvania rulemaking to be consistent with future developments is included in PP&L Inc.'s comments.

2. **All allowances banked under the NOx Allowance Requirements in Section 123(a)(3) should be transitioned for use as banked allowances under the proposed rule.**
   Limiting the allowances that can be transitioned introduces uncertainty in the value of allowances banked under Section 123(a)(3), thereby discouraging early reductions. This provides no benefit to the environment.

3. **The early reduction credit provision is unnecessary and should be deleted.**
   This provision is unnecessary and confusing, as any reductions prior to 2003 will free up allowances that can be banked.

4. **The allowance allocation approach included in the EPA model rule is an acceptable alternative to the allocation approach in the proposed rule.**
   The EPA model rule allocation is an acceptable alternative to address concerns some commenters have expressed with the proposed allocation approach. However, PP&L believes that the proposed allocation approach is preferable to the EPA approach because the proposed approach is more equitable.

5. **The rule should apply only to electric generation units of 25 megawatts or more.**
   Pennsylvania's program should be consistent with the federal program to avoid placing Pennsylvania generators at a competitive disadvantage with respect those in other states.

6. **Diesel generators operating less than 208 hours during the ozone season should be exempt from the requirements of Subchapter B.**
   Without an adequate exemption, extremely costly emission control technology could be required on units with negligible cumulative NOx emissions.

7. **Emission Monitoring and Reporting Requirements to Implement the Program Should be Consistent with the Requirements to Implement the Ozone Transport Commission Model Rule.**
   The requirements EPA intends to use for implementing the trading program for non-Part 75 sources are more stringent than necessary. This will result in over-reporting and shrinkage in the number of allowances available to everyone.

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Comments Presented by PP&L Inc.
On
Proposed Rulemaking
25 PA Code Chapters 123 and 145
Interstate Ozone Transport Reduction

April 8, 1999

Tom Keller
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Allentown PA 18101-1179

Comments Presented by PP&L Inc.
On
Proposed Rulemaking
25 PA Code Chapters 123 and 145
Interstate Ozone Transport Reduction

My name is Tom Keller. Today I am presenting comments for PP&L, Inc., a subsidiary of PP&L Resources, on four issues associated with the Interstate Ozone Transport Reduction rulemaking proposed by the Department in the March 6 1999 Pennsylvania Bulletin. PP&L has invested $114 million in NOx control to reduce its NOx emissions by 50%, and PP&L will likely invest a comparable amount over the next four years to comply with the new rule.

Because of time limitations I will be making only general statements with regard to these issues. PP&L will submit detailed written comments on these and other issues before the close of the public comment period.

The rule should allow carry forward of all banked allowances from 2002 to 2003.

Limiting credit for early NOx reductions provides no benefit to the environment. The proposed rule limits the number of banked allowances in Pennsylvania that can be carried forward into 2003 to 13,716 tons. There is no environmental basis for imposing such a restriction. In fact, it is environmentally counterproductive because it discourages early reduction by introducing economic uncertainty into the compliance planning process – particularly for those sources most adversely affected by the costs of NOx reductions. Early reductions are beneficial because early reductions accelerate the rate at which ambient air quality standards are being attained, and the reductions are obtained at a time when air quality is worse. Any potential concerns about NOx emissions exceeding annual budget levels are addressed by the flow control provisions of the rule.

The 13,716 ton proposed limit is based on the "compliance supplement pool" (or CSP) number assigned to Pennsylvania by EPA. EPA developed the CSP number based on the number of allowances a state may need to phase in the implementation of control technologies over a one year period so as to avoid disruption of electric supply. The compliance supplement pool number bears no rational relationship to the number of allowances that will be banked due to overcompliance during the OTR cap and trade program.

PP&L recognizes that the CSP limitation on banked allowances is in the "nondiscretionary" part of EPA's SIP call. PP&L has, therefore, challenged this provision of the SIP call in a petition filed in the D.C. Circuit and fully expects the Court to invalidate the CSP limitation on crediting early reductions. PP&L urges the

Department to discuss this important issue with EPA and seek clarification from EPA on EPA's willingness to allow OTC states greater latitude to incorporate into the state's rules environmentally beneficial provisions encouraging early reductions pending a decision from the Court. Pennsylvania, as a leader among coal burning states in implementing the SIP call, should ask for and receive reasonable latitude in implementing environmentally beneficial provisions.

The NOx allocation approach in the proposed rulemaking should be used in the final rulemaking with one refinement: new sources at existing generating sites and repowered sources should *expressly* be given allowances on the same basis .

Designing an allocation system that is equitable, provides the right incentives and is easily understandable clearly presents a difficult challenge requiring a balancing of interests and trade-offs among design features. The allocation system as proposed by the Department is a reasonable compromise, adequately balancing equity, incentives and simplicity. PP&L supports the proposed allocation plan, and recommends that it be retained in the final rulemaking.

Existing sources having low permit limits

The "equity" inherent in the Department's proposal is that it is designed to allocate to "...each source according to its needs..." Of course, because there will be not be enough emission allowances in 2003 to match pre-2003 emission levels, further emissions reductions and the associated economic burden will be unavoidable. However, the Department's proposal is designed to provide some partial compensation to those existing sources - already required to meet Reasonably Available Control Technology requirements - for the new financial burden associated with having to reduce emissions below 0.15 lb. NOx per million Btu. This is why it is equitable to limit allocations to existing sources to their permit limits. Any allocation greater than what the sources are actually allowed to emit would constitute a windfall taken from those sources most economically impaired by the rule. Should sources having low permit limits choose to increase their NOx emissions by increasing their production levels, they can acquire additional allowances just as any other source would be required to do. A source with a low emission rate wanting to increase its production level would have a fair advantage in this process because it would have to acquire fewer allowances than a higher emission rate source seeking to increase its output. The same treatment of all sources seeking to increase their output would seem to be a reasonable approach to an equitable treatment of stakeholders.

Repowered and new sources

The proposed rule also provides an incentive for new sources by providing those sources with cost free allowances to cover operating at 100 percent of potential utilization for their first four years of operation.. PP&L believes these provisions should expressly apply to repowered sources as well. Repowered sources are, in practice, new sources located on the site of existing sources rather than located on a new greenfield site. Both

the repowered source and the new source compete to meet the same demand for electricity, and both must meet New Source Performance Standards. There is no fundamental economic or environmental reason for favoring new sources over repowered sources and therefore no fundamental reason for different treatment in the allocation process.

For these reasons, it would also be arbitrary to favor repowered sources over new sources as some commentators have suggested. Those commentators suggest that favoring repowered sources provides incentives for reuse of brownfield sites. However, any incentives proposed under this program would pertain only to reuse as a fossil fuel fired generation site. It may be that there are better uses of the brownfield that are more "in the public interest" than a generating station, and it may be preferable from environmental and other perspectives to locate the new generation at a different existing power plant or substation site. The NOx allowance program is a cumbersome and imprecise means of advancing the state's interests in reuse of brownfield sites. PP&L recommends keeping the NOx allocation formula simple and expressly treating new and repowered sources the same.

Regulating electric generating units 15 megawatts or greater is appropriate provided that the NOx allowance budget is adjusted to account for including those sources.

The proposed rules apply to electric generating sources 15 megawatts or greater. PP&L agrees with this proposal as it is consistent with the OTC NOx cap and trade program. However, because EPA calculated Pennsylvania's budget based on emissions from electric generating units 25 megawatts or greater, Pennsylvania should work with EPA to increase Pennsylvania's inventory and allowable emissions to account for the additional sources.

Under the EPA SIP call the emissions from the electricity generation sector (consisting of sources 25 megawatts or greater) are limited to 52,000 NOx tons in the emission budget assigned to Pennsylvania. Pennsylvania's proposal will increase the number of sources needing to draw upon the 52,000 ton allocation. Other states subject to the EPA SIP call are not required to apportion their allocation from EPA among sources in the 15 to 25 megawatt range. Spreading Pennsylvania's allowances among a larger number of sources requires each source to make greater reductions than called for under EPA's SIP call. Therefore, if Pennsylvania's budget is not increased to account for the increased number of sources, Pennsylvania could be placed at a competitive disadvantage with respect to other states.

Emission Monitoring and Reporting Requirements to Implement the Program Should be Consistent with the Requirements to Implement the Ozone Transport Commission Model Rule.

The monitoring and reporting requirements EPA intends to use for implementing the trading program for non-Part 75 sources are more stringent than necessary. The EPA requirements will result in reported emission levels that are significantly higher than actually occur. Such overreporting will increase costs to the sources which will need to obtain more allowances than necessary, and will shrink the number of available allowances for everyone else. The OTC states had developed a monitoring and reporting protocol that had been viewed as acceptable by EPA until the Agency came forward with the 22 state SIP call. PP&L has raised this issue in its court challenge to the SIP call and urges the Department to work with the other OTC states to obtain EPA approval of continued use of the OTC monitoring and reporting protocol. We would be happy to join the Department in its discussions with EPA on this issue.

Pennsylvania's Rulemaking Should Be Structured to Take into Account any Subsequent Changes to the SIP Call to Avoid Placing Pennsylvania at Competitive Disadvantage with Respect to Other States.

Pennsylvania must ensure that any additional NOx reductions it requires are consistent with those required by the other 22 states. Failing to do so can put Pennsylvania at a competitive disadvantage and could be environmentally counterproductive as generation could shift to the lower cost, higher-emitting states. We are facing such a situation now with the 1999 NOx reductions required in the OTR. Pennsylvania is proceeding with the 1999 program even though Maryland is not. This may well result in a shift in generation from Pennsylvania's relatively cleaner units to dirtier Maryland units. Such a shift harms Pennsylvania's economy by reducing electricity production within the state. Also, such a shift harms Pennsylvania's air quality by increasing NOx emissions upwind of Pennsylvania's ozone non-attainment areas.

Of course EPA apparently intends to avoid such imbalance through its FIP rulemaking, but that rulemaking (and all related judicial challenges) have not yet been completed. States in the Midwest and Mid-Atlantic region have filed petitions for judicial review of EPA's SIP call which may result in EPA agreeing to less stringent emission standards or in implementation schedules that have compliance dates that are later than those that Pennsylvania is working toward. If Pennsylvania's NOx rulemaking does not take this into account, Pennsylvania electric generators – and other sources included in the rulemaking such as cement plants, stationary internal combustion engines and large industrial boilers – would be at a competitive disadvantage with respect to similar facilities in other states and generation may shift to the higher emitting upwind states.

Pennsylvania's rulemaking should, therefore, be structured to take these contingencies into account.

Thank you. That concludes my comments today.

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P. H. GLATFELTER COMPANY
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May 7, 1999

Environmental Quality Board
Rachel Carson State Office Building
15th Floor
PO Box 8477
Harrisburg, PA 17105-8477

Re: Interstate Ozone Transport Reduction

Dear Environmental Quality Board Members:

This letter provides comments by the P.H. Glatfelter Company ("Glatfelter") on the above-referenced proposed regulations, published at 29 Pa. Bulletin 1319 (March 6, 1999). Glatfelter operates a pulp and paper making facility in Spring Grove, Pennsylvania, that employs over 1,100 people. This facility is subject to Pennsylvania's existing NO_x Allowance Program in effect for 1999-2002, and is likely to be subject to the above-referenced regulations, which would continue a NO_x Allowance Program in the years 2003 and beyond.

Glatfelter has reviewed these proposed regulations, and offers the following comments:

1. Pennsylvania sources subject to Chapter 139 requirements, as is Glatfelter, have expended considerable effort to comply with the present NO_x Allowance Program monitoring procedures prescribed under the OTC-developed manual. These procedures differ significantly from Pennsylvania's pre-existing Chapter 139 requirements. The NO_x monitoring requirements now proposed for the Part 145 program, incorporated from EPA's model rule, would unnecessarily introduce further changes in these requirements, and would unnecessarily require repeat certification testing for monitoring systems already certified under the existing NO_x Allowance Program. In Glatfelter's case, the proposed regulations would require the Company again to pursue petitions for approval of alternative monitoring methods for determining NOx mass emissions where the Company has already received approval for those methods under the 1999-2002 NO_x allowance Program. The proposed regulations also unnecessarily add the requirement to monitor heat input at many units, including those at Glatfelter, which do not have that requirement under the existing NOx Allowance Program. Glatfelter is unable to directly monitor heat input in its multiple fuel units, and therefore would be required to pursue additional

petitions to allow alternative heat input methodologies. It has been Glatfelter's experience, in the existing NOx Allowance Program, that approval of alternative monitoring methods is unnecessarily time-consuming and burdensome. Glatfelter has already has expended in excess of $291,000 and 1,700 staff hours to conform to the existing NO_x Allowance Program. Pennsylvania should not subject its sources to further changes after those sources have already made adjustments to comply with monitoring requirements for the 1999-2002 NO_x Allowance Program.

2. In various public statements, representatives of the Department of Environmental Protection (the "Department") have noted the Department's plans to use source-by-source historical heat input and allowance allocations as they are finalized for years 2003-2005 in EPA's "default" Federal Implementation Plan for addressing ozone transport. Glatfelter opposes this idea. EPA's proposed heat input and allowance calculations for affected NO_x budget units were replete with errors. The only units listed in EPA's allocation for the Glatfelter facility was the No. 1 Recovery Boiler. This boiler has been out of service since 1994 and it was not a fossil fuel fired unit subject to the NOx Allowance Program. The three fossil fuel fired units at Glatfelter's facility that are subject to the existing NOx Allowance Program were not included in EPA's allocation. Even though Glatfelter submitted corrections on EPA's erroneous calculations to the Department this past October, it is not at all clear that EPA will completely correct these errors in issuing final "default" FIP regulations. Furthermore, it is not clear that all Pennsylvania NO_x budget sources either had actual notice of or commented on EPA's general notice of its proposed FIP so as to provide information to correct these errors. Pennsylvania's proposed program would provide individual sources, through the NO_x budget permit issuance process, with the specific notice and opportunity to comment needed to ensure that unit-by-unit calculations and allocations are accurate. Pennsylvania's program should preserve that opportunity.

3. Pennsylvania should follow EPA's model NO_x budget rule in regulating as electric generating units those units that serve a generator with a nameplate capacity greater than 25 (rather than 15) MW. Requiring controls on units serving generators in the 15-25 MW range simply is not as efficient from a cost/benefit standpoint in terms of tracking or assuring compliance by the additional units that will be subject to regulation. Pennsylvania can discontinue including these sources in the NO_x budget program, or it can continue the existing NO_x budget rules that presently regulate those sources. Moreover, the regulations should clarify that EGUs are only units serving generators whose primary purpose is to provide electricity to the grid. Imposing tighter limits on typically smaller units primarily serving internal facilities also would not be cost efficient.

4. a) The proposed methodology for identifying total heat input on which to base NO_x allocations for 2006 and beyond, i.e., the total ozone season heat input four years before the year in question, could lead to inappropriate anomalies. This problem also could arise in basing 2003-2005 NO_x allowance allocations for non-EGUs solely on heat input for the 1995

control period. Specifically, there could be atypical year-to-year variations in NO_x emissions levels due, for example, to atypical deviations in meteorological conditions or production rates due to low market demand. It would be inappropriate, and would inhibit allowance trading, to require NO_x allowance allocation levels to dip atypically as well in a future year where operating conditions could be much different. Instead, it would be preferable to maintain a more consistent NO_x allowance allocation level year-to-year, based for example on the average of the two highest amounts from a rolling three-year period.

4. b) The final regulations should allow the opportunity for NO_x budget units that cannot directly monitor heat input to calculate control period heat input after 2006 from the fuel throughput and gross calorific values reported to the AIMS system. The proposed regulation allows this method of heat input determination for the NOx allocations to be made in 2003, 2004 and 2005.

5. The proposal to move the NO_x allowance transfer deadline back from December 31 to November 30 for each year, and to require compliance certification submissions by November 30 as well, is ill-advised. A December 31 deadline provides greater flexibility for affected units to identify cost-effective means for compliance after the end of that year's control period, especially since the regulations recognize that it is reasonable to allow NO_x budget units until the end of October to submit CEMS totals from the control period ending the preceding September 30. Moreover, the full compliance period realistically is only available if the compliance certification report is due some reasonable period (e.g. 30 days) <u>after</u> the end of the compliance period, to give an affected source the opportunity to compile and incorporate all relevant information, even including last-minute changes.

6. a) Glatfelter believes that compliance provisions contained in Section 145.54(d), which would be carried over from Pennsylvania's existing NO_x budget are overly stringent and not authorized by law. Neither Pennsylvania's Air Pollution Control Act ("APCA"), nor any other law, authorizes a presumption that any excess NO_x emissions not covered by sufficient allowances held for the relevant NO_x budget unit shall constitute 153 days of violation. Nor does the APCA authorize the Board to adopt regulations establishing such a presumption and shifting the burden of proof on this issue from the Department to regulated entities. Moreover, this presumption is unnecessarily harsh for a situation in which, for example, the affected source's NO_x emissions exceed its allocated NO_x allowances by a nominal amount.

b) In fact, the violation at issue under this program is the failure of the affected source to deliver sufficient allowances to cover control period NO_x emissions, rather than the failure to limit the affected source's NO_x emissions to pre-determined levels. Relating the days of violation to days in the control period rather than to the number of days beyond the deadline for submitting sufficient allowances to cover emissions during the control period fails to provide a continuing incentive for the affected source to obtain and submit sufficient allowances

to comply with the requirements of this program. Other permit requirements are enforceable to limit an individual source's NO_x emissions directly. Enforcement for this program should key off of the days for which an affected source fails to submit sufficient allowances, and not the number of days in a control period.

c) Section 145.54(d)(3)(ii), which proposes defining each ton of excess emissions as a separate violation, is not authorized by Pennsylvania's Air Pollution Control Act and should be deleted. The amount of excess emissions is more properly considered in determining any appropriate penalty amount within the range of penalties otherwise authorized, as would be the case if, for example, if a source exceeded an hourly emissions rate, where applicable law does not define as a separate violation each gram per hour emitted above that rate.

d) The requirement in Section 145.54(d) for the NO_x Budget Administrator to deduct NO_x allowances allocated for a future control period at a ratio of 3:1 for excess, uncovered emissions during the most recent control period is overly stringent. A lower ratio should be employed, or at least permitted upon a reasonable showing of extenuating circumstances.

Thank you for the opportunity to provide these comments.

Sincerely,

P. H. GLATFELTER COMPANY

Robert E. Callahan

Robert E. Callahan
Director of Manufacturing Services

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May 7, 1999

Environmental Quality Board
Rachel Carson State Office Building
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Re: Interstate Ozone Transport Reduction

Dear Environmental Quality Board Members:

This letter provides comments by the Pennsylvania Chamber of Business and Industry (the "Chamber") on the above-referenced proposed regulations, published at 29 Pa. Bulletin 1319 (March 6, 1999). The Chamber is the largest broad-based business association in Pennsylvania. The Chamber represents the full range of Pennsylvania industrial and commercial enterprises, encompassing over 6,000 members which employ about 50 percent of Pennsylvania's private work force (about 1.5 million employees) and total about $500 billion in annual sales.

The Chamber continues to support regulatory strategies which provide flexibility for its members in choosing among options for complying with pollution control requirements. The Commonwealth's existing and proposed NO_x allowance programs include elements providing this kind of flexibility, such as procedures for banking and trading NO_x Allowances. Furthermore, we support continuation of the basic, rational elements of Pennsylvania's existing NO_x Allowance Program with the NO_x budget program scheduled for 2003 and beyond to avoid expenses for undoing or changing systems which affected sources have instituted for the 1999-2002 program.

We have the following, more specific comments to offer:

1. The Chamber supports allowing carryover of NO_x allowances banked from the year 1999-2002 for use in subsequent years under the same procedures as applicable for the 1999-2002 program. This continuation promotes certainty and fluidity in the allowance market and helps allowance trading to meet its intended purpose of promoting cost control efficiency. This continuation does not need to, and should not, be accomplished through use of EPA's model rule provisions on early reduction credits, which may be useful for states without existing NO_x budget

programs. However, those provisions are unnecessary and inefficient for a jurisdiction with existing cap-and-trade programs like Pennsylvania, which should simply continue its existing banking rules. Flow control restrictions established for the existing NO_x budget program at 25 Pa. Code § 123.110 can continue to limit the likelihood that use of amassed banked allowances will create an air pollution problem in a given ozone season.

2. Pennsylvania's sources have in many instances expended considerable effort to comply with the present NO_x budget rule monitoring procedures prescribed under the OTC-developed manual. These procedures sometimes differ from Pennsylvania's pre-existing Chapter 139 requirements. The proposed NO_x monitoring requirements, incorporated from EPA's model rule, would unnecessarily introduce further differences in requirements relating to areas such as relative accuracy testing or multiple stack monitoring. Pennsylvania should not subject its sources to further changes after those sources have already made adjustments to comply with monitoring requirements for the 1999-2002 NO_x budget program, but rather should maintain consistency with the present OTC-based monitoring requirements.

3. In various public statements, representatives of the Department of Environmental Protection (the "Department") have noted the Department's plans to use source-by-source historical heat input and allowance allocations as they are finalized for years 2003-2005 in EPA's "default" Federal Implementation Plan for addressing ozone transport. The Chamber opposes this idea. EPA's proposed heat input and allowance calculations were replete with errors, and it is not at all clear that EPA will completely correct these errors in issuing final "default" FIP regulations. Furthermore, it does not appear as though all Pennsylvania NO_x budget sources either had actual notice of or commented on EPA's general notice of its proposed FIP so as to provide information to correct these errors. Pennsylvania's proposed program would provide individual sources, through the NO_x budget permit issuance process, with the specific notice and opportunity to comment needed to ensure that unit-by-unit calculations and allocations are accurate. Pennsylvania's program should preserve that opportunity.

4. Pennsylvania should follow EPA's model NO_x budget rule in regulating as electric generating units those units that serve a generator with a nameplate capacity greater than 25 (rather than 15) MWe. Requiring controls on units serving generators in the 15-25 MW range simply is not as efficient from a cost/benefit standpoint in terms of tracking or assuring compliance by the additional units that will be subject to regulation. Pennsylvania can discontinue including these sources in the NO_x budget program, or it can continue the existing NO_x budget rules which presently regulate those sources.

5. Pennsylvania also should maintain consistency with EPA's model rule, as advocated by AQTAC, by allocating allowances according to specified rates per unit of mmBTU heat input (0.17 lb NO_x for non-EGUs, and 0.15 lb NO_x, respectively), and not provide lower allocations if existing allowable NO_x emissions rates are set at a lower level.

6. The proposed regulations at Section 145.42(a)(2) would unnecessarily set out a uniform hierarchy for determining best available data for calculating a unit's historical heat input level. It would be preferable simply to allow the Department to make more precise case-by-case judgments for which kind of information constitutes best available data. The Department could even provide guidance on what typically constitutes best available data, while allowing flexibility for case-by-case assessment.

7. The proposed methodology for identifying total heat input on which to base NO_x allocations for 2006 and beyond, i.e. the total ozone season heat input four years before the year in question, could lead to inappropriate anomalies. This problem also could arise in basing 2003-2005 NO_x allowance allocations for non-EGUs solely on heat input for the 1995 control period. Specifically, there could be atypical year-to-year variations in NO_x emissions levels due, for example, to atypical deviations in meteorological conditions or production rates based on low market demand. It would be inappropriate, and would inhibit allowance trading, to require NO_x allowance allocation levels to dip atypically as well in a future year where operating conditions could be much different. Instead, it would be preferable to maintain a more consistent NO_x allowance allocation level year-to-year, based for example on the average of the two highest amounts from a rolling three-year period spanning the control periods in the years four, five, and six, like the approach presently proposed to allocate NO_x allowances to EGUs for 2003, 2004, and 2005. This approach should be extended to all future years, and to non-EGU NO_x budget units.

8. The proposal to move the NO_x allowance transfer deadline back from December 31 to November 30 for each year, and to require compliance certification submissions by November 30 as well, is ill-advised. A December 31 deadline provides greater flexibility for affected units to identify cost-effective means for compliance after the end of that year's control period. Moreover, the full compliance period realistically is only available if the compliance certification report is due some reasonable period (e.g. 30 days) <u>after</u> the end of the compliance period, to give an affected source the opportunity to compile and incorporate all relevant information, even including last-minute changes.

9. a) The Chamber continues to believe that compliance provisions contained in Section 145.54(d), which would be carried over from Pennsylvania's existing NO_x budget program (and to which the Chamber objected in commenting on the regulations proposed and ultimately adopted for that program), are overly stringent and not authorized by law. Neither Pennsylvania's Air Pollution Control Act ("APCA"), nor any other law, authorizes a presumption that any excess NO_x emissions not covered by sufficient allowances held for the relevant NO_x budget unit shall constitute 153 days of violation. Nor does the APCA authorize the Board to adopt regulations establishing such a presumption and shifting the burden of proof on this issue from the Department to regulationed entities. Moreover, this presumption is

unnecessarily harsh for a situation in which, for example, the affected sources NO_x emissions exceed its allocated NO_x allowances by a nominal amount.

b) In fact, the violation at issue under this program is the failure of the affected source to deliver sufficient allowances to cover control period NO_x emissions, rather than the failure to limit the affected source's NO_x emissions to pre-determined levels. Relating the days of violation to days in the control period rather than to the number of days beyond the deadline for submitting sufficient allowances to cover emissions during the control period fails to provide a continuing incentive for the affected source to obtain and submit sufficient allowances to comply with the requirements of this program. Other permit requirements are enforceable to limit an individual source's NO_x emissions directly. Enforcement for this program should key off of the days for which an affected source fails to submit sufficient allowances, and not the number of days in a control period.

c) Section 145.54(d)(3)(ii), which proposes defining each ton of excess emissions as a separate violation, is not authorized by Pennsylvania's Air Pollution Control Act and should be deleted. The amount of excess emissions is more properly considered in determining any appropriate penalty amount within the range of penalties otherwise authorized, as would be the case if, for example, a source exceeded an hourly emissions rate, where applicable law does not define as a separate violation each gram per hour emitted above that rate.

10. The exemption provided for emergency standby electric generation units from requirements applicable to Subchapter B of Part 145, "Emissions of NO_x from Stationary Reciprocating Internal Combustion Engines" should be extended under similar circumstances to other emergency internal combustion engines that are not used for electric generation. This exemption seemingly should apply for the same policy reasons to, for example, a diesel-powered fire water pump as to a back-up diesel electric generator.

11. Finally, Pennsylvania must ensure that any additional NO_x reductions it requires are consistent with those required and implemented by the other 22 states. Failing to do so can put Pennsylvania at a competitive disadvantage and could be environmentally counterproductive as generation could shift to the lower cost, higher-emitting states. We are facing such a situation now with the 1999 NO_x reductions required in the OTR. Pennsylvania is proceeding with the 1999 program even though Maryland is not. This may well result in a shift in generation from Pennsylvania's relatively cleaner units to dirtier Maryland units. Such a shift harms Pennsylvania's economy by reducing electricity production within the state. Also, such a shift harms Pennsylvania's air quality by increasing NO_x emissions upwind of Pennsylvania's ozone non-attainment areas.

Of course EPA apparently intends to avoid such imbalance through its FIP rulemaking, but that rulemaking (and all related judicial challenges) have not yet been completed. States and other

parties in the Midwest and Mid-Atlantic region have filed petitions for judicial review of EPA's SIP call, which may result in rulings or EPA agreement to allow less stringent emission standards or in implementation schedules that have compliance dates that are later than those that Pennsylvania is working toward. If Pennsylvania's NO_x rulemaking does not take this into account, Pennsylvania electric generators - and other sources included in the rulemaking such as cement plants, stationary internal combustion engines and large industrial boilers - would be at a competitive disadvantage with respect to similar facilities in other states and generation may shift to the higher emitting upwind states. Pennsylvania's rulemaking should, therefore, be structured to take these contingencies into account.

The Chamber appreciates the opportunity to provide these comments.

Sincerely,

Fred A. Sembach

Fred A. Sembach
Vice President, Government Affairs

cc: Brian MacLean, Director
Acid Rain Division
U.S. Environmental Protection Agency
OTAG States Chambers of Commerce

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May 10, 1999

Environmental Quality Board
Rachel Carson State Office Building
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Harrisburg, PA 17105-8477

Re: Proposed Interstate Ozone Transport Reduction Regulations
25 Pa. Code, Chapters 123 and 145

Ladies and Gentlemen:

The Pennsylvania Coal Association (PCA), pursuant to notice published in the Pennsylvania Bulletin on March 6, 1999, submits the following comments on the above referenced proposed rulemaking.

PCA is a trade association organized and operating under the laws of Pennsylvania representing producers of bituminous coal in the Commonwealth in regulatory matters affecting the coal industry. PCA's members produce over 75% of the bituminous coal annually mined in Pennsylvania, which according to DEP data exceeded 73 million tons in 1997. Pennsylvania coal operators directly employ 8,000 people who are among the highest paid industrial workers in Pennsylvania with average annual earnings of $45,533. In addition to direct employment, a Penn State University study concluded that up to 10 indirect mining jobs are supported by each direct mining job within the state economy. Many of these indirect employees work for PCA's 80 associate members, who provide services to the coal industry ranging from engineering and consulting to finance, insurance and the sale of mining equipment.

The proposed regulations are designed to meet the requirements of EPA's NOx State Implementation Plan (SIP) Call. Among other things, the proposal would establish a program to limit the emission of nitrogen oxides (NOx) from fossil-fired combustion units with rated heat input capacity of 250 MMBtus per hour or more and electric generating facilities of 15 megawatts or greater. This program, to begin in 2003, would replace the existing NOx allowance requirements contained at 25 Pa. Code Chapter 123.110 et seq.

Electric generating units, primarily coal-fired power plants, would be among the sources primarily impacted by this regulation. Since the Pennsylvania steam coal market is by far the largest market for Pennsylvania coal operators - 43% of Pennsylvania's 1997 bituminous coal production went to power plants located in Pennsylvania and coal was used to generate 58% of Pennsylvania's total electric output - PCA and its member companies have a substantial interest in the outcome of this proposal.

PCA's major concern with the rulemaking is its potential impact on the competitiveness of Pennsylvania-mined coal and its continued viability as a source of electricity in the Pennsylvania steam coal market. Pennsylvania's recent restructuring of its electric utility industry has resulted in a competitive market for the generation of electricity, placing a premium on maintaining lower fuel and operating costs. In the interest of fairness, it is vital that the standards and deadlines for any regional air quality regulatory program be equitable among the states to ensure the existence of a level-playing field on which the various fuel options can compete equally in this deregulated market.

It is this point - whether Pennsylvania should pursue unilateral reductions in NOx emissions or proceed in "lockstep" with adjoining states - that is the focus of our comments.

PCA commends this Administration for its continuing commitment to do its fair share in reducing ozone transport both within Pennsylvania and throughout the eastern United States. Under the Memorandum of Understanding that Pennsylvania signed with ten other state members of the northeast Ozone Transport Commission (OTC), Pennsylvania utilities have reduced NOx emissions by 45% in 1995 and will achieve further reductions of 55-65% this year.

In addition, the Pennsylvania DEP played a key role in directing the 37-state Ozone Transport Assessment Group (OTAG) process, which evaluated the nature and sources of urban smog throughout the eastern United States. Based on OTAG's recommendations, EPA promulgated the SIP Call rule as a strategy to reduce transported ozone in the OTAG region.

Although the SIP Call rule contains emission control requirements similar to those called for by Phase III of the OTC MOU, which is the basis of this regulatory package, it applies to a broader 22-state region, including Pennsylvania.

While Pennsylvania has been a regional and national leader in this effort, other states both within and outside the OTC have not been as diligent. Legal challenges to the MOU have been filed in Delaware and Maryland, and Virginia has chosen not to sign the agreement,

Several upwind states and industry groups have challenged EPA's SIP Call before the U.S. Court of Appeals for the District of Columbia Circuit, creating uncertainty about the

timely implementation of the proposed emission reductions. A decision on the merits is expected early next year.

Several states have proposed alternatives to EPA's rule, calling for smaller emission reductions over different timetables.

Due to these circumstances, we now face the prospect of delays resulting from legal challenges to the rule and uncertainty about its eventual implementation.

If these state and industry parties are successful in their challenges to the SIP Call, severe harm could result to the Pennsylvania coal and electric utility industries if the Commonwealth unilaterally implements these regulations. Thousands of mining and utility jobs would be at risk in the newly-deregulated electric market, and Pennsylvania utilities would face an even steeper competitive disadvantage relative to utilities in other states to the west and south.

A multi-industry study (H. Zinder Associates and J.E. Cichanowicz, Inc., "Evaluation of Alternative NOx Emission Caps in the 22-State SIP Region" June 18, 1998) commissioned for EPA's rulemaking estimated that Pennsylvania utilities would be required to invest $1.2 billion in control equipment to comply with the 0.15 lb. emission limit, raising capital and operating costs by $241 million annually relative to Clean Air Act requirements. Because of our reliance on coal-fired generation, Pennsylvania ranks third highest among the 22 states in capital costs to comply with the SIP Call. Most of these costs would be incurred for retrofitting coal-fired generating capacity with Selective Catalytic Reduction (SCR) technology. Given the premium that our deregulated electric market places on holding down the cost/kwh, unilateral action would be a prescription for the premature retirement of coal-fired power plants in Pennsylvania.

Moreover, emission reductions by Pennsylvania sources alone will not be sufficient to meet National Ambient Air Quality Standards (NAAQS). This was demonstrated by OTAG's air quality modeling which found that generating units in 22 of the 37 states significantly contributed to ozone nonattainment and will prevent attainment and maintenance of the ozone NAAQS. It was reinforced when EPA approved six of the eight state Section 126 petitions, including Pennsylvania's, finding that sources in 19 states and the District of Columbia significantly contribute to nonattainment, or interfere with the ability of states to maintain clean air, in one or more of the petitioning states.

Given these factors, PCA firmly believes that Pennsylvania should move in concert with adjoining states in implementing the SIP Call. The Commonwealth has little to gain but much to lose by acting alone.

PCA, therefore, recommends that this rulemaking not be implemented unless and until generating units in surrounding states are subject to the same level and timing of emission reductions as required by EPA.

Accordingly, PCA recommends that this rulemaking be revised to include language that would ensure that Pennsylvania electric utilities reduce emissions on the same timetable and in similar amounts as required by EPA of other utilities in adjoining states.

We suggest the following language be incorporated in this regulation as a new subsection 145.1(a) and inserted after subsection 145.1. Purpose:

Section 145.1(a) Effective Date

The provisions of this subchapter shall not apply to any fossil-fired combustion unit in Pennsylvania if such unit would be subject to emission control requirements more stringent than, or on a compliance schedule sooner than, those required by Phase II of the OTC MOU, until and unless similar units in each state adjacent to Pennsylvania are subject to a comparable schedule of equivalent emission control requirements established in approved State Implementation Plans adopted in conformance with: a) U.S. EPA's Regional Ozone Transport Rulemaking; b) final Federal Implementation Plans promulgated in accordance with U.S. EPA's proposed Ozone Transport Federal Implementation Plan, or c) a final rulemaking granting the relief requested in the petition filed by Pennsylvania on August 14, 1997, pursuant to Section 126 of the Clean Air Act.

Inclusion of such language is necessary to clearly state that Pennsylvania will proceed in lockstep with adjacent states in implementing the SIP Call and not pursue unilateral reductions.

It would not weaken Pennsylvania's ability to have an enforceable regulation for the following reasons:

1. It is lawful, reasonable, and appropriate for DEP's NOx SIP revision to mirror the Consent Decree Pennsylvania negotiated with EPA concerning Pennsylvania's section 126 petition. The Consent Decree was filed in August, 1998 in State of Connecticut et al. v. Browner, 98 Civ.1376 (LAK), in the U.S. District Court for the Southern District of New York. In that Consent Decree EPA gave assurances that NOx emission reductions necessary to eliminate significant contributions to NAAQS nonattainment in Pennsylvania from emissions originating outside Pennsylvania would be implemented by May, 2003. See paragraphs 6 and 7 of the Consent Decree. It is essential to Pennsylvania's environmental and economic interests for regional NOx emission reductions to be made on a lockstep regional basis and not unilaterally by Pennsylvania.

2. The 1990 Amendments to the Clean Air Act give EPA the option of approving only part of a SIP revision submittal, rather than all or nothing. See section 110(k)(3). If EPA were to find a lockstep provision in DEP's NOx SIP unapprovable, EPA has the option to approve the remainder of the NOx SIP and require DEP to remove the lockstep provision (see section 110(k)(4)) or to promulgate a FIP deadline that

supersedes the lockstep provision (see section 110(c)(1)(B)). However, any such EPA rejection of the lockstep provision would be arbitrary and capricious, because it would fly in the face of EPA's own findings that lockstep regional NOx emission reductions are needed for NAAQS attainment in Pennsylvania, and would also be a breach of EPA's August, 1998 Consent Decree with Pennsylvania filed in the federal District Court in New York.

3. There is recent precedent for EPA's approval of SIP compliance obligations and effective dates that are dependent upon appropriate action by EPA. See Ohio SO2 SIP revision for Sammis and Toronto plants, OAC 3745-18-47(M)(1) and (2), approved at 61 FR 52882 (October 9, 1996).

4. There is precedent for EPA approval of a State's Title V permit program that does not go into effect unless and until full approval by EPA. See Ohio Revised Code sections 3704.036(C) and 3704.05(K), fully approved at 60 FR 42045 (August 15, 1995).

As the evidence suggests, there is no merit for Pennsylvania to take this next step unless and until states to the west and south of it also proceed with a program that results in comparable emission reductions under similar timetables.

Unless Pennsylvania marches in lockstep with its neighboring states in pursuit of regional ozone attainment, it will seriously undermine the competitiveness of Pennsylvania-mined coal in the deregulated electric generating market. Competition assumes the existence of a level playing field. PCA urges you not to tilt the playing field against coal usage.

Thank you for your consideration of these comments.

Sincerely,

George Ellis, President
Pennsylvania Coal Association
212 N. Third St., Suite 102
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May 7, 1999
Environmental Quality Board

15th Floor
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Harrisburg, PA 17105-8477

Re: Proposed Interstate Ozone Transportation Reduction

Dear Environmental Quality Board:

On behalf of the American Portland Cement Alliance (APCA) and the Pennsylvania Cement Industry NOx Workgroup, we would like to thank the Environmental Quality Board for the opportunity to comment on the proposed rulemaking outlined in the draft of Chapter 145. Interstate Pollution Transport Reduction. The APCA - Pennsylvania Cement Industry NOx Workgroup is comprised of all cement manufacturers in Pennsylvania, we are:

Allentown Cement Company
Essroc Cement Corp.
Hercules Cement Company
Keystone Cement Company
Lafarge Corporation
Lehigh Portland Cement Company
R C Cement Company
Southdown, Incorporated

Our goal is to work with the Pennsylvania Department of Environmental Protection (PADEP) to develop regulations that meet State and Federal agency criteria while concurrently maintaining a competitive economic position for cement manufacturers operating within the Commonwealth of Pennsylvania. At this juncture, we have successfully met with the EPA and DEP to discuss our issues with the proposed regulations. From these discussions, we have prepared comments and proposed regulatory language addressing the Proposed Interstate Ozone Transportation Reduction regulations. The comments are summarized below:

- The proposed standards for portland cement kilns are more stringent than the Federal requirements and do not provide sufficient implementation flexibility. The Proposed rule should allow for NOx reduction technologies and controls.
- The emission rated based limits proposed at §145.143 should account for industry variability and should not impose unattainable emission reductions. For facilities to use alternate control technologies, the proposed emission based limits for portland cement kilns should only be used for comparative purposes when approving alternative control techniques.
- The terms Low-NOx Burner and Mid-Kiln Firing System should be clearly defined.
- Flexibility and economic consideration should be taken into account for installation of alternative NOx-reduction technologies or controls.
- Compliance implementation and documentation for installed NOx reduction technologies or controls should be clear.
- Compliance demonstration should be based upon an average rate expressed as pounds of NOx per ton of clinker produced during the entire control season for those facilities wishing to comply with a PADEP approved emission rate based limit, or choosing to comply with an alternative reduction strategy.
- Exceptions during startup, shutdown, malfunction, or scheduled maintenance activities should be allowed.
- Portland cement manufacturing facilities should be able to "opt-in" to the NOx budget trading program.
- NOx emission reduction credits should be transferable to and from other states.

We request the above serve as the one page summary of comments to be considered by the Board to be provided to each Board member in their agenda packet.

We appreciate the opportunity for our concerns and comments to be given consideration in this matter. Please contact me if you have any questions or would like to discuss these matters further.

Sincerely,
Thomas Powers, for The Pennsylvania Cement Industry NOx Workgroup

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May 7, 1999

Environmental Quality Board
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400 Market Street
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Re: Interstate Ozone Transportation Reduction

Dear Environmental Quality Board,

On behalf of the American Portland Cement Alliance (APCA) and the Pennsylvania Cement Industry NOx Workgroup, we would like to thank the Environmental Quality Board for the opportunity to comment on the proposed rulemaking outlined in the draft 25 Pennsylvania Code, Chapter 145. Interstate Pollution Transport Reduction. The APCA - Pennsylvania Cement Industry NOx Workgroup (hereafter called the PA NOx Workgroup) represents the following cement manufacturers in Pennsylvania: Allentown Cement Company, Essroc Cement Corporation, Hercules Cement Company, Keystone Cement Company, Lafarge Corporation, Lehigh Portland Cement Company, R C Cement Company, and Southdown Incorporated. The PA NOx Workgroup was formed to participate in the rulemaking process. Our goals were to work with the Pennsylvania Department of Environmental Protection (PADEP) to develop regulations that are consistent with the U. S. Environmental Protection Agency's (USEPA) Federal Implementation Plan (FIP)(63 FR 56394) for NOx reductions, to provide for the opportunity to opt-in to a NOx budget trading program, and to provide for sensible options for NOx reductions from cement manufacturing facilities while maintaining a competitive business position for the cement manufacturers operating in the Commonwealth.

Specifically, the PA NOx Workgroup would like to recommend the following:

- The proposed standards for portland cement kilns are more stringent that the Federal requirements and do not provide sufficient implementation flexibility. The proposed rule should allow for NOx reduction technologies and controls.
- The emission rated based limits proposed at §145.143 should account for industry variability and should not impose unattainable emission reductions. For facilities proposing to use alternate control technologies, the proposed emission based limits

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for portland cement kilns should only be used for comparative purposes when approving alternative control techniques.

- The terms Low-NOx Burner and Mid-Kiln System Firing should be clearly defined.
- Flexibility and economic consideration should be taken into account for installation of alternative NOx-reduction technologies or controls.
- Compliance implementation and documentation for installed NOx reduction technologies or controls should be clear.
- Compliance demonstration should be based upon an average rate expressed as pounds of NOx per ton of clinker produced during the entire control season for those facilities wishing to comply with a PADEP approved emission rate based limit, or choosing to comply with an alternative NOx reduction strategy.
- Exceptions during startup, shutdown, malfunction, or scheduled maintenance activities should be allowed.
- Portland cement manufacturing facilities should be able to "opt-in" to the NOx budget trading program.
- NOx emission reduction credits should be transferable to and from other states.

- **Recommendation: The proposed standards for portland cement kilns are more stringent that the Federal requirements and do not provide sufficient implementation flexibility. The proposed rule should allow for NOx reduction technologies and controls.**

The Department is proposing standards at Pennsylvania Code Title 25, Chapter 145, Subchapter C that are substantially more stringent than those required by the USEPA under the authority of the Clean Air Act. We believe the PADEP standards should more closely mirror the options and flexibility provided in the proposed Federal standards. Such an approach would be in keeping with §4004.2 (b) of the Pennsylvania Air Pollution Control Act. It would also allow the cement industry to implement NOx control strategies deemed acceptable to the EPA, while remaining competitive in the domestic and offshore portland cement markets.

On October 21, 1998 the USEPA proposed in the FIP details to the requirements to be implemented in the event any state subject to the NOx SIP Call fails to implement approved regulations. The proposed FIP provides potentially regulated entities the following options to comply with the federal requirements. These options are listed below.

(1) The installation of a Low-NOx Burner

(2) The installation of mid-kiln system fuel firing equipment; or

(3) The use of an alternate control that will achieve similar NOx reductions as compared to the two options above.

As currently proposed, the FIP does not impose any emission limit on a source that chooses to implement either of the two prescribed technologies identified in (1) and (2) above. The USEPA indicates implementation of these technologies is expected to result in the emission reductions desired of cement kilns. The proposed FIP provisions of several compliance options provides a much greater flexibility of implementation for affected portland cement plants.

As explained above, not only should the rule provide emission based limits for compliance, but it should also provide those plants who cannot install LNBs or mid-kiln system firing, the option to determine an uncontrolled baseline and propose an alternative control technique to reduce NOx emissions by 30%.

- **Recommendation: The emission rated based limits proposed at §145.143 should account for industry variability and should not impose unattainable emission reductions. For facilities proposing to use alternate control technologies, the proposed emission based limits for portland cement kilns should only be used for comparative purposes when approving alternative control techniques.**

The PADEP rulemaking of March 6, 1999, Interstate Pollution Transport Reduction, outlined in 25 Pennsylvania Code Chapter 145. proposes that after May 1, 2003, any portland cement kiln subject to this proposed rule may not emit NOx during the May 1–September 30 control period that exceeds the emission rates codified at §145.143. Meeting the proposed emission rates is the only option available to portland cement plants operating in Pennsylvania during the ozone season. In the proposed rulemaking, cement plants are required to meet NO_x emission limits which are based on the averages of emission data used to develop USEPA emission factors. The PA NOx Workgroup believes requiring Pennsylvania cement plants to meet these limits will significantly disadvantage 30% to 50% of the cement plants in the Commonwealth. In fact, some of the plants may not be able to meet these limits and would have to shut down their operations during the ozone months.

The emission rates listed in §145.143 are obtained from the proposed FIP. These were provided as guidance to affected sources to help them determine which alternative technologies could meet an average emission rate expected from the installation of mid-kiln system firing or LNBs, and which alternative technologies may be considered for approval by the USEPA. The USEPA calculated the emission rates listed in the FIP by averaging two different NO_x emission factors for cement manufacturing: AP-42 factors and those found in the Alternative Control Techniques (ACT) document for cement manufacturing (EPA-453/R-94-004). The factors in these documents represent the average of a wide range of observed emission rates, expressed as pounds of NO_x per ton of clinker produced. The final average of the two emission factors is meant to represent average NO_x emissions from the various kiln types. The USEPA further assumes LNBs and mid-kiln system firing will achieve 30 percent reductions on average. Thus, the USEPA reduces the final average of the two emission factors by 30

percent to produce the comparative target emission rates that need to be achieved by any individual facility opting for alternative controls.

Since emission factors represent a wide range of actual emission rates, it is expected that about half of the plants sampled have emissions greater, and half below, those levels. In this context, such an average rate may be an appropriate comparison for those plants wishing to take the third option of alternative controls or technologies. However, the PADEP should understand the USEPA's intent is that the use of these emission rates should be limited to this comparative purpose. It would be inappropriate, and in many cases infeasible, to suggest that such emission rates be the only compliance option available to affected portland cement manufacturing facilities. To apply an average number—particularly one that already incorporates 30 percent reductions—as an emission ceiling is to fail to understand the mathematical principle of averages. Indeed, the AP-42 document is clear in the position that emission factors are merely averages of readily available data that can be used to make projections as to long-term averages. The report goes on to warn against the use of the factors as an emission limit or standard, since, the very nature of averages would result in roughly half of the sources emitting more than the average rate:

> "Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance." (United States Environmental Protection Agency, "Section 11.6 Portland Cement Manufacturing," *Compilation of Air Pollutant Emission Factors (AP-42)*, Fifth Edition, 1995)

If the emission rates, as proposed in Chapter 145, were applied, then average emissions from affected cement plants would be lower and the cement industry would be held to much more significant reductions than intended or necessary. Moreover, meeting these rates would be impossible at many plants. These facilities might, therefore, be unable to meet the rule requirements.

Cement plant NO_x emissions are highly variable from kiln to kiln, even within the same process type, and can range from 2.0 pounds of NO_x per ton of clinker to 20.0 pounds or greater of NO_x per ton of clinker. The following example indicates how averages can work. If the three sources listed in the table below were all long dry kilns, and were used to determine the controlled emission factor for long dry kilns, one can easily see that requiring all kilns to meet the same emission limit as determined by an emission factor is not equable – one kiln must reduce 55%, one kiln must reduce 30%, and the low emitting kiln could petition the state to take a 3.0 pound per ton of clinker emission limit and attempt to sell the 1.9 pound per ton emission credits.

Source	Emission Rate – pounds of NO_x per ton of clinker	Emission limit - based on 30% reduction from the emission factor	Percent Reduction Required
Source 1	11	4.9	55%
Source 2	7	4.9	30%
Source 3	3	4.9	0%
Emission Factor	7		

It would be appropriate to maintain a rate based benchmark in the final rule. However, at a minimum, the rates contained in the right hand column of the following table should be used These figures are derived from the standard EPA emission factor (see Volume I: ``Stationary Point and Area Sources," Chapter 11, ``Portland Cement Manufacturing, Compilation of Air Pollutant Emission Factors," AP-42, Fifth Edition, EPA) and the ACT document's uncontrolled emission factors. In each case, the PA NOx Workgroup recommends that the greater of the two factors be used as the baseline, and then reduced by 30 percent, as demonstrated below. The values are expressed in pounds of NO_x per ton of clinker produced.

Kiln Type	**AP-42 Factor** Pound per ton clinker	**ACT Factor** Pound per ton clinker	**Greater of Two** Pound per ton clinker	**§ 145.143 Factor** Pound per ton clinker
Wet	7.4	9.7	9.7	6.8
Long Dry	6.0	8.6	8.6	6.0
Preheater	4.8	5.9	5.9	4.1
Prehtr./Precal.	4.2	3.8	4.2	2.9

This table clearly demonstrates PADEP's more stringent proposal by establishing an emission rate based limit approach. As stated above, this places all Pennsylvania cement manufacturing plants at a huge economic and competitive disadvantage, while at the same time some plants in the Commonwealth may not be able to meet their respective limits. The PA NOx Workgroup urges the PADEP to revise the emission rate based approach to the values proposed in the above table and to use these emission rates as a comparative value for sources to use to determine the feasibility of alternative technology.

- **Recommendation: The terms Low-NOx Burner and Mid-Kiln System Firing should be clearly defined.**

A Low-NOx burner (LNB) is a type of cement kiln burner that produces a flame that improves the mixing of fuel and air, and thus results in lower maximum flame temperature and a lower generation rate for thermal NOx. In addition, a LNB controls

the shape of the flame to produce an oxygen deficiency in the initial combustion zone. This inhibits the generation of NOx because of the reducing conditions present and also reduces fuel NOx. The flame shape promotes internal combustion inside of the flame under reducing conditions while the atmosphere in the area of the kiln where the chemical reaction occurs remains oxidizing so product quality can be maintained. To accomplish this, a LNB for a cement kiln will have a series of channels or orifices that allow for the adjustment of the volume, velocity, pressure, and direction of the air carrying the fuel (known as primary air) and the combustion air (known as secondary air) into the kiln. This LNB configuration is significantly different from a typical cement kiln burner which introduces the fuel through a pipe commingled with the combustion air. In order to distinguish between a typical cement kiln burner and a LNB, the PA NOx Workgroup proposes the following definition of a LNB to be included into Chapter 145. Subpart C:

> Definition: ***"Low-NOx Cement Kiln Burner: A type of cement kiln burner, or burner modification, that uses a series of channels or orifices which minimize NOx formation by introducing fuel and its associated primary air into a kiln by: (1) causing an internal and external re-circulation of combustion air so that the initial combustion of the fuel occurs in a fuel-rich (i.e. oxygen deficient) environment; (2) completes combustion in a fuel-lean (i.e. oxygen rich) environment at the middle and end of the flame, and (3) provides a uniform heat distribution in the flame to reduce sharp temperature peaks in the flame."***

Mid-Kiln System Firing is one of the several methods that apply the secondary combustion NOx reduction technology. Secondary combustion is also used in other kiln systems such as in (1) a preheater kiln where some of the fuel is injected into the preheater riser ducts, and (2) a precalciner kiln where a portion of the fuel is burned in a specialized vessel with the raw materials before those materials enter the kiln. For the purposes of defining mid-kiln injection and setting an implementation plan and compliance schedule for installing such a system to satisfy NOx reduction requirements, the PA NOx Workgroup proposes the following language inserted into Chapter 145. Subchapter C.:

> Definition: ***"Mid-Kiln System Firing" means the secondary firing in portland cement kilns by injecting fuel at an intermediate point in the kiln system using a specially designed feed injection mechanism for the purpose of decreasing NOx emissions through both of the following:***
> ***(A) Burning part of the fuel at a lower temperature***
> ***(B) Reducing conditions at the fuel injection point that may destroy some of the NOx formed upstream in the kiln burning zone."***

As currently proposed, the FIP does not impose any emission limit on a source that chooses to implement either of these two prescribed technologies. The USEPA indicates that implementation of these technologies is expected to result in the

emission reductions desired of cement kilns. The proposed FIP provisions of several compliance options obviously provides a much greater flexibility of implementation for affected sources. We believe it would be appropriate for the PADEP to incorporate these options into Part §145.143 of the proposed State rule.

- **Recommendation: Flexibility and economic consideration should be taken into account for installation of alternative NOx-reduction technologies or controls.**

In a scenario where a cement manufacturing plant cannot install and/or operate LNBs or mid-kiln system firing, the PA NOx Workgroup recommends the rule allow for the use of other alternative NOx reduction technologies or controls. These technologies would be approved by the PADEP and the USEPA on a case by case basis and must achieve a 30% NOx emission rate reduction during the control season. The use of the alternative control technology should provide for an economic consideration which would also be reviewed on a case by case basis. Under no circumstances should a cement manufacturing plant be forced to install an alternative control technology which exceeds a cost-effectiveness of more than $5,000 per ton of NOx reduced. The PA NOx Workgroup recommends this cost effectiveness consideration based on USEPA's NOx SIP Call Regulatory Impact Analysis (RIA). In the RIA, under Chapter 7: Results of Cost Emission Reductions, and Economic Impact Analyses for Non-electricity Generating Units, Page 5; the USEPA uses a figure of $5,000 as the maximum cost per ton of NOx reduced.

- **Recommendation: Compliance implementation and documentation for installed NOx reduction technologies or controls should be clear.**

The monitoring and/or implementation requirements of installing a LNB, mid-kiln firing system, or an alternative control technology should be determined on a case by case basis with the Department. The PA NOx Workgroup suggests the following implementation and documentation of NOx controls for LNB and Mid-kiln system firing. The implementation would include the installation and documentation that the control technology is installed and being operated. Document the technology being operated during the ozone season. The technology would undergo an initial performance test according to the requirements of 40CFR part 60, appendix A, Method 7, 7A, 7C, 7D, or 7E. The owner or operator of a subject unit should produce and maintain records during the period of May 1 through September 30, which would include, but are not limited to: (1) the control season NOx emissions produced from each affected portland cement kiln; (2) the date, time, and duration of any startup, shutdown, or malfunction in the operation of the subject cement kiln or the emissions monitoring equipment; and, (3) the results of an annually required performance test during the control season.

- **Compliance demonstration should be based upon an average rate expressed as pounds of NOx per ton of clinker produced during the entire control season for those facilities wishing to comply with a PADEP approved emission rate**

based limit, or choosing to comply with the third option of an alternative NOx reduction strategy.

For facilities complying with the PADEP approved emission rate based limit, or an alternative NOx reduction strategy outlined in option (3) above, compliance demonstration should be based on an average rate expressed in pounds of NOx per ton of clinker produced during the entire control season. Such facilities should document their clinker production and hours of operation during the control season. Periods of malfunction, startup, shutdown, or scheduled maintenance of certified monitoring equipment would be excluded from the emission calculations. The facility should demonstrate that the control season emissions, when divided by the clinker production and hours of operation, do not exceed the permitted emission rate limit.

- **Recommendation: Exceptions during startup, shutdown, malfunction, or scheduled maintenance activities should be allowed.**

For all of the above NOx reduction activities the rule must allow for an exception from the emission based limit or use of an alternative control technology during periods of start-up, shut-down, malfunction, or regularly scheduled maintenance activities. An allowance for exemption under these circumstances should be provided in the final rule and outlined under Part §145.143

- **Recommendation: Portland cement manufacturing facilities should be able to "opt-in" to the NOx budget trading program.**

In addition to the above comments, the PA NOx Workgroup seeks clarification of the ability for a subject cement manufacturing plant to opt-in to the NOx budget trading program. It is the PA NOx Workgroup's understanding that the Opt-in provisions extend to all industries regulated under Chapter145; however, the wording of the regulation has left some confusion. The definition of "Opt-in" refers to a "...unit...". The definition of a "unit" in Subchapter A does not describe a cement kiln system; therefore, it would appear that there is no provision for the cement industry to take advantage of the Opt-in provision as the rule is currently written.

The PA NOx Workgroup requests the wording of the rule make it clear that all industry regulated under Chapter 145 be allowed to take advantage of the Opt-in provision. We suggest the PADEP insert language from §145.4 in Subchapter C that defines a subject unit; and that such subject units are eligible for the Opt-in provisions should the affected so desire. The Opt-in unit would be subject to the same requirements outlined in the Opt-in Process under parts §145.80 through §145.85.

- **Recommendation: NOx emission reduction credits should be transferable to and from other states.**

The PA NOx Workgroup advocates the use of NOx credits generated in other affected states be allowed to be banked in the Commonwealth's supplemental compliance pool.

LEHIGH

We feel the program should be as broad as possible and therefore favor the interstate use of emission reduction credits across the entire 22 states in the ozone transport region.

There are two attachments to this document for the use and consideration of the Environmental Quality Board: (1) Attachment A - Recommended Regulatory Language for 25 PA Code Chapter 145. Subchapter C - Emissions of NOx from Cement Manufacturing; and, (2) April 22, 1999 letter from Doug Grano (USEPA) to Tom Carter (American Portland Cement Association) regarding interpretation of the language in the proposed FIP.

Submitted along with these comments and recommendations, at the beginning of this document, is a one page summary of the issues affecting the portland cement manufacturing industry in Pennsylvania. The PA NOx Workgroup wishes for this one page summary of comments to be included with the agenda packet distributed to each member of the Environmental Quality Board prior to the meeting at which the final-form regulations will be considered.

Once again, the Pennsylvania Cement Industry NOx Workgroup would like to thank the Environmental Quality Board for the opportunity to comment on the proposed rulemaking outlined under Part 145. In particular we would like to thank Wick Havens and Dean Van Orden for their time and consideration of the Pennsylvania cement industry as stakeholders in this rulemaking process. We look forward to working jointly with the PADEP to take the necessary measures to improve ambient air quality standards, while still maintaining a competitive business climate for the portland cement manufacturing industry in Pennsylvania.

Sincerely,

Thomas Powers

Thomas Powers
Chairman
The Pennsylvania Cement Industry NOx Workgroup

Pennsylvania Cement Industry NOx Workgroup:
Allentown Cement Company
Essroc Cement Corp.
Hercules Cement Company
Keystone Cement Company
Lafarge Corporation
Lehigh Portland Cement Company
R C Cement Company
Southdown Incorporated

Cc: Dean Van Orden, PADEP

Attachment A

Recommended Regulatory Language
25 PA Code Chapter 145,
Subchapter C - Emission of NOx from Cement Manufacturing

§ 145.141. Applicability.

The requirements of this subchapter apply only to kilns defined as follows with process rates of at least the following: long dry kilns - 12 tons per hour (TPH); long wet kilns - 10 TPH; preheater kilns - 16 TPH; precalciner and preheater/precalciner kilns - 22 TPH .

§ 145.142. Definitions.

The terms used in this subchapter shall have the following meanings unless the context clearly indicates otherwise:

Clinker—The product of a Portland cement kiln from which finished cement is manufactured by milling and grinding.

Department—The Department of Environmental Protection.

Long dry kiln—A kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is dry.

Long wet kiln—A kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is a slurry.

Cement kiln burner: a device that functions as an injector of fuel and combustion air into kiln to produce a flame that burns as close as possible to the center line of the kiln.

"Low-NOx Cement Kiln Burner: A type of cement kiln burner, or burner modification, that uses a series of channels or orifices which minimize NOx formation by introducing fuel and its associated primary air into a kiln by: (1) causing an internal and external re-circulation of combustion air so that the initial combustion of the fuel occurs in a fuel-rich (i.e. oxygen deficient) environment; (2) completes combustion in a fuel-lean (i.e. oxygen rich) environment at the middle and end of the flame, and (3) provides a uniform heat distribution in the flame to reduce sharp temperature peaks in the flame."

"Mid-Kiln System Firing" means the secondary firing in portland cement kilns by injecting fuel at an intermediate point in the kiln system using a specially designed feed injection mechanism for the purpose of decreasing NOx emissions through both of the following:

(A) Burning part of the fuel at a lower temperature

(B) Reducing conditions at the fuel injection point that may destroy some of the NOx formed upstream in the kiln burning zone."

Portland cement—A hydraulic cement produced by pulverizing clinker consisting essentially of hydraulic calcium silicates, usually containing one or more of the forms of calcium sulfate as an interground addition.

Portland cement kiln—A system, including any solid, gaseous or liquid fuel combustion equipment, used to calcine and fuse raw materials, including limestone and clay, to produce Portland cement clinker.

Precalciner kiln—A kiln where the feed to the kiln system is preheated in cyclone chambers and utilize a second burner to calcine material in a separate vessel attached to the preheater prior to the final fusion in a kiln which forms clinker.

Preheater kiln—A kiln where the feed to the kiln system is preheated in cyclone chambers prior to the final fusion in a kiln which forms clinker.

§ 145.143. Standard requirements.

After May 1, 2003, an owner or operator of any Portland cement kiln subject to this rule shall not operate the kiln during May 1 through September 30 unless the owner or operator complies with one (1) of the following:
(1) The owner or operator has installed and operates the kiln with one (1) of the following:
(A) Low-NOx burners.
(B) Mid-kiln firing.

(2) A limit on the amount of NOx emitted when averaged during the control period from May 1 to September 30 as follows:
(A) For long wet kilns, 6.8 pounds of NOx per ton of clinker produced.
(B) For long dry kilns, 6.0 pounds of NOx per ton of clinker produced.
(C) For preheater kilns, 4.1 pounds of NOx per ton of clinker produced.
(D) For precalciner kilns, 2.9 pounds of NOx per ton of clinker produced.

(3) If the owner/operator cannot achieve the requirements specified in (1) or (2) above, installation and use of alternative control techniques, subject to department and U.S. EPA approval, that achieves the maximum, cost-effective, attainable NOx emissions reduction. For this option, the owner or operator shall not be required to:
(A) install controls which exceed not to exceed a cost-effectiveness of $5,000 per ton of NOx reduced which is to be determined as outlined in 25 PA CODE §129.92 - RACT proposal requirements, or;
(B) reduce emissions from baseline by greater than 30% or to a level less than that prescribed in paragraph (2) above.

§ 145.144. Reporting, monitoring and recordkeeping.

(a) Reporting requirements. Any owner or operator subject to the requirements of § 145.143 shall comply with the following requirements:

(1) By May 1, 2003, submit to the Department the identification number and type of each unit subject to the section, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance with the section.

(2) Submit a report documenting for that unit the total NOx emissions from May 1 through September 30 of each year to the Department by October 31 of each year, beginning in 2003.

(b) Monitoring Requirements. A unit subject to this rule that is required under Chapter 139 or permit condition to record NOx emissions data using a continuous emission monitor shall use that data to demonstrate compliance with this subchapter. A unit that does not have a continuous emissions monitor shall use an alternate calculational and recordkeeping procedure based upon actual emissions testing and correlations with operating parameters. The installation, implementation and use of such an alternate calculational and recordkeeping procedure must be approved by the Department in writing prior to implementation.

(c) Recordkeeping Requirements. Any owner or operator of a unit subject to this rule shall produce and maintain records which shall include, but are not limited to:

(1) For owners/operators complying with 145.143 (2) or (3):
(A) The emissions, in pounds of NOx per ton of clinker produced averaged over the period from May 1, through September 30, and;

(2) The date, time and duration of any startup, shutdown or malfunction in the operation of any of the cement kilns or the emissions monitoring equipment.

(3) The results of any performance testing.

(4) Daily cement kiln production records.

(5) All records required to be produced or maintained shall be retained on site for a minimum of 5 years and be made available to the Department upon request.

Attachment B

Letter from Doug Grano (USEPA to Tom Carter, APCA)

-Please refer to hard copies submitted. Copy not available electronically.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

APR 22 1999

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Mr. Thomas B. Carter
Director, Environmental Affairs
American Portland Cement Alliance

Dear Mr. Carter:

Thank you for your letter of February 2, 1999 which expresses concern about possible misinterpretation of some of the language contained in the proposed Federal implementation plan (FIP). As you know from the meeting between the American Portland Cement Alliance and the Environmental Protection Agency (EPA) on February 4, 1999 in Durham, North Carolina, I believe that your letter reasonably conveys EPA's intended approach in the FIP proposal. Although EPA would characterize certain points in your letter a bit differently, the points made in your letter are essentially correct. I've restated below some of the key concepts to help avoid possible misinterpretation. It should be also be noted that, because the rule is not yet final, it is subject to change.

The FIP does not propose an emissions rate requirement nor does it propose an emissions cap for cement kilns. Instead, the FIP proposes that kilns install and operate either low-NO_x burners or mid-kiln firing technology. In addition, the FIP proposes a third option for sources to consider: alternative control techniques. As proposed, any alternative control technique would be subject to EPA approval and would need to achieve at least the same emission decreases as low-NO_x burners or mid-kiln firing.

To provide guidance to sources on what alternative control techniques EPA would consider for approval, the preamble to the FIP identifies emission rates which EPA expects could be met, on average, by operation of low-NO_x burners or mid-kiln firing (63 FR 56416). The EPA projects that low-NO_x burners or mid-kiln firing technology would result in a 30 percent reduction from uncontrolled emissions levels. Thus, the emissions rates identified in the preamble are the result of a 30 percent reduction from the average uncontrolled emission rate determined by EPA for each of four kiln types. The EPA would consider an alternative control technique which meets the applicable emission rate set forth in the FIP proposal preamble to be a good candidate for approval.

Please contact me at 919-541-3292 if you have any questions or comments.

Sincerely,

Doug Grano

Doug Grano
Environmental Scientist

ORIGINAL: 2009/BUSH
E-MAIL FORWARDED TO: Smith, Tyrrell, Sandusky, Legal

May 6, 1999

Environmental Quality Board
15th Floor
Rachel Carson State Office Building
P.O. Box 8477
Harrisburg, PA 17105-8477

Re: EQB Proposed Interstate Ozone Transport Reduction Regulation 29 Pa.B. 1319-1349, March 6, 1999

Attached please find PECO Energy Company's comments on the above referenced proposed regulation. These comments expand upon the points we raised in our April 8, 1999 public testimony comments and also cover several new areas.

For your background, PECO Energy Company owns approximately 9,200 megawatts of electric generation capacity which is located primarily in southeastern Pennsylvania. PECO Energy operated generation typically produces over 20% of the ozone season electric generation in Pennsylvania (monthly data available from EIA Form 759). Despite PECO Energy's large contribution to the Commonwealth's summertime electric output, the Company's "contribution" to the state's total electric generation NOx emissions is in the area of 5% per ozone season. This very favorable ratio of NOx emissions to electric output is due primarily to PECO Energy's use of zero-emission nuclear generation, and already relatively low emission rate fossil generation.

For additional perspective, the 1998 Natural Resources Defense Council U.S. electric generation "Benchmarking Report" indicates that PECO Energy's 1996 total NOx emission rate was approximately 1.1 pounds of NOx per megawatt hour. This is 163% lower than the Pennsylvania average NOx emission rate of 2.9 pounds of NOx per megawatt hour. These statistics are on a "total" output basis. That is, electric generation from all sources, for all Pennsylvania companies, is factored into the NRDC statistics.

PECO Energy is one of only a handful of electric generators that publicly supported the general need for the NOx SIP Call regulation during EPA's regulatory development process over the past two years. Our support is based on a belief that a uniform NOx reduction requirement, over a broad geographic area, with the same implementation date, provides the most cost-effective, competitively neutral, and environmentally effective method to support attainment of the national ozone standard in the eastern United States.

While we support the general approach of the NOx SIP Call, we nonetheless have a number of requested changes to the Pennsylvania implementing regulations which are of significant importance to our Company. Our specific comments are organized as follows:

I. NOx Allocation Methodology Issues

II. Compliance Supplement Pool Use

III. Applicability Level 15 MW vs. 25 MW

IV. Emergency Diesel Generator Exemption

V. Monitoring

VI. Other Issues

We appreciate the opportunity to provide comments to the EQB on this proposed regulation. We would also like to thank Pennsylvania DEP at this time for their leadership role in supporting a NOx reduction program that includes states to the south and west of Pennsylvania which contribute significantly to the Commonwealth's nonattainment problems. This program will play a significant role in helping to reduce one-hour and eight-hour ozone nonattainment in a manner which creates a more level playing field for Pennsylvania's electric generators versus the current Ozone Transport Region program.

Please feel free to contact us if you would like any additional information regarding the points raised in these comments.

Sincerely,

David J. Cesareo
Director, Environmental Affairs

PECO Energy Comments:
EQB Interstate Ozone Transport Reduction Proposed Rule
(29 Pa.B. 1319-1349)

I. NOx Allocation Methodology Issues

⇒ Multiple Year Baselines are Better:

With regard to the initial control period, PECO Energy supports EPA's model rule method of basing each EGU unit's allocation on the average of its two highest heat input years between 1995 and 1997. Multiple year baseline averages are critical to minimize the distortions that can arise from allocations based on a unit's operations during any single historic year. For example, if a unit had an unexpected forced outage in a single baseline year, future year allocation(s) could be incorrectly calculated based upon a one-time, anomalous utilization level in the baseline year. For the same reason, we ask that DEP also consider modifying EPA's model rule for subsequent control periods to utilize the same multiple year baseline concept in calculating future control period allocations.

⇒ Allocation Periods Should be Longer:

With regard to §145.41, we believe that allocations should be made in a minimum of three year blocks to support long-term planning and lower compliance costs. Five year blocks would be most appropriate in that they provide a reasonable period of certainty for planning purposes but still offer periodic opportunities to adjust unit allocations to reflect new units or significant changes in unit utilization.

⇒ For First Allocation Block, Allocation Method Should be Consistent with the EPA Model Rule

With regard to §145.42(b)(1), PECO Energy supports allocations for the first allocation block based on the EPA model rule method. From our perspective, a level playing field is achieved during the first allocation block by the EPA model rule with respect to its uniform application of 0.15 lb/mmBtu to all EGU units. Modifying this approach to make it a conditional "lesser of 0.15 or allowable," as currently proposed, runs counter to the development of a level

playing field for electric generators which we believe is important from an equity and market perspective.

The allocation of allowances will directly affect compliance decisions and specifically, decisions to install controls such as SCR on units where it is most cost-effective to over comply. Any excess allowances created from the installation of controls could be sold into the market to those who do not have low cost compliance options on their units. The result is a reduced overall cost of compliance for both those who install controls and those who do not have low cost control alternatives. A uniform allocation rate for all sources rewards those that have already invested to over comply and provides the appropriate incentive to the highest emitting sources to install technology to over control and prime the market.

⇒ **Unused New Source Set Aside Allowances Should be Returned to Existing Sources:**

We support the provisions in the proposed regulation to return the unused portion of the new source set aside to baseline sources as per § 145.42(f).

⇒ **Output Based, Generation Neutral Allocation Method Should be Basis for Future Allocations:**

PECO Energy commented during the NOx SIP Call development process that we believe NOx allocations based on megawatt hours of output from all forms of generation provides the greatest incentive to increase the use of low, and zero, emissions generation. Given that Pennsylvania's implementing regulations are due to EPA by October 1999, we understand that DEP will not have enough time to work through some of the unresolved issues surrounding output based, generation neutral allocations.

We ask, however, that DEP consider this option as a basis for determining NOx allocations for control periods after the initial allocation period. For example, the regulations could base the initial 3 or 5 year control period allocations on the existing 2 of 3 year average 1995-97 heat input method, but provide for a revisit in several years of the subsequent allocation periods' allocation method to consider future EPA guidance. EPA has promised such guidance in its preamble to the final SIP Call regulation. Specifically, EPA plans to further investigate how output based systems could be used "by

states as part of their trading program rules in their SIPs and by EPA in future allocations to States." [63 FR 57409]

We suggest this alternative output based approach since we believe it provides an incentive to use the lowest emission generation possible and to install the most cost-effective controls to lower overall cost of compliance under a market-based trading system. For example, inefficient, high emission rate sources would receive fewer allowances under an output based system. These are the units that have the best opportunity to install controls at the lowest dollar per ton removal rates to support the lowest cost regional program possible. If they receive larger allocations based on heat input, in contrast, they are less likely to install the most cost-effective controls. Also, there are other air quality co-benefits to output based systems such as reduced carbon dioxide, sulfur dioxide and mercury emissions which result from the use of less fossil fuel per mWh of generation output.

II. Compliance Supplement Pool Use

The EQB requests specific comment on the use of the 13,716 ton compliance supplement pool. EPA's final SIP Call allows states to utilize the compliance supplement pool for a number of purposes, including early banking of NOx reductions, transfer of OTC banked allowances, or to provide relief to those who can demonstrate that they can not comply by May 1, 2003.

Our major concern with the distribution of the compliance supplement pool is that it not perpetuate allocation distortions from the 1999-2002 OTC program into the new SIP Call program. For example, the SIP Call requires a uniform emission reduction from an average of recent baseline years.

The OTC program, on the other hand, makes allocations based on a non-uniform reduction requirement from a single baseline year that will be over 10 years old at the time of the "early banking". The non-uniformity of the OTC allocation methodology therefore means that those having to do the least under the OTC program would have the greatest chance of banking early tons. We do not believe that this is an appropriate option from an environmental, equity or economic perspective.

Rather than perpetuate the inequities of the OTC program into the new regulation, we suggest that the regulation explicitly allocate the compliance supplement pool on a pro rata basis. Specifically, we suggest that DEP utilize recent year ozone season megawatt hour data from EIA Form 759 to divide the compliance supplement pool among all companies based upon their total megawatt hours from all forms of electric generation.

Alternatively, a pro rata distribution based on heat input from the 1995-1997 baseline years could be utilized. Should DEP determine to keep its current language regarding the transfer of allowances from the OTC program to the NOx SIP Call program, we ask that banked allowances under the OTC program all be treated the same. That is, that there be no prejudice regarding whether or not the banked allowances were "created" in Pennsylvania. Such prejudice would be inconsistent with the intent of both the OTC and EPA programs to get the most cost effective tons out of the air on a regional basis.

III. Applicability Level 15 MW vs. 25 MW

EPA's SIP Call sets an applicability level of 25 megawatts for electric generation units in the 22 eastern states. While we understand that the OTC program set a lower applicability level of 15 megawatts, we urge DEP to remain consistent (with regard to its § 145.4 Applicability definition) with the federal model rule.

PECO Energy currently operates ten combustion turbines (CTs) rated between 15 and 25 megawatts (all are 15MW). These ten CTs are all already permit constrained to a 5% annual capacity factor as part of their NOx RACT permits. During the 1998 ozone season, average emissions per combustion turbine in this category were about 8.5 tons of NOx (85 tons total). Within the general context of electric generation units, these are very small, infrequently operated sources. They are also negligible within the context of the daily southeastern Pennsylvania NOx inventory which was identified as 451 tons of NOx per summer day (or roughly 69,003 tons per ozone season) in the Southeastern Pennsylvania Ozone Stakeholder Working Group final report. This translates to PECO Energy's ten 15 MW CTs equaling about 1/10th of 1% of the southeast PA ozone season NOx inventory.

While these are small emission sources, they require a disproportionately large effort to manage under the current and proposed stationary source NOx reduction programs. For example, fuel consumption during hours of operation must be closely monitored to develop NOx emissions data. This data must be "manually" collected by employees who must go to the physical location of the CTs on a daily basis when they are operating. Since the CTs are in multiple locations throughout the service territory, this is a labor intensive process.

During its April 23, 1999 meeting, DEP's Air Quality Technical Advisory Committee (AQTAC) voted unanimously (with one abstention) to recommend that DEP remain consistent with the federal program and set the applicability level at 25 megawatts.

We believe this approach would also be very helpful to DEP in terms of removing the potentially contentious issue of obtaining NOx allowances for units below 25 megawatts since EPA did not include them in its EGU budget baseline. Should DEP determine that 15-25MW CTs must participate in the program, we strongly urge that DEP work with EPA to increase the Pennsylvania EGU budget so that allocations can be made to these sources without impacting other units' allocations. Again, however, we believe remaining consistent with the federal 25 MW applicability level is the best alternative.

IV. Emergency Diesel Generator Exemption

We appreciate DEP including draft emergency diesel generator (EDG) exemption language in its proposed *Subchapter B: Emissions of NOx From Stationary Reciprocating Internal Combustion Engines.* We strongly recommend, however, that §145.101(d) be revised to base the exemption solely upon operating hours per <u>each</u> EDG.

While the current DEP language also uses operating hours, it also includes what we believe is an overly narrow description of only one of a number of potential operating scenarios for an electric utility industry EDG. This narrow description could effectively make the exemption unattainable. For example, the current proposed exemption does not seem to allow for periodic reliability testing or activation of an EDG in <u>anticipation</u> of a potential loss of power to the generating plant which it serves. With regard to EDGs located at fossil power plants, there may also be brief periods of time during which an EDG may directly, or indirectly by replacing auxiliary boiler load, supply electric to

the grid to help prevent a local or regional power grid failure. Such operation of an EDG would generally take place at the direction of PJM during a PJM Max Emergency situation.

To allow reasonable flexibility in the use of EDGs to meet normal electric utility industry operating needs, we suggest that the definition at §145.101(d) be revised to read:

> *(d) A diesel generator which has a permit limitation of a maximum cumulative operation of 208 hours per control period is exempt from the requirements of this subchapter.*

While we believe it is clear in the above suggested exemption language, we ask that the DEP make clear in its final regulations, either in the regulations or the preamble, that the 208 hours per control period applies to each EDG individually, even if more than one EDG is located at the same generating facility.

We have also suggested the use of the phrase "diesel generator," rather than the current proposed language ("emergency standby electric generation units") since there may be other permitted industries for which this exemption should be available.

Following is additional discussion which describes some of PECO Energy's specific operation of EDGs, as well as general industry considerations, which support our request.

PECO Energy utilizes 15 emergency diesel generators (EDGs) on its system. All are rated between one and 3.75 MW which is typical for the electric utility industry. Twelve of these are associated with the Company's Limerick and Peach Bottom nuclear power plants. The aggregate typical actual NOx emissions of all 15 of our EDGs is about 14 tons per ozone season (5/12 times annual typical actual of 35 tons). These emissions result primarily from

brief, periodic reliability testing which may consist of weekly or monthly operation of the EDG for a period of one, or several, hours.

We estimate that further controlling NOx emissions from PECO Energy EDGs would cost 10s of thousands of dollars per ton removed. Costs would be double or triple for EDGs at nuclear power plants (where the majority of PECO Energy's EDGs are located) due to rigorous Nuclear Regulatory Commission (NRC) quality and testing requirements. (see 10 CFR 50, Appendix B) These NRC requirements could easily result in capital costs in the area of $1 million per EDG. This would be a rather ironic requirement given that PECO Energy nuclear generation displaces over 4,400 megawatts of fossil generation. We estimate that, on an annual basis, PECO Energy nuclear generation avoids about 80,000 tons of NOx (roughly 30,000 ozone season tons) versus what would be the case if the same number of megawatt hours was generated at the 1996 Pennsylvania average NOx emission rate for fossil generation.

Nuclear plant EDGs have historically been exempted from the EPA's emission regulations. The following is quoted from the Federal Register notice for implementing 40 CFR Part 60:

> Emergency standby engines also require special consideration. These engines operate less than 200 hours per year under all but very unusual circumstances. Consequently, they add relatively little to regional or national total NOx emissions. The largest category of emergency standby units is for nuclear power plants, where these engines provide power for the pumps used for cooling the reactors. These engines must attain a set speed in ten seconds and must assume full rated load in 30 seconds. In some cases, application of the demonstrated NOx control technique limits the responsiveness of these engines in

> emergency situations. Therefore, all emergency standby engines are exempted from standards of performance. [FR Vol. 44, No. 142, Page 43156, July 23, 1979].

As the above quote suggests, rapid, reliable EDG performance at nuclear power plants is of paramount importance from a safety and sound operating perspective. The inability to comply via emission allowance purchase under Subchapter B (as an option to comply without impacting EDG performance) is another reason why it is critical that PECO Energy's requested exemption be incorporated into the final regulations.

It should be noted that with regard to EDGs located at nuclear power plants that the Nuclear Regulatory Commission prohibits operation of EDGs for peaking purposes and for other purposes not related to their function of providing standby power when needed. This is due to the loss of redundancy that would occur if the EDGs were connected to the offsite power network. A discussion of this issue can be found in the NRC's Standard Review Plan (SRP) 8.1, Branch Technical Position ICSB - 8 (PSB) "Use of Diesel Generator Sets for Peaking", in the context of an interpretation of General Design Criteria 17 of 10CFR50, Appendix A.

Finally, with regard to subchapter B, we ask that in the definition of Higher Heat Value in § 145.102, that the years of issue or reaffirmation on the cited ASTM standards should be omitted. ASTM periodically reviews and updates their standards as technology improves. Locking in a specific year of issue would prevent companies from taking advantage of advancements in the "state-of-the-art" without having to make a change to DEP's NOx SIP Call regulations. The NRC, for example, has recently dropped the year-of-issue matter from their Standard Technical Specifications for EDG fuel oil; instead, they simply regulate at the level which cites the standard by number.

V. Monitoring

An ad hoc committee of the Air Quality Technical Advisory Committee (AQTAC) was formed earlier this year to compare and contrast the monitoring and reporting provisions of the 110 SIP Call versus the current Chapter 123 program. This ad hoc committee found that in some areas the 110 SIP Call provisions were more burdensome than the current Chapter 123

requirements. We support utilizing the current Chapter 123 program in place of the 110 SIP Call requirements. We understand that there are issues associated with this which must be worked out with EPA to ensure that interstate trading will not be restricted if Pennsylvania chooses to use the current Chapter 123 monitoring regime. We believe that the AQTAC's suggestion to DEP that it work with the OTC states and EPA on this approach to allow Pennsylvania to continue using the Chapter 123 program in lieu of the proposed Chapter 145 monitoring program is a good one.

VI. Other Issues

⇒ Pennsylvania's Regulations Should be Consistent with EPA's Unit Classification Methodology

In determining state budgets under its NOx SIP Call regulation, EPA utilized a specific methodology to determine unit classification (EGU or non-EGU). In a December 24, 1998 Federal Register notice (63 FR 71220), EPA further clarified this methodology and stated that it "will continue to use this methodology to classify units that operated on or before December 31, 1995 as EGUs or non-EGUs ... However, EPA may reconsider unit classifications in 2007 along with the 2007 transport reassessment." PECO Energy believes that a situation may exist in Pennsylvania's proposed regulations which could inadvertently create a conflict between EPA's classification methodology and the "classification" of units under Pennsylvania's proposed program. For example, cogeneration units which provide steam to industrial processes could, in some cases, "look" like an EGU under Pennsylvania's proposed regulation even though they have been deemed non-EGU units under the EPA classification methodology.

We ask that the Department clarify its regulations, to the extent necessary, to ensure that cogeneration units deemed by EPA to be non-EGUs are not negatively impacted by the Department's final regulations. Such a clarification would be consistent with the general interest of the AQTAC over its last several meetings to recommend removal of inadvertent disincentives

to positive environmental and economic actions (e.g. recent repowering discussions). Since cogeneration represents a more efficient form of energy production, its support would be consistent with the recent interests of AQTAC members.

For reference, the next two pages of this document contains the bulk of EPA's discussion at 63 FR 71223 with regard to determining whether or not a unit is an EGU:

Clarification of EGU Classification for Purposes of Estimating Budget Reductions

The following discussion clarifies EPA's classification of units as EGUs. This clarification also applies to the proposed FIP and the EPA action under section 126.

Consistent with the supplemental notice of proposed rulemaking (63 FR 25902, May 11, 1998) and the accompanying technical support document related to budget development, EPA took a two-step approach to determining which of the following categories a boiler or turbine fit into: large EGU, small EGU, large non-EGU or small non-EGU. First, EPA determined if a boiler or turbine fit into the category of EGU or non-EGU. The EPA then determined if the boiler should be classified as large or small.

The EPA used three sources of data for determining if a generator's purpose included generation of electricity for sale and thus qualified the unit connected to the generator as an EGU. First, EPA treated as EGUs all units that are currently reporting under Title IV of the Clean Air Act. Second, EPA included as EGUs any additional units that were serving generators reporting to the Energy Information Administration (EIA) using Form 860 in 1995. Form 860 is submitted for utility generators. Third, EPA included units serving generators that reported to EIA using Form 867 in 1995. Since Form 867 is submitted by non-utility generators, including generators "which consume all of their generation at the facility," EPA excluded any units for which EPA had information indicating that the unit was not connected to any generators that sold any electricity. This was primarily determined by excluding units that were not listed as sources that sell power under contract to the electric grid using the electric generation forecasts of the North American Electric Reliability Council.

Once EPA determined that a boiler or turbine should be classified as an EGU, EPA considered that unit a large EGU if it served a generator greater than 25 MWe and considered it a small EGU if it served a generator less than or equal to 25 MWe.

While EPA believes that this methodology was the best way to classify existing boilers and turbines given the data available, EPA does not believe that this is the best way to classify new boilers or turbines for regulatory purposes. The EPA will continue to use this methodology to classify units that operated on or before December 31, 1995 as EGUs or non-EGUs. Any requests to change the EGU/non-EGU categorization of a unit operating on or before December 31, 1995 that EPA has categorized as an EGU or a

non-EGU or any requests to add a unit operating on or before December 31, 1995 that has not been categorized as an EGU or a non-EGU should follow the methodology based on data reported to EPA and EIA, outlined above. Once EPA responds to comments received, EPA does not intend to reclassify units that were in operation before January 1, 1996 because, as discussed below, EPA uses a different approach to classify units that commence operation on or after January 1, 1996. However, EPA may reconsider unit classifications in 2007 along with the 2007 transport reassessment.

The EPA believes there are two important reasons that the methodology outlined above is not appropriate to use on an ongoing basis for new boilers or turbines. First, EPA is concerned about the completeness of data using this methodology. The EPA has this concern because there are limited consequences to not reporting to EIA and because EPA has no assurance that sources will continue to be required to report to EIA using the same forms. Second, because of changes in the electric generation industry and because of regulatory developments such as the SIP call, owners and operators of units may have an incentive to install small (25 MWe or less) generators to larger boilers or turbines that are primarily used for industrial processes and not electricity generation. Such sources should be considered large and be controlled.

For units commencing operation on or after January 1, 1996, EPA plans to use the following two-step process. First, EPA intends to classify as an EGU any boiler or turbine that is connected to a generator greater than 25 MWe from which any electricity is sold. This will be based on information reported directly to the State under the SIP (or EPA in the case of a FIP or section 126 action). The EPA believes this addresses the first concern about completeness of data, as discussed in the previous paragraph. Second, if a boiler or turbine is connected to a generator equal to or less than 25 MWe from which any electricity is sold, it will be considered a small EGU if it has the potential to use more than 50.0 percent of the usable energy from the boiler or turbine to generate electricity. This will address EPA's second concern (discussed in the previous paragraph) about owners or operators of large boilers and turbines that have small generators. All other boilers and turbines (including boilers and turbines connected to generators equal to or less than 25 MWe from which any electricity is sold and which have the potential to use 50.0 percent or less of the usable energy from the boiler or turbine to generate electricity) will be considered non-EGUs and the process described below should be used to classify those units as large or small. Once a unit has been classified, EPA does not intend to reclassify that unit, but may reconsider unit classification in 2007 along with the 2007 transport reassessment. 63 FR 71223

⇒ Avoid "Trigger" Language

We believe that it would be inappropriate for DEP to include "trigger" language in its regulations that would make Pennsylvania implementation of the NOx SIP Call regulations contingent upon implementation of the NOx SIP Call in other states. We believe that such triggers, if broadly adopted by states in the region, could lead to additional implementation uncertainty and

a potentially self-fulfilling prophecy of delayed NOx SIP Call implementation and delayed progress towards attainment of the federal ozone standard in the Commonwealth.

However, it would be useful if DEP could include in its final rule preamble a commitment that, should EPA's NOx SIP Call be delayed, that DEP will not seek to impose the OTC Phase III program as a replacement or short-term surrogate for the NOx SIP Call. That is, the current state of science and competitiveness of the electric generation market dictate that uniform NOx controls must take place over the 22 state SIP Call region, on the same time schedule, in order to achieve the needed environmental benefit under a system that provides a level playing field for electric generators in this new era of electric generation competition.

⇒ Surrender Penalties Should Have Flexibility Element to Reduce Impacts to the Allowance Market

Surrender penalties are one of several elements of the proposed regulation which could have the unintended consequence of reducing the availability of NOx allowances to the market. For example, those with potentially surplus NOx allowances may be reluctant, especially in the early years of the program (such as is currently the case with the OTC MOU program) to sell into the market out of a fear that an extreme situation could develop in which they might need the allowances to cover their own current, or future, year emissions, to meet progressive flow requirements, etcetera. This would lead to less market liquidity.

§ 145.54(d) prescribes that unit's not holding sufficient allowances by the end of the annual true-up period must surrender allowances from the next control period in a ratio of 3 to 1. We ask that DEP consider working some flexibility into the surrender requirement similar to that utilized in § 145.54(d)(3)(i) in determining numbers of days of violation. For example, the last sentence in § 145.54(d)(1) could be modified to say " ... equal to three times the number of the unit's excess emissions *unless the owners and operators of the unit demonstrate that a lesser surrender ratio, in no case less than one to one, should be considered.*"

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Kim Garner

From: Alexander, B.D., (Bruce) [balexander@peco-energy.com]
Sent: Tuesday, May 11, 1999 2:11 PM
To: 'IRRC@irrc.state.pa.us'
Subject: PECO Energy Comments on DEP's Proposed Ozone Transport Reduction Regulation

ORIGINAL: 2009

BUSH

E-MAIL FORWARD TO: Smith, Tyrrell, Sandusky, Legal

Doug Biden with the Electric Power Generation Association (EPGA) suggested member companies should consider sending copies of their comments on the above referenced rule directly to the IRRC. Attached are PECO Energy's comments. I would be glad to answer any questions that you might have. Thank you for considering these comments. Bruce Alexander, PECO Energy Company, 215-841-5687.

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ORIGINAL: 2009
MIZNER
COPIES: Smith
Tyrrell
Sandusky
Legal

PECO Energy Company Public Hearing Comments on:

The Environmental Quality Board's
Proposed Interstate Ozone Transport Reduction Regulation
(As Proposed at 29 Pa.B. 1319-1349 on March 6, 1999)

Presented by:

Bruce Alexander
Senior Environmental Project Consultant
PECO Energy Company
2301 Market Street
Philadelphia, PA 19101
(215) 841-5687
April 8, 1999

133528

The focus of our testimony today is to provide you with some of our preliminary thoughts surrounding implementation of EPA's 22-state ozone transport reduction regulation in Pennsylvania. Our initial comments focus on 4 issues:

Issue # 1: NOx Allocation Methodology

PECO Energy commented during the NOx SIP Call development process that we believe NOx allocations based on megawatt hours of output from all forms of generation provides the greatest incentive to increase the use of low, and zero, emissions generation. We ask that DEP consider this option as a basis for determining NOx allocations for control periods after the initial allocation period.

As the proposed regulations are currently written, this alternative allocation method could be used to calculate emission allocations beginning with the 2006 control period based on future EPA guidance promised in the preamble to EPA's final SIP Call regulation. Specifically, EPA plans to further investigate how output based systems could be used "by states as part of their trading program rules in their SIPs and by EPA in future allocations to States." [63 FR 57409]

We suggest this alternative output based approach since we believe it provides an incentive to use the lowest emission generation possible and to install the most cost-effective controls to lower overall cost of compliance under a market-based trading system. For example, inefficient, high emission rate sources would receive fewer allowances under an output based system. These are the units that have the best opportunity to install controls at the lowest dollar per ton removal rates to support the lowest cost regional program possible. If they receive larger allocations based on heat input, in contrast, they are less likely to install the most cost-effective controls. Also, there are other air quality co-benefits to output based systems such as reduced carbon dioxide, and other, emissions.

With regard to the initial control period, PECO Energy supports EPA's model rule method of basing each unit's allocation on the average of its two highest heat input years between 1995 and 1997. Multiple year baseline averages are critical to minimize the distortions that can arise from single year allocation methods. We believe DEP should modify EPA's model rule to utilize the same 2 of 3 year averaging concept to calculate NOx allocations after the initial control period.

In terms of allocation frequency, we believe NOx allocations should be made in a minimum of three year blocks to support long-term planning. Five year blocks would be most appropriate in that they provide a reasonable period of certainty for planning purposes but still offer periodic opportunities to adjust unit allocations to reflect new units or significant changes in unit utilization.

Issue # 2: Use of the Compliance Supplement Pool

The EQB requests specific comment on the use of the 13,716 ton compliance supplement pool. EPA's final SIP Call allows states to utilize the compliance supplement pool for a number of purposes, including early banking of NOx reductions, transfer of OTC banked allowances, or to provide relief to those who can demonstrate that they can not comply by May 1, 2003.

Our major concern with the distribution of the compliance supplement pool is that it not perpetuate allocation distortions from the 1999-2002 OTC program into the new SIP Call program. For example, the SIP Call requires a uniform emission reduction from an average of recent baseline years.

The OTC program, on the other hand, makes allocations based on a non-uniform reduction requirement from a single baseline year that will be over 10 years old at the time of the "early banking". The non-uniformity of the OTC allocation methodology therefore means that those having to do the least under the OTC program would have the greatest chance of banking early tons. We do not believe that this is an appropriate option from an environmental, equity or economic perspective.

Rather than perpetuate the inequities of the OTC program into the new regulation, we suggest that the regulation explicitly allocate the compliance supplement pool on a pro rata basis. Specifically, we suggest that DEP utilize recent year ozone season megawatt hour data from EIA Form 759 to divide the compliance supplement pool among all companies based upon their total megawatt hours from all forms of electric generation.

Alternatively, a pro rata distribution based on heat input from the 1995-1997 baseline years could be utilized. Should DEP determine to keep its current language regarding the transfer of allowances from the OTC program to the NOx SIP Call program, we ask that banked allowances under the OTC program all be treated the same. That is, that there be no prejudice regarding whether or not the banked allowances were "created" in Pennsylvania. Such prejudice would be inconsistent with the intent of both the OTC and EPA programs to get the most cost effective tons out of the air on a regional basis.

Issue # 3: Applicability 15 MW vs. 25 MW Sources

EPA's SIP Call sets an applicability level of 25 megawatts for electric generation units in the 22 eastern states. While we understand that the OTC program set a lower applicability level of 15 megawatts, we urge DEP to remain consistent with the federal program.

PECO Energy currently operates ten combustion turbines rated between 15 and 25 megawatts (all are 15MW). These ten CTs are all permit constrained to a 5% annual capacity factor. During the 1998 ozone season, average emissions per combustion turbine in this category were about 8.5 tons of NOx. Within the general context of electric generation units, these are very small, infrequently operated sources. While they are small emission sources, they require a disproportionately large effort to manage within the context of the current and proposed stationary source NOx reduction programs.

We understand that DEP and the AQTAC may be considering other alternatives to dealing with very small sources. While alternatives might also be acceptable, we believe the simplest way to proceed is for the Pennsylvania regulations to remain consistent with the 25MW federal applicability level. This approach could also be helpful to DEP in terms of removing the potentially contentious issue of obtaining NOx allowances for units below 25MW since EPA did not include them in its EGU budget baseline.

Issue # 4: Emergency Diesel Engines

We appreciate DEP's early recognition during the AQTAC process that emergency diesel generators should be exempt from Subchapter B (Emissions of NOx From Stationary Reciprocating Internal Combustion Engines). PECO Energy utilizes approximately 15 such emergency diesel generators on its system to provide "black start" support at Company generating facilities. Their combined typical actual NOx emissions are less than 35 tons per ozone season. These emissions result from brief, periodic reliability testing. Further controlling emissions from these emergency diesel generators would cost 10s of thousands of dollars per ton removed. Costs would be double or triple for emergency diesel generators at nuclear power plants due to rigorous Nuclear Regulatory Commission (NRC) quality and testing requirements. (see 10 CFR 50, Appendix B)

Conclusion

We appreciate the opportunity today to provide our initial comments on the EQB's proposed Interstate Ozone Transport Reduction regulation. We plan to submit more detailed and extensive comments by the end of the comment period. We would also like to thank Pennsylvania DEP at this time for its leadership role in supporting NOx emission reductions from states to the south and west of Pennsylvania which support ozone attainment in Pennsylvania <u>and</u> which provide for a more level playing field for the region's electric generators.

I would be glad to address any questions you may have at this time. Thank you.

ORIGINAL: 2009
BUSH
COPIES: Smith
Tyrrell
Sandusky
Legal

National Fuel

May 6, 1999

Pennsylvania Department of Environmental Protection
Environmental Quality Board
15th Floor
Rachael Carson State Office Building
PO Box 8477
Harrisburg, PA 17105-8477

To whom it may concern:

National Fuel Gas Supply Corporation operates facilities within the Commonwealth of Pennsylvania for the storage and transmission of natural gas. Moving natural gas along a pipeline is accomplished by creating a pressure differential between the gas origin and gas destination points. These pressure differentials are created by natural gas compressors located at compressor stations. Natural gas can be stored in certain types of underground formations. This storage provides a large inventory of natural gas to be located close to markets. This enables NFG to respond quickly to the change in demand for natural gas. Storage capacity is maximized by increasing the pressure of the stored natural gas. Increased pressure is provided by natural gas compressors. All NFG compressors are driven by natural gas fired, internal combustion, reciprocating engines.

NFG appreciates the opportunity to comment on the Proposed Rulemaking for Interstate Ozone Transport Reduction, 25 PA Code, Chapters 123 and 145. In general, our comments are restricted Subchapter B: Emissions of NOx from Stationary Reciprocating Internal Combustion Engines.

Specifically NFG has the following concerns:

1) The DEP should clearly establish the distinction between large and small units that is consistent with the cutoff level described by the EPA NOx FIP.

2) The DEP should establish an engine size for applicability as well as exemptions for standby generators, which are consistent with other regulations.

3) Grams per Horsepower hour are a more appropriate expression of emission limitations than Parts Per Million.

4) The DEP should establish a target emission rate that is derived from Low Emission Combustion engines, which are currently in service within the Commonwealth.

5) The use of CEMS or PEMS is unnecessary.

6) Compliance costs addressed within the regulation discussion are substantially under-estimated.

7) The PA DEP should adopt the exemptions provided by the EPA.

SPECIFIC COMMENTS

Comment #1

145.101(a) Applicability

Clearly the intent of the Federal NOx FIP is to reduce emissions from large emission sources which are identified as those units which emit more than one (1) ton per day NOx. Section 145.101(a) has expunged this emission threshold and relies solely upon the 2400 HP definition. The PA DEP should state the one (1) ton per day NOx threshold as the applicability standard.

Please find attached, Attachment A, the EPA document, "Technical Support Document for Stationary Internal Combustion Engines (September 4, 1998)". This document specifies the intent to control internal combustion engines that emit greater than one (1) ton per day NOx. This document also shows the derivation from one ton per day NOx to a 2400 HP internal combustion engine based upon ACT documentation of 15.8 Gr/Hp-Hr.

Additionally, the Federal Register / Vol. 63, No. 247, Thursday, December 24, 1998 / Rules and Regulations, Page 71224, defines a large unit. "A stationary internal combustion engine and a cement plant were determined to be "large" if its 1995 average daily ozone season emissions were greater than one ton. The heat input capacity does not affect its classification as large or small."

Attachment B identifies Lean Burn engines (by PA DEP definition) within the National Fuel Gas system, which are utilizing Low Emission Combustion (LEC) technology. This table identifies those engines that are greater than 2400 HP and have Title V Operating Permit NOx emission limitations and have actual

measured emissions. This table clearly shows that emissions from a Lean Burn engine with LEC technology are actually Clean Burn engines and emit only 20% of the 1 Ton per Day threshold specified within the Federal NOx Budget FIP. Obtaining a 90% reduction on these engines will be an insignificant gain toward the state NOx budget. Therefore, utilizing only the 2400 HP criteria as the applicability standard is not sufficient.

Therefore, NFG proposes the following language:
(a) An owner or operator of a lean burn or rich burn stationary internal combustion engine rated at or equal to 2400 brake horsepower with NOx emissions greater than or equal to one (1) ton per day shall comply with the applicability requirements of this subchapter.

Comment #2

145.101(d) Applicability

Standby generator threshold sizes must be specified for clarity. Also, exemptions for standby generators must be designated which are consistent with other regulations.

Subsection (d) identifies all standby electric generators as subject to this subsection. In conversation with the Department and INGAA on 3/17/99 it was noted that this applicability was not intended to include "those smaller Hospital units". Attachment C identifies all NFG standby generators located at compressor stations. These generators on the average are only 140 Horsepower and 100 kW in size with no generator larger than 200 kW. NFG respectfully submits that all these standby generators are smaller than Hospital units and are also well below the 15 MW threshold for EGU's and most definitely with NOx emissions substantially less than one ton per day. Obtaining a 90% reduction on these engines will be an insignificant gain toward the state NOx budget.

Insignificant internal combustion sources, as previously defined by the Department, have been identified as internal combustion engines that are less than 500 HP or engines that operate less than 500 hours in a consecutive 12 month period. All standby generators listed in Attachment C are natural gas fired internal combustion engines and are smaller than 500 HP and operate less than 500 hours per year.

Subsection (d) of the proposed regulation identifies standby generators which have a permit limitation of 208 hours per control period are exempt from the requirement of this subchapter. Since the ozone season is defined as the five summer months, the Department has determined 5/12 of the previously acceptable annual 500-hour exemption as equivalent to 208 hours for the ozone season. The Department assumes that power outages occur uniformly over the course of twelve months. Emergency standby power is required upon demand because electrical power outages occur at random. It is entirely possible that all 500 hours of needed standby power may occur during the ozone season. Unless the Department intends to regulate uniform power outages, the entire annual 500-hour exemption should apply during the ozone season

Therefore, to promote uniformity within the Title 25 Code, emergency standby electric generators must have an applicability threshold. The current regulation, 145.101(d), as written, does include all "those smaller hospital units".

NFG proposes the following language:

(d) Emergency standby electrical generation units having the sole purpose of providing emergency electrical service to the facility where it is located and which is permitted only to be utilized in the event of a catastrophic failure of the primary electrical power source for the facility and which are less than 500 hp and which has a permit limitation of a maximum cumulative operation of 500 hours for 12 consecutive months are exempt from this subchapter.

Comment #3

145.103(1) Standard requirements

It would be more appropriate to express NOx emission units in terms of Grams per Horsepower-Hour.

Engine manufacturers define engine emissions in Gr/HP-Hr. Manufacturer engine NOx emission performance guarantees are expressed in units of Gr/Hp-Hr. The PA DEP, in general, has accepted the Original Equipment Manufacturer (OEM) LEC emission rate of 3 Gr/Hp-Hr. Therefore, since this industry utilizes Gr/Hp-Hr and the Department already recognizes Gr/Hp-Hr, then the new regulations should reflect this previously accepted standard.

Comment #4

145.103(1)(ii) NOx emissions

The 125 ppmv NOx emission rate is totally inappropriate.

This 125 ppmv NOx emission level was derived from an initial emission rate identified within the ACT document and reduced by calculations in accordance with claims made by control technology vendors. During the RACT implementation process NFG gained substantial experience regarding vendor claims. Attachment D details actual emission reductions after the installation of OEM LEC conversion kits. Vendor claims are suspect due to the nature that claims of emission reductions provides sales.

LEC technology provided by the OEM has provided the industry with proven technology and has established many in service applications. LEC technology has been accepted by the PA DEP and by the EPA as realistically achievable and as BAT for new source installations. Many sources with LEC technology are on file with the DEP from RACT or from Title V permits. Emission targets for this regulation should be taken from actual data that is on file within the DEP for LEC engines.

Attachment B identifies NFG internal combustion engines that are greater than 2400 HP and have LEC technology. This attachment shows actual measured and permitted NOx emission rates. These emission rates are expressed in mass units of pounds per hour, equivalent rates of Gr/Hp-Hr and ppmv. It can be derived that this attachment clearly indicates that vendor claims are optimistic.

Therefore, NFG proposes that the target emission rate for large I-C engines to be equivalent to the accepted PA DEP, LEC BAT standard of 3 Gr/HP-Hr.

Comment #5

145.104 Compliance Determination

The use of CEMS or PEMS is unnecessary.

Currently the use of CEMS has not proven to be a reliable method of monitoring emissions from internal combustion engines.

In conversation with the Department and INGAA on 3/17/99 it was noted that 145.104 allows for "an alternate monitoring technique as approved by the Department". It is the experience of NFG that PEMS, as defined by the PA DEP monitoring staff, can be defined as an alternative method that meets the same criteria of CEMS as defined within the source testing manual. Therefore, this "alternative method" verbiage is not meaningful.

Therefore, NFG proposes that the PA DEP allow the same monitoring on internal combustion engines as it uses in its Title V Operating Permit program.

Comment 6

Preamble discussion regarding cost effectiveness.

Compliance Cost estimates are substantially under-estimated.

During implementation of the RACT regulations, NFG elected to install OEM LEC technology where the technology was applicable. Attachment D tabulates the actual overall affect of those OEM LEC installations throughout the NFG system. In summary, the emission reductions were not as significant as predicted by the OEM and the costs per ton NOx removed were well above the regulatory compliance cost estimates.

To compound the compliance cost issue, are those units which have already undergone some emission reductions pursuant to the RACT regulations. Those units which still emit NOx greater than the LEC 3 Gr/Hp-Hr emission rate may be required to reduce emissions again. In those cases, the compliance costs will be similar but the actual NOx reduction will be discounted due to previous RACT reductions and the resulting cost per ton NOx removed will be well above the stated $2,000.00 per ton guidance.

The PA DEP must reconsider the overall cost effectiveness of this NOx Budget program and its applicability to internal combustion engines.

Comment 7

EPA exemptions have been deleted.

As part of its proposed FIP Regulation, EPA included certain exemptions which the PA DEP has not included in its proposed OTR Regulations. EPA has exempted from the emission, compliance and reporting, monitoring and recordkeeping standards for I-C engines, all start up and shutdown periods and periods of malfunction, not to exceed 36 consecutive hours, and periods within regular scheduled maintenance activities. EPA created these exemptions apparently in recognition of an I-C engine potential inability to meet the standards regardless of control equipment, during the time periods described in the regulation; apparently in recognition that the total NOx emissions generated by such events over the ozone period are insignificant.

NFG proposes that the PA DEP include the exemptions as provided in Section 98.6 of the EPA proposed FIP.

In conclusion, NFG requests the PA DEP to incorporate these comments into their Interstate Ozone Transport Region Reduction regulations.

NFG appreciates the opportunity to comment on the proposed OTR regulations. If you have any questions or need any additional information, please feel free to call me.

Respectfully submitted,

Gary A Young

Gary A. Young
Associate Engineer

GY/rht

Attachments

CC: L. Hoover
M. Kasprzak
J. Pustulka

TECHNICAL SUPPORT DOCUMENT
FOR
STATIONARY INTERNAL COMBUSTION ENGINES
(September 4, 1998)

The EPA reviewed requirements for stationary reciprocating internal combustion engines, including information developed for the California FIP rule (m), 59 FR 23265. The EPA examined requirements that reflect the most stringent level of control that can be achieved at a cost of $2,000/ton of NO_x, for units emitting 1 ton/day or more. Technical information in the Alternative Control Techniques (ACT) document for NO_x Emissions From Stationary Internal Combustion Engines was used to determine appropriate control levels based on this criteria.[1] Determination of the control levels is discussed below for each engine type.

Spark Ignited Rich-Burn Engines

The control level for spark ignited rich-burn engines that meets the $2,000/ton criteria above, is a limit of 110 ppmv NO_x at 15% O_2 for engines that are 2400 brake horsepower (hp) or larger. This represents non-selective catalytic reduction (NSCR) control. NSCR provides the greatest NO_x reduction of all technologies considered in the ACT document and is capable of providing a 90 to 98 percent reduction in NO_x emissions.[1] This emission limitation represents the upper end of the range of "Expected controlled NO_x emission levels" (NSCR) from Table 2-2 of the ACT document. The range of controlled NO_x is reported to be 0.3 to 1.6 g/hp-hr, or 20 to 110 ppmv (at 15% O_2) in the ACT. The lower end of the range represents 98 percent control and the upper end represents 90 percent control. According to the ACT, one NSCR supplier guarantees 98 percent reduction. However, an alternative limitation of 90 percent reduction is recommended because 98 percent reduction is based on a single supplier's guarantee. There was no source test data provided to support this claim.

The 2400 hp threshold corresponds to a 1 ton/day emission level, based on the 15.8 g/hp-hr average NO_x emission factor reported in the ACT. Engines that are 2400 hp or larger have the potential to emit 1 ton of NO_x per day.

As illustrated in Figure 2-3 of the ACT (p. 2-29), the cost effectiveness of NSCR increases exponentially as the engine size drops below 1500 hp. The cost effectiveness is nearly constant at about $300/ton (1993 $) for large engines and starts to increase as the engine size drops below 3000 hp. There is an inflection point around 1000 hp and the

cost effectiveness increase sharply as the engine size drops below 500 hp. The cost effectiveness is about $400/ton for a 2400 hp engine operated 8,000 hours per year. Therefore, NSCR meets the criteria of less than $2,000/ton of NO_x reduction.

Spark Ignited Lean-Burn Engines

The control level for spark ignited lean burn engines that meets the $2,000/ton criteria above, is a limit of 125 ppmv NO_x at 15% O_2. This represents selective catalytic reduction (SCR) control. SCR provides the greatest NO_x reduction of all technologies considered in the ACT document for lean-burn engines and is capable of providing a 90 percent reduction in NO_x emissions. This emission limitation corresponds to the "Expected controlled NO_x emission levels" (SCR) from Table 2-5 of the ACT document.

The 2200 hp threshold corresponds to a 1 ton/day emission level, based on the 16.8 g/hp-hr average NO_x emission factor reported in the ACT. Engines that are 2400 hp or larger have the potential to emit 1 ton of NO_x per day.

As illustrated in Figure 2-6 of the ACT (p. 2-35), the cost effectiveness of SCR for lean burn engines increases exponentially as the engine size drops below 2000 hp. The cost effectiveness is nearly constant at about $600/ton for large engines and starts to increase as the engine size drops below 3000 hp. There is an inflection point around 1000 hp and the cost effectiveness increase sharply as the engine size drops below 800 hp. The cost effectiveness is about $800/ton for a 2200 hp engine operated 8,000 hours per year. Therefore, SCR meets the criteria of less than $2,000/ton of NO_x reduction.

Diesel Engines

The control level for diesel engines engines that meets the $2,000/ton criteria above, is a limit of 175 ppmv NO_x at 15% O_2. This represents selective catalytic reduction (SCR) control. SCR provides the greatest NO_x reduction of all technologies considered in the ACT document for diesel engines and is capable of providing a 90 percent reduction in NO_x emissions. This emission limitation corresponds to the upper end of the range (1.2 to 2.4 g/hp-hr or 90 - 175 ppmv) for "Expected controlled NO_x emission levels" (SCR) from Table 2-8 of the ACT document.

The 3100 hp threshold corresponds to a 1 ton/day emission level, based on the 12.0 g/hp-hr average NO_x emission factor reported in the ACT. Therefore, engines that are 3100 hp or larger have the potential

to emit 1 ton of NO_x per day.

As illustrated in Figure 2-9 of the ACT (p. 2-41), the cost effectiveness of SCR for diesel engines increases exponentially as the engine size drops below 3000 hp. The cost effectiveness is nearly constant at about $800/ton for large engines and starts to increase as the engine size drops below 3000 hp. The cost effectiveness is about $1,000/ton for a 3100 hp diesel engine operated 8,000 hours per year. Therefore, SCR meets the criteria of less than $2,000/ton of NO_x reduction.

Dual Fuel Engines

The control level for dual fuel engines engines that meets the $2,000/ton criteria above, is a limit of 125 ppmv NO_x at 15% O_2. This represents selective catalytic reduction (SCR) control which provides the greatest NO_x reduction of all technologies considered in the ACT document for dual fuel engines. SCR is capable of providing a 90 percent reduction in NO_x emissions from dual fuel engines. This emission limitation corresponds to the upper end of the range (0.8 to 1.7 g/hp-hr or 60 to 125 ppmv) for "Expected controlled NO_x emission levels" (SCR) from Table 2-8 of the ACT document.

The 4400 hp threshold corresponds to a 1 ton/day emission level, based on the 8.5 g/hp-hr average NO_x emission factor reported in the ACT. Therefore, dual fuel engines that are 4400 hp or larger have the potential to emit 1 ton of NO_x per day.

As illustrated in Figure 2-12 of the ACT (p. 2-45), the cost effectiveness of SCR for dual fuel engines increases exponentially as the engine size drops below 4000 hp. The cost effectiveness is nearly constant at about $1,000/ton for large engines and starts to increase as the engine size drops below 4000 hp. There is an inflection point around 2000 hp and the cost effectiveness increase sharply as the engine size drops below 1000 hp. The cost effectiveness is about $1,200/ton for a 4400 hp dual fuel engine operated 8,000 hrs/year. Therefore, SCR meets the criteria of less than $2,000/ton of NO_x reduction.

REFERENCES

1. Robert B. Snyder, Midwest Research Institute. Prepared for the U. S. Environmental Protection Agency. Alternative Control Technology Document - NO_x Emissions from Stationary Reciprocating Internal Combustion Engines. EPA Publication No. EPA-453/R-93-032. July 1993.

ATTACHMENT B

NATIONAL FUEL GAS SUPPLY CORPORATION
ELLISBURG COMPRESSOR STATION

HP	MANUFACTURER	MODEL	***NOx Permit Lb/Hr***	Permit Equivalent Gr/HP-Hr	Measured Lb/Hr	***Measured ppm NOx***	Fuel Rate Cu.Ft/Hp-Hr	***Potential MMBTU/Hr***	***Potential Tons NOx per Day***
2850	DRESSER-RAND	412 KVSE	18.83	3.00	15.14	320	6.70	***19***	***0.23***
3000	COOPER	8Q 155JHC2	13.2	2.00	10.41	153	6.80	***20***	***0.16***
3000	COOPER	8Q 155JHC2	13.2	2.00	12.08	183	6.80	***20***	***0.16***

ATTACHMENT C

NATIONAL FUEL GAS SUPPLY CORPORATION
STANDBY POWER - AUXILIARY GENERATORS

STATION	UNIT NO	HP	kW	MANUFACTURER	NOx GR/ HP-HR	**Potential NOx Tons/Day**
CARTER HILL	G1	90	55	KOHLER	10.00	***0.02***
EAST FORK	G1	105	75	GENERAC	10.00	***0.03***
ELLISBURG	G1	200	175	WAUKESHA	10.00	***0.05***
ELLISBURG	G2	200	175	WAUKESHA	10.00	***0.05***
ELLISBURG	G3	200	175	WAUKESHA	10.00	***0.05***
HEATH	G1	65	35	KOHLER	10.00	***0.02***
HENDERSON	G1	119	85	GENERAC	9.80	***0.03***
ISLAND RUN	G1	116	85	GENERAC	10.00	***0.03***
KNOX	G1	140	100	FORD	10.00	***0.04***
LAMONT	G1	108	75	WAUKESHA	20.00	***0.06***
LAMONT	G2	108	75	WAUKESHA	2.00	***0.01***
QUEEN	G1	75	50	FORD	10.00	***0.02***
ROYSTONE	G1	170	150	FORD	10.00	***0.04***
ROYSTONE	G2	200	175	WAUKESHA	10.00	***0.05***
SACKETT	G1	45	25	ONAN	10.00	***0.01***
SUMMIT	G1	30	20	ONAN	10.00	***0.01***
SUMMIT	G2	175	100	ONAN	8.00	***0.04***

ATTACHMENT D

NATIONAL GUEL GAS SUPPLY CORPORATION
RACT CLEAN AIR CONVERSION RESULTS
OEM LEC CONVERSIONS ON ALL ENGINES

Station	Number of Engines Retrofitted	Conversion Cost $	1994 NOx TPY	1995 NOx TPY	TPY % Reduction
East Fork	3	218,527	124	103	17
Ellisburg	3	1,127,599	461	274	41
Beech Hill	2	604,400	141	86	39
Independence	4	1,470,619	335	77	77
Nashville	3	1,608,145	185	45	76
	Totals	5,029,290	1246	585	53

Cost per Ton 1,246 - 585 = 661 Tons Reduced
5,029,290 / 585 = 7,609 $ / Ton Reduced

PANTHER CREEK PARTNERS

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March 24, 1999

Environmental Quality Board
15th Floor
Rachel Carson State Office Building
PO Box 8477
Harrisburg, PA 17105-8477

Gentlemen:

I would like to comment on the proposed rulemaking for Interstate Ozone Transport Reduction.

The definitions under 145.2(iv) CEMS-Continuous emission monitoring system require a continuous moisture analyzer. We have been unable to procure a commercial analyzer with certifiable accuracy sufficient to satisfy the quality assurance requirements. The standard is ahead of the market technology.

Also, under the definition section and as a general comment we support any definition of heat input which is consistent between EPA and DEP. Considerable effort was expended this year in correcting both DEP and EPA data for monthly heat inputs during the ozone season.

With respect to NOx allocation under 145.42(b)1, such allocations should follow the EPA model rule. Additionally, allowances allocated for applicable units under 145.4(2) should be based on the same emission rate (.15 lb/MMBTU) as other NOx budget units. There is no air quality basis for higher emission limitation.

In both 145.41(b) and 145.42(a)(ii) it is proposed that NOx allocation or heat input used for NOx allocation will be based on performance of the power plant three (3) years prior. This method is too simplistic and does not account for the following factors:

1. Power plant performance can be skewed in any one year by a plant upset, equipment failure, or any of a number of reasons which would cause reduced output for that year. Obviously, such factors should be taken into account and not expected to be reproduced with any periodicity.

2. This proposal assumes that the new open marketplace will have no effect on power plant performance. This is erroneous for two reasons:

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A. The lowest operating cost power plants will operate at the highest capacity factor. This will translate into lowest cost to comply with all emission regulations and lowest heat input per unit of output. As costs to comply with new regulations increase, the dispatch mix will change resulting in changes from historical performance. Thus, units which are higher cost in today's market and not dispatched may be lower cost in a future market and dispatched more frequently because today's market has not incorporated the emission reduction costs.

B. Sales of electricity into and out of Pennsylvania will be driven by pricing signals. In any year, it may be cheaper to import electricity but three years later it may be more beneficial to generate electricity here.

3. Power production will also be weather related. Production in one year may be reduced by unseasonal cool or wet weather which can't be reasonably expected to return in three years.

My suggestion for a fair allocation is one based on the .15 lb/MMBTU of heat input emission limit with heat input based on a rolling five year average heat input. This would capture any significant trends in operation of the plant e.g. from intermediate load to base load but eliminate the year to year vagaries of operation from this important calculation.

Referencing 145.72(a) past practice has been to use EPA provided data checking software. This is not provided for NOx data substitution, alternatively the software vendors also will not provide certification of their data substitution algorithms. The proposed regulations do not provide for an alternative.

Thank you for the opportunity to comment.

Sincerely,

Daniel C. McIntire
General Manager

DCM:jmd

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Freeman, Sharon

From: Nancy F. Parks [nfparks@csrlink.net]
Sent: Monday, May 10, 1999 9:51 PM
To: RegComments@dep.state.pa.us
Subject: Comments: Pennsylvania Bulletin 29 (10): 1319-1349: NOx 110SIP call

>From: System Administrator <postmaster@dep.state.pa.us>
>To: nfparks@csrlink.net
>Subject: Undeliverable: Comments: Pennsylvania Bulletin 29 (10): 1319-1349
> : NOx 110SIP call
>Date: Mon, 10 May 1999 14:43:26 -0400
>
>Your message
>
> To: RegComment@dep.state.pa.us
> Subject: Comments: Pennsylvania Bulletin 29 (10): 1319-1349: NOx 110SIP
>call
> Sent: Mon, 10 May 1999 14:44:36 -0400
>
>did not reach the following recipient(s):
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>RegComment@dep.state.pa.us on Mon, 10 May 1999 14:43:21 -0400
> The recipient name is not recognized
> The MTS-ID of the original message is: c=US;a=
>;p=PADEP;l=EREXECIMCS019905101843JF9HNC5F
> MSEXCH:IMS:PADEP:Central Office:EREXECIMCS01 0 (000C05A6) Unknown
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>
>Message-ID: <3.0.1.32.19990510144436.007ea100@mail.csrlink.net>
>From: "Nancy F. Parks" <nfparks@csrlink.net>
>To: RegComment@dep.state.pa.us
>Subject: Comments: Pennsylvania Bulletin 29 (10): 1319-1349: NOx 110SIP ca
> ll
>Date: Mon, 10 May 1999 14:44:36 -0400
>MIME-Version: 1.0
>X-Mailer: Internet Mail Service (5.5.2448.0)
>X-MS-Embedded-Report:
>Content-Type: text/plain;
> charset="iso-8859-1"
>
>April 27, 1999
>
>Environmental Quality Board
>15th Floor
>Rachael Carson State Office Building
>P.O. Box 8477
>Harrisburg, Pennsylvania 17105-8477
>
>COMMENTS TO THE EQB
>ON THE PROPOSED RULEMAKING FOR
>INTERSTATE OZONE TRANSPORT REDUCTION
>Pennsylvania Bulletin 29 (10): 1319-1349
>March 6, 1999
>
>By
>
>Nancy F. Parks
>For
>Sierra Club, Pennsylvania Chapter

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>
>
>COMMENTS TO THE EQB
>ON THE PROPOSED RULEMAKING FOR
>CHANGES TO THE STATE IMPLEMENTATION PLAN
>TO CONTROL NITROGEN OXIDE EMISSIONS
>AND
>PROTECT HUMAN HEALTH FROM GROUND LEVEL OZONE AIR POLLUTION THROUGH
>INTERSTATE OZONE TRANSPORT REDUCTION
>
>Pennsylvania Bulletin 29 (10): 1319-1349
>March 6, 1999
>By
>Nancy F. Parks
>Introduction
>
>These comments are submitted in response to regulations governing 25
>Pennsylvania Code, Chapters 123 (existing) and 145 (proposed), and proposed
>on March 6, 1999 to amend the state air pollution regulations and the State
>Implementation Plan (SIP) to reduce emissions of nitrogen oxides (NOx),
>under the Clean Air Act Amendments of 1990 (CAA). NOx emissions effect
>damage to both human health and natural resources, as the primary precursor
>to ground level ozone smog. Additionally, NOx emissions contribute to
>elevated levels of fine particle soot. Health dangers associated with
>these pollutants are particularly acute for active children, the elderly
>and individuals with chronic cardio-pulmonary disease. High ozone levels
>also contribute to secondary natural resource effects, damaging
>agricultural crops, forest resources and ornamentals and causing harm to
>sensitive native species habitat. Saturation of Pennsylvania soils with
>nitrogen continues to be identified and recorded, robbing plants species
>and forest tree species of necessary nutrient sources.
>
>These changes to the Pennsylvania air pollution regulations are necessary
>to meet the requirements of the U.S.EPA's November 1998 final rule, known
>as the 110 SIP call. The 110 SIP call requires 22 states - including
>Pennsylvania - to cut NOx emissions sufficiently to reduce transported
>ozone and NOx, so that all states east of the Mississippi River can achieve
>the ozone National Ambient Air Quality Standards (NAAQS). States may use a
>combination of both local and regional emission controls. While it is
>known that ozone and NOx levels entering Pennsylvania at our southern and
>western political boundaries are very high - and that these additional air
>pollution inputs make it difficult for Pennsylvania to meet its statutory
>obligations to meet the ozone NAAQS, as quickly as possible - it is also
>true that any delay or failure in Pennsylvania in meeting its obligations
>under the 110 SIP call will encourage upwind states to do the same,
>subsequently affecting the health and well being of Pennsylvanians.
>
>The Sierra Club, Pennsylvania Chapter has been continuously involved in the
>various regulatory programs in Pennsylvania for the reduction of nitrogen
>oxides and ground level ozone. We are concerned that Pennsylvania's
>"fleet" of old and very dirty power plants receive the incentive that they
>have previously lacked under the CAA to clean up their ozone precursor
>emissions. We believe that all the minimum federal requirements must be
>met in Pennsylvania's rule under EPA's proposed model, in order to be an
>approvable plan for EPA. It is entirely appropriate to use a stricter
>regulatory program for air pollution reduction than the EPA model rule

>language if it will enhance Pennsylvania's chances of meeting its statutory
>and regulatory requirements. We support the achievement of the next round
>of NOx reductions as quickly as possible, with enforceable and verifiable
>compliance.
>
>EQB Question Areas:
>
>1. ALLOWANCES:
>Ø Should the NOx allowances banked under § 123.110(a)(3) be transitioned
>into allowances under § 145.55?
>
>§ 123.110 describes the existing Pennsylvania NOx MOU pollution reduction
>trading program. The NOx MOU pollution reduction program will be
>completed with the end of the control period (the end of the ozone season)
>in 2002. Any allowances banked within this program should be retired by
>DEP/BAQ at the time of transition (May 1, 2003) to this new NOx reduction
>program under the 110 SIP call, controlled by Chapter 145. Retiring these
>allowances will provide a guaranteed environmental benefit. It will "wipe
>the slate clean", and affected sources will start the next phase of NOx
>reductions with a guaranteed limit to NOx emissions, and without a pool of
>available allowances that could be utilized during any particularly bad
>ozone season to avoid either technology control or the need to buy
>allowances in order to pollute.
>
>Ø How should the number of banked allowances be determined? Should only
>allowances created within the Commonwealth be banked?
>
>Banked allowances should come from Pennsylvania pollution reductions.
>Allowing out of state allowances to be banked chances double-counting if
>there are significant differences between states regulations, and chances
>trades in an inappropriate "direction". If a source's pollution reduction
>occurs downwind and subsequently its allowances are sold to an upwind
>source, it thereby guarantees a significant environmental disbenefit from
>the transaction.
>
>2. METHOD TO CALCULATE ALLOWANCES:
>
>Ø Should the method used to calculate allowances be the EPA method which
>calculates the number of allowances based on heat input times the emission
>rate of .15 lb/mmBTU? Or, should the method used to calculate allowances
>be the DEP proposed method which is the heat input times the lower of [.15
>lb/mmBTU or the allowable]?
>
>This is a "repowering" and an allocation issue, and also an issue of the
>re-use of existing sites. Repowering a source will be cleaner than that
>existing source's technology. By allocating at the allowable, the
>repowered source is disadvantaged because its allowable emission rate will
>be lower than an old dirty source; i.e. it is cleaner. Therefore it gets
>less allowance allocation. As long as the repowered sources are cleaner
>than they were before they were modified, it is worthwhile to support a
>change to this regulatory language as DEP wrote it. The Sierra Club
>supports a change in the DEP language to the EPA language (.15lb/mmBTU
>times heat input) which at least helps level the playing field somewhat
>with the old dirty source and their allocations. In general, cleaner
>sources should receive incentives and be encouraged. While it is very
>worthwhile to encourage the re-use of existing sites, DEP/BAQ should take
>care that no currently required pollution reductions be exempted in order
>to accomplish re-use.
>
>3. APPLICABLE ELECTRIC GENERATING UNITS:
>Ø Should the Pennsylvania rule include 15 MW generating units as required
>under the existing NOx MOU program in § 123.101-123.120 of nitrogen oxide
>reductions, or 25 MW generating units as required by EPA?
>

>If DEP/BAQ adds the 15MW units into the NOx 110 SIP call program, then the
>units should be monitored with CEM's, necessary if they wish to trade
>allowances. Currently, these 15MW plants are covered in the NOx MOU
>inventory. We believe it would be appropriate for them to continue in the
>NOx inventory for the future. The argument made by the affected sources
>for exempting 15-24 megawatt (MW) units from this regulation is that there
>are a small number of them, it "wouldn't be many tons of NOx", and it
>wouldn't be cost effective. While it may not amount to many tons now,
>what about the future number of new sources in this size of facility? With
>at least six natural gas plants proposed for Pennsylvania, there is much
>capacity expected to come online. How much of that will be small MW
>affected sources under this regulation? Additionally, can we expect that
>in the near future that smaller less than 25 MW plants could be built more
>frequently in order to avoid the requirements under this regulation? It
>would appear that it would be prudent for DEP to include 15-24 MW sources
>both in the inventory and as applicable sources under this regulation.
>
>4. TRADING PROGRAM:
>Ø Should this proposed rule incorporate the trading program into the
>existing plan approval and operating permit program of Chapter 127?
>
>If a trading program is to occur, it must be involved only with surplus NOx
>reductions accomplished during the ozone season, and it must be a
>measurable, verifiable and enforceable program. All trades should receive
>the most immediate and careful public scrutiny. There should be no use of
>general permits for any affected sources under this program and Title V,
>and the source polluting units must have CEM's.
>
>Energy Efficiency & Renewables As Part Of A Set-Aside:
>
>This is an excellent idea and it is entirely appropriate to include
>incentives within the NOx 110 SIP call regulation for energy conservation,
>energy renewables and energy efficiency. EPA's model guidance encourages
>a program that sets aside at least 5% -15% of the total NOx allowance
>burden in Pennsylvania for the exclusive use of encouraging energy
>renewables. EPA suggests that the allocation of allowances be a
>longer-term allocation and use of at least three years and then a review of
>the particular efficiency project for renewal of allowance allocation.
>Further, EPA suggests that there be annual reviews of the projects for
>their actual increases in energy efficiency and decreases in energy
>consumption.
>
>The Sierra Club will support the inclusion of an energy set-aside program
>within the NOx 110 SIP call regulation. It would make sense to support the
>highest possible allocation to the set-aside, i.e. 15% of the total NOx
>allowance budget for future years, starting in 2003. The program should
>be maximized to give the greatest environmental benefit and the greatest
>reductions in energy consumption and increases in energy efficiency and
>renewables.
>
>The projects for renewables could be those initiated or generated by any
>consumer in Pennsylvania, and should include projects from business,
>schools, hospitals, environmental groups and others. We support criteria
>for program eligibility that do not interfere with the achievement of ozone
>attainment throughout the state. Innovative projects could reduce or
>displace electricity load from applicable source EGU's (electrical
>generating units) in the SIP call region, and should not be reductions
>required by any federal government regulation, ensuring that the reductions
>are surplus. The project should not be used to generate compliance or
>permitting credits elsewhere in the SIP. The project should be in
>operation during the ozone season for which it receives an allocation, and
>it should reduce energy usage during that ozone season. The project should
>be reviewed and verified regularly, preferably annually, and the reductions
>should be measurable. EPA requires that the project not translate into

>less than one ton of NOx allowances, or it can be aggregated with other
>projects into a total of one ton increments of NOx allowance.
>
>Trading Program Issues
>
>Ø CEM's should be used on all applicable sources that wish to trade.
>Ø There should not be any inter-pollutant trading.
>Ø Trading should be only be accomplished with an upwind source reduction
>and a downwind recipient of allowances. There should not be
>"reverse-direction" trades.
>Ø For inter-state trades: These should only happen when states have
>equivalent programs to Pennsylvania that will prevent any double-counting
>of emission reductions.
>
>Diesel Generation: At issue are Part 98 diesel generators as affected
>sources. SIP affected diesel generators will be any of those sources that
>are run because of the "catastrophic failure of a primary system", and
>beyond. Many of these generators are currently used to generate during
>peak loads over considerable periods of time. Preferably, there should be
>no exemption for these peak-loaded sources. There is a precedent in
>Philadelphia County where some sources are limited in hours of operation to
>100 hours during the ozone season. If DEP/BAQ chooses to exempt these
>diesel sources by limiting their hours of operation, then if these units
>are truly used only during catastrophic failures, the hours of use should
>be severely limited to 50 hours during the ozone season and no more. If a
>source is to have its hours of operation limited, then it should not be
>exempted if no monitoring is planned.
>
>Additionally, a review of Y2K preparedness published in Science 284:
>438-439, April 16, 1999, indicates that utility remediation and
>preparedness for Y2K disruptions is slow and "compliance efforts are
>behind". The study goes on to predict that though a prolonged national
>blackout is unlikely, local and regional service outages are "distinct
>possibilities". If that is true, it would not be unlikely that utilities
>would chose to use all available units to remediate any brown-out events.
>Therefore, it would be doubly important to ensure that there would not be
>any use, let alone frequent use, of any exempted sources during the peak
>load intervals of the ozone season.
>
>Monitoring Issues: The minimum that PA DEP/BAQ should do is to accept the
>basic federal language proposed by EPA; anytime that PA wants to be more
>stringent than federal language, it is appropriate since it gets us to our
>goal of NOx and ozone reduction more quickly or efficiently. It is not
>appropriate or legal to advocate for a program that is less effective than
>the federal program. It is appropriate that EPA deal with making the
>transition from the NOx MOU rules to the 110 SIP requirements go smoothly
>and efficiently. If the NOx MOU/OTC monitoring requirements are less
>stringent than the newly proposed federal language under the 110 SIP call,
>then we shouldn't be using them.
>
>No source should be part of the trading program if it is not monitored;
>therefore any and all sources that participate in trading must have the
>CEMs monitoring systems. Since pollution reduction is a cost of doing
>business, then it is appropriate for the monitoring system under the new
>rules to be more accurate and more efficient, even if it places additional
>costs.
>
>There should not be any exemption from applicable requirements for any
>diesel generator that is used for peak generation. Limiting hours of
>operation is not enough; without monitoring there can be no real
>enforcement of those limits.
>
>All monitoring requirements should be part of the Title V permit and
>therefore will be ultimately approved and enforced by EPA.

>
>We can not support the recommendation to DEP that it consult with OTC
>states and actually advocate for a less stringent program than EPA's
>proposed program. Any alternatives that do not meet EPA's minimum program
>requirements are unacceptable and will cause havoc with PA's program
>approval, and perhaps delay our submission or adequacy determination,
>thereby threatening a FIP/126 application in Pennsylvania.
>
>
>
>
>Section by Section Issues:
>
>§ 145.54 (d)(1) Deductions for Excess Emissions: It is vital that NOx
>emissions and ozone be reduced as quickly as possible, therefore, the
>Sierra Club supports this automatically applied penalty for an event where
>emissions exceed the allowances allocated to an applicable pollution
>source. It should be noted that the Clean Air Act has specific penalties
>that should be imposed for each day of the ozone season control period that
>a pollution source exceeds its known allocation.
>
>§ 145. 54 (d)(3)(i) : There is no legitimate reason why a pollution source
>violating its allocation for emissions and therefore its permit should not
>be fined for each and every day of violation. The Sierra Club supports a
>change to the regulatory language of this section which would delete the
>phrase, " ... unless the owners and operators of the unit demonstrate that a
>lesser number of days should be considered."
>
>§ 145. 54 (d)(3)(ii) : The Sierra Club supports this section that defines
>each ton of excess emissions, and in fact, any fraction thereof, as a
>separate violation.
>
>§ 145.55 Banking: The Sierra Club supports the progressive flow control
>concepts of this section.
>
>§ 145.55 (c)(10) Compliance Supplement Pool: This pool of allowances is
>distributed over and above the budget cap. Because this pool of allowances
>essentially "busts the cap", we do not support its distribution to affected
>sources, and we believe that these allowances should be retired. There
>should be no carryover from the NOx/MOU trading program to the 110 SIP call
>trading program.
>
>###
>
>Summary of Comments
>
>1. Any allowances banked within the 110 SIP call program should be retired
>by DEP/BAQ at the time of transition (May 1, 2003) to this new NOx
>reduction program under the 110 SIP call, controlled by Chapter 145.
>2. Banked allowances should be from Pennsylvania and from upwind sources.
>3. The Sierra Club supports regulatory language that will enhance the
>allocation to cleaner, less polluting sources and encourages the use of
>existing sites as long as there is no waiver from existing pollution
>clean-up and reduction requirements.
>4. Any trading program under the NOx 110 SIP call should involve a surplus
>and not a required emission reduction, and be a measurable, verifiable and
>enforceable program. This program should be enforced as part of the Title
>V permit program, and no general permits should be permitted. All
>participating sources should have CEM's.
>5. Include up to 15% of the total NOx budgeted allowances to be allocated
>to an energy set-aside program.
>6. For a viable trading program, CEM's should be required of all sources,
>there can be no inter-pollutant trading, and inter-state trades must ensure
>that there is no double counting.

>7. Diesel generators that are used during peak generation period should not
>be exempted from regulatory requirements and should have hours of operation
>limited only if they have CEM's to track compliance.
>8. No source should be part of the trading program if it is not monitored.
>All monitoring requirements should be part of the Title V permit and
>therefore will be ultimately approved and enforced by EPA. The Sierra Club
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>and actually advocate for a less stringent program than EPA's proposed
>program.
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>applicable pollution source. It should be noted that the Clean Air Act has
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>control period that a pollution source exceeds its known allocation.
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>considered."
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>violation.
>12. The Sierra Club supports the progressive flow control concepts of this
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>
>Respectfully Submitted,
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>
>cc: Mike Stibich
> Marilyn Skolnick
> EPA Region III

>COMMENTS TO THE EQB
>ON THE PROPOSED RULEMAKING FOR
>CHANGES TO THE STATE IMPLEMENTATION PLAN
>TO CONTROL NITROGEN OXIDE EMISSIONS
>
>Pennsylvania Bulletin 29 (10): 1319-1349, March 6, 1999
>By Nancy F. Parks
>
>Summary of Comments
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May 18, 1999

Via Hand Delivery and Electronic Submittal
Environmental Quality Board
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Re: Proposed Rulemaking –
Interstate OzoneTransport Reduction

Dear Chairman Seif and Members of the Environmental Quality Board:

ARIPPA hereby provides comments to the Board on behalf of its member companies concerning the proposed rulemaking governing emissions of nitrogen oxides ("NOx") from certain fossil fuel fired combustion units in Pennsylvania (the "Proposed Ozone Transport Rule"), proposed for codification at 25 Pa. Code Chapter 145. The Board published the proposed rulemaking in the Pennsylvania Bulletin on March 6, 1999. In addition to these formal comprehensive comments, ARIPPA has also included with this package a one page summary of its comments. We request that the summary be provided to each member of the Board in the agenda packet distributed prior to the Board meeting in which the final regulations will be considered.

ARIPPA recognizes that the Commonwealth faces significant time constraints in promulgating a regulation to satisfy the obligation imposed by the EPA under the federal Clean Air Act to revise Pennsylvania's state implementation plan ("SIP") with respect to NOx emission controls. For this reason, we understand that the Board has proposed to generally adopt the "Model Rule" for NOx controls drafted by EPA to ensure both that EPA's schedule will be satisfied and that the SIP revisions will be satisfactory to EPA. However, ARIPPA opposes certain aspects of EPA's Model Rule, as incorporated into the Proposed Ozone Transport Rule. In addition, ARIPPA opposes the Board's proposal to depart from EPA's Model Rule with respect to the methodology proposed for allocation.

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Summary

By way of summary, ARIPPA proposes that the Board modify the Proposed Ozone Transport Rule in the following respects:

1. The allocation scheme provided for in the Board's Proposed Ozone Transport Rule is based upon both an emission rate and the affected source's heat input. The proposed regulation would determine heat input for each affected source based upon a hierarchy of heat input data reported by the source. The proposed rule inappropriately establishes a conclusive preference for heat input data reported by each source within its annual emission reports. The emission reporting form is not designed to elicit accurate heat input data, but rather emission information. Individual sources have available sources of data that provide more accurate heat input information. The Proposed Ozone Transport Rule should allow for a case-by-case determination of appropriate sources of heat input data.

2. Like EPA's Model Rule, the Proposed Ozone Transport Rule provides for an initial allocation of NOx allowances to affected sources based upon heat input data recorded for the 1995 through 1997 ozone seasons. The Department's data for Pennsylvania's affected sources identifies inaccuracies in the heat input inventory maintained by EPA. Therefore, the Proposed Ozone Transport Rule should not merely incorporate inaccurate heat inventory information compiled by EPA, but rather base initial allowance allocations upon the Department's more accurate, source-specific information.

3. The monitoring scheme included within the Board's Proposed Ozone Transport Rule, consistent with EPA's Model Rule, imposes additional monitoring requirements upon affected sources. Specifically, in 1997, the Board promulgated NOx allowance regulations that impose NOx emission and monitoring obligations upon the same class of sources subject to the Proposed Ozone Transport Rule. EPA has represented that the EPA Model Rule (upon which the Board's Proposed Ozone Transport Rule is based) would impose no additional monitoring requirements upon affected sources relative to those imposed by the existing NOx Allowance Regulations. In fact, however, the Proposed Ozone Transport Rule would require sources that have recently incurred significant costs to comply with the Board's recent NOx Allowance Regulations to incur yet additional costs to comply with the Proposed Ozone Transport Rule. The Board's proposed regulation should be modified to ensure that the monitoring requirements under the Proposed Ozone Transport Rule are consistent with the requirements imposed under the existing NOx Allowance Regulations.

4. EPA's Model Rule would provide for an allocation of NOx Allowances to all regulated electric generating units based upon an emission rate of 0.15 lbs-NOx per million BTU ("MMBTU") of heat input. However, the Board's Proposed Ozone Transport Rule would reduce the allocation of NOx allowances for sources that are subject to a NOx permit rate less than 0.15 lbs/MMBtu. Thus, the Board's proposed rule departs from EPA's model rule by providing less favorable treatment to the cleanest sources in Pennsylvania subject to this proposed rulemaking.

This proposed allocation methodology has significant implications for the sources that will receive fewer allocations under the Board's Proposed Ozone Transport Rule relative to EPA's Model Rule. A reduction from a source's individual allocation of NOx allowances can be critical to the source's ability to operate. By contrast, this reduction in allowances to the limited number of clean sources affected by this modified allocation scheme will provide inconsequential benefits to the remaining sources in Pennsylvania in terms of increased allocations. In short, the methodology proposed by the Board within the Proposed Ozone Transport Rule, when compared to EPA's Model Rule, provides virtually no incremental benefits to the majority of sources in Pennsylvania, but provides a significant detriment to those few sources in Pennsylvania that are operating at the lowest NOx emission rates.

To the extent that the Board would determine that it is appropriate for Pennsylvania's Proposed Ozone Transport Rule to depart from EPA's Model Rule solely to reduce allowance allocations to the cleanest sources, then the Board's allocation methodology should be structured so as to ensure that the cleanest sources can operate at maximum capacity. Therefore, to the extent that the Board limits the allocation of allowances to the permitted emission rate for affected sources with allowable rates below 0.15 lbs/MMBtu, then the allocation to such sources should <u>not</u> be based upon past actual heat input levels, but rather upon the maximum operating capacity of such sources. In such case, the sources with extremely low permit rates -- the lowest NOx emitting sources subject to the program -- would receive sufficient allowances to operate at their maximum capacity, notwithstanding that the allocation provided to such sources would still be less than that recommended by EPA.

5. EPA's NOx SIP Call Rule provides for the distribution of NOx allowances to certain states, including Pennsylvania, from a state-specific compliance supplement pool, to assist such states in complying with the emission limitations imposed under the NOx SIP Call Rule. For states, such as Pennsylvania, implementing NOx allowance regulatory programs pursuant to the MOU, the NOx SIP Call Rule provides that allowances banked under the existing NOx Allowance Regulations may be carried forward by affected sources for use in complying with the respective state's ozone transport regulations. The Board and the Department should ensure that the Commonwealth's ozone transport regulatory program protects Pennsylvania sources in the determination of those banked NOx allowances which count against the Commonwealth's compliance supplement pool. ARIPPA recommends that the Commonwealth advocate to EPA that only those banked allowances held at the conclusion of 2002 in the authorized accounts of Pennsylvania-based affected sources should be aggregated against this cap.

<u>Background - ARIPPA</u>

ARIPPA is a trade association of twelve independent power producers ("IPPs") that operate electric generating plants in Pennsylvania. Each of the ARIPPA facilities generates electricity for sale at a generation rate in excess of 25 MWe. Collectively, the ARIPPA facilities

represent nearly 800 megawatts of electric capacity and represent a capital investment in Pennsylvania approaching $2.5 billion dollars.

Each of the ARIPPA facilities has been constructed within approximately the past decade and incorporates state-of-the-art, clean coal technology utilizing circulating fluidized bed, ("CFB") boilers. The CFB units are designed as inherently clean burning sources of electricity, and therefore emit air pollutants at significantly reduced rates relative to conventional fossil fuel-fired utility units.

In addition to reduced air emissions, these facilities provide additional environmental benefits to Pennsylvania. Each of the ARIPPA facilities burns waste coal piles as fuel sources. Therefore, these facilities clean up waste coal refuse from past mining activities, reclaim abandoned strip mines and address potential acid mine drainage problems at no cost to Pennsylvania taxpayers. Without the operation of these ARIPPA facilities, these waste coal piles would either remain throughout Pennsylvania's coal regions as both blights on the landscape and potential sources of water contamination, or require significant public outlays for cleanup. For these reasons, the Board's environmental regulatory programs should promote, rather than hinder, the operation of these facilities.

In fact, the Joint Legislative Air and Water Pollution Control and Conservation Committee of the Pennsylvania General Assembly has recognized the important role that waste coal-fueled IPPs serve in providing both economic and environmental benefits to Pennsylvania. Specifically, in March of 1997, the Joint Legislative Committee issued its report to the General Assembly that identifies, and emphasizes the need to recognize, the environmental benefits provided by these IPP facilities, including "improved water quality, land reclamation, and the elimination of health and safety hazards." The Committee Report further recognizes the economic benefits that these waste coal-fuel facilities provide to the local and state economy.

Perhaps most importantly in this context, the Committee Report includes a statement that the "[Joint Legislative] Committee supports the recent finding and recommendation of the Pennsylvania Public Utility Commission that says the environmental benefits provided by the waste coal industry should be factored into any decision concerning the future of these facilities."

From an economic standpoint, ARIPPA facilities have no way to pass on costs associated with new environmental compliance measures because the ARIPPA facilities are committed to long-term, fixed-price contracts. Congress has previously recognized the significance of these economic constraints in establishing clean air requirements. In particular, in enacting the acid rain provisions of the 1990 Federal Clean Air Act Amendments, Congress exempted independent power producers with existing contractual obligations from meeting the acid rain requirements. Congress endorsed this exemption both because of the economic constraints borne by the IPPs, and because Congress recognized that IPPs are clean and reliable sources of energy that should be encouraged by clean air legislation.

Comments on the Proposed Rulemaking

Through the NOx SIP Call Rule, EPA has imposed upon the states a very aggressive schedule for developing state regulations to implement programs designed to reduce NOx emissions contributing to interstate ozone pollution. In addition, consistent with the Clean Air Act, EPA has indicated that any state that fails to satisfy the aggressive SIP revision schedule will be subject to EPA's own federal implementation plan, known as the FIP. 40 C.F.R. Part 96. The FIP sets out a model regulation that EPA believes to be appropriate for implementing the required SIP revisions (the "EPA Model Rule").

Based upon the aggressive schedule imposed upon Pennsylvania by EPA in issuing the NOx SIP Call Rule, the Board and the Department have proposed a regulatory package that, in virtually all respects, is identical to the EPA Model Rule. The advantages of this approach are obvious: it minimizes the time required for formulating and drafting a proposed rule, and therefore greatly increases the probability that Pennsylvania can satisfy EPA's aggressive schedule; the approach contemplated by the EPA Model Rule is similar in many respects to the NOx Allowance Regulations promulgated by this Board based upon the MOU; and adoption by Pennsylvania of the EPA Model Rule virtually ensures that EPA will find Pennsylvania's SIP revision to be acceptable, and therefore avoid the application of federal sanctions against Pennsylvania. ARIPPA acknowledges these benefits; however, ARIPPA recommends that the Board implement changes to EPA's Model Rule to the extent necessary to ensure that the Proposed Ozone Transport Rule does not impose unnecessary or inequitable requirements upon Pennsylvania's affected sources. At the same time, ARIPPA opposes the Board's proposal to depart from EPA's Model Rule with respect to the methodology utilized for allowance allocations.

1. **Determination of Heat Input Data**

The Proposed Ozone Transport Rule provides for an initial allocation to all affected sources based upon the highest two years of heat input from among 1995, 1996 and 1997. While this scheme may be reasonable and equitable with respect to sources with an extended operating history that have achieved maximum anticipated operating capacity, the allocation methodology can result in a significant under-allocation of allowances to newer sources that may not have achieved maximum operating capacity level by 1995. Once again, these newest sources are necessarily the cleanest affected sources in the Commonwealth. The Board's regulatory scheme should not penalize these sources by providing a reduced allocation merely because such sources had not, by 1995, achieved full operational status. The OTC recognized these circumstances in developing the MOU by establishing a process through which a source could petition the OTC to grant additional source-specific allowances because of "exceptional circumstances" experienced by the source during the relevant baseline year.

Therefore, ARIPPA proposes that the Board modify the Proposed Ozone Transport Rule to provide the opportunity for a source to demonstrate that 1995, 1996 and 1997 did not include two representative years for that facility's expected operational levels. This regulatory provision

could impose a steep burden upon the respective source to justify its contention that the 1995 through 1997 period is unrepresentative of the facility's operations, and thereby limit the circumstances underwhich the Department would be required to make a source-specific determination of heat input data for allocation purposes.

In addition, proposed Section 145.42(a)(2) of the Proposed Ozone Transport Rule would set out a hierarchy of data categories from which an affected source is to determine its heat input levels. The heat input determination for the facility is critical since it has a direct relationship to the allocation of NOx allowances under the program.

Proposed Section 145.42(a)(2) sets out the requirement that affected sources that are not subject to federal acid rain provisions, such as all ARIPPA member facilities and industrial sources, must provide to the Department heat input data based on the "best available data". ARIPPA supports this approach. However, the provision then sets out a regulatory conclusion that data previously submitted to the Department within emission statements is "better" data than data collected by continuous emission monitors, which is in turn considered "better" data than other source-specific heat input data. ARIPPA disagrees with the presumption that emission statements necessarily provide "better" input data than other sources of information.

Specifically, the purpose of the emission statement is to report to the Department the quantity of emissions of regulated parameters -- not heat input data. To the extent that heat input information is included on the form, such information is based upon total throughput of fuel and the annual average heat input for the fuel source. While for certain fuel sources the annual average heat input value will closely reflect the heat input for the source at any time during the year, for coal fired sources, and notably for waste coal fired sources, heat input can vary significantly over shorter time periods. This variation in heat input results directly from the variability in the characteristics of the waste coal fuel source. The characteristics of the waste coal depend upon the individual waste coal source and may even vary within a waste coal pile. For this reason, the annual average heat input for a source, as reflected on the emission statement report, does not necessarily provide an accurate reflection of heat input for the shorter ozone season. Therefore, although the information included on the emission statement is accurate for the intended purpose of the emission statement, emission statement data does not necessarily provide an accurate representation of heat input for a source for the limited ozone season.

In addition, for certain sources, continuous emission monitoring data will provide "better" data than the heat input provided on annual emission statements. Equipment calibration requirements relevant to heat input determinations reported on emission statements are not as stringent as the calibration requirements for continuous emission monitoring systems. Accordingly, the heat input determined for purposes of emission statement reporting may not be as accurate as heat input determined as part of a continuous emission monitoring analysis. Moreover, the entire monitoring scheme upon which these NOx allocation programs are based is grounded in the requirement that each source must maintain continuous emission monitors for the determination of relevant parameters to ensure the accuracy of the collected data in support of effective and equitable allowance trading. The same arguments that support the use of

continuous emission monitoring for emission data likewise support the use of such systems in determining heat input for affected sources.

Most importantly, the "best available data" for a given source depends upon site-specific factors, and may be distinctly unique among the categories of data identified in the proposed regulation. Based upon these considerations, ARIPPA recommends that the Board modify the language of proposed Section 145.42(a)(2) to delete any regulatory conclusion or presumption as to the preference for certain categories of data for non-acid rain regulated sources. Instead, if the last sentence of proposed Section 145.42(a)(2) is deleted, then the regulation would appropriately require that heat input for each source must be determined based upon the best available data. Alternatively, the final sentence could be modified to merely identify the listed categories as possible sources of heat input data for an affected facility.

2. Baseline Heat Input Inventory

As described above, allocations under the Proposed Ozone Transport Rule to affected sources are based upon consideration of an applicable emission rate and relevant heat input data for all sources. Consistent with EPA's Model Rule, the Proposed Ozone Transport Rule would provide an initial allocation of allowances to affected sources based upon heat input data for the period of 1995 through 1997, inclusive.

EPA has assembled an inventory of all sources that would be affected by the NOx SIP Call Rule, utilizing information available to EPA relevant to heat input determinations. ARIPPA has reviewed the initial baseline inventories compiled by EPA relevant to the ARIPPA member facilities. EPA's baseline inventory includes numerous inaccuracies. For example, EPA's currently-available inventory includes inaccurate heat input data for most ARIPPA member facilities, and entirely omits an existing and operating ARIPPA member facility that would be subject to the Proposed Ozone Transport Rule. ARIPPA's individual members have provided extensive technical comments to both EPA and the Department in an effort to correct these inaccuracies.

By contrast, the Department has compiled and maintains far more extensive, accurate information concerning heat input and other relevant information for affected sources. For these reasons, ARIPPA recommends that the initial allocation of allowances to affected sources in Pennsylvania under the Proposed Ozone Transport Rule be based upon the more accurate data maintained by the Department, rather than by merely incorporating EPA's inaccurate baseline inventory.

3. Monitoring Provisions

As discussed above, the NOx Allowance Regulations previously promulgated by this Board include detailed monitoring provisions designed to ensure that affected sources will accurately track their NOx emission rates to allow for precise quantification of emissions and equalivalent trading of allowances. Those monitoring provisions were based, in large part, upon

monitoring provisions imposed upon electric generating units under the federal acid rain regulations.

Because the ARIPPA member facilities are not subject to the federal acid rain regulations, the monitoring implemented by the ARIPPA member facilities prior to the NOx Allowance Regulations was distinct from the monitoring contemplated under the acid rain regulations. Therefore, the ARIPPA member facilities expended significant money and effort to modify their monitoring systems in order to satisfy the NOx Allowance Regulations.

In promulgating the NOx SIP Call Rule, EPA contended that the monitoring provisions established under the EPA Model Rule would be consistent with the monitoring requirements imposed by the Northeastern states under the MOU. The proposed regulations currently before the Board mirror the EPA Model Rule with respect to monitoring issues. ARIPPA believes that the Board's proposal to adopt EPA's monitoring approach in this context is based, in large part, upon the belief that this new rulemaking package would not impose additional monitoring obligations upon affected sources that have only recently modified their monitoring systems in response to the Board's NOx Allowance Regulations.

In fact, the monitoring requirements set forth in EPA's Model Rule, and therefore in the Board's proposed rule, would, yet again, impose distinct monitoring requirements upon ARIPPA's member facilities. For example, the Proposed Ozone Transport Rule would impose distinct standards for the acceptable operational range for data analyzers and certain additional hardware requirements. These differences in monitoring requirements are not based on any environmental protection justification. Yet, these distinctions would require these facilities to spend additional effort and money to satisfy a new monitoring system. Further, because of these unnecessary system changes, affected sources must engage in the expensive and burdensome process of certifying the sufficiency of their monitoring systems -- a process that these same sources have only recently completed to comply with the NOx Allowance Regulations.

ARIPPA recommends that the Board modify the Proposed Ozone Transport Rule to specifically and literally incorporate the monitoring provisions of the NOx Allowance Regulation into this rule, in lieu of the monitoring approach set forth in the EPA Model Rule. Since EPA has stated that the monitoring provisions of the EPA Model Rule were intended to be consistent with the monitoring requirements adopted by the Northeastern states pursuant to the MOU, then EPA has no legitimate basis to oppose Pennsylvania's proposed SIP revision if the monitoring incorporated into the rulemaking currently before the Board is modified in order to be identical to that incorporated into the NOx Allowance Regulations.

4. Allocation Methodology

Although the Board's Proposed Ozone Transport Rule is identical to the EPA Model Rule in virtually all respects, the Proposed Ozone Transport Rule before the Board would provide fewer NOx emission allowance allocations to the cleanest affected sources in Pennsylvania than would the EPA Model Rule. Specifically, the EPA Model Rule provides for

the allocation to all affected electric generating units of allowances based upon demonstrated heat input over a several year period and a NOx emission rate of 0.15 lbs/MMBtu. This approach is clearly equitable, since the allocation of allowances to all electric generating units would be based upon an identical emission rate, and is consistent with other federal rulemaking activity establishing consistent NOx emission limitations for electric generating units. Yet, Pennsylvania's Proposed Ozone Transport Rule would depart from this equitable scheme by providing an allowance allocation based on a rate less than 0.15 lbs/MMBtu only for the cleanest sources in the Commonwealth. In particular, pursuant to proposed Section 145.42, if an affected electric generating unit operates so cleanly as to be subject to a permit rate for NOx emissions below 0.15 lbs/MMBtu, the source will receive an allowance allocation based only upon its permit rate. ARIPPA objects to this provision of the proposed rule on the basis that the Board should not depart from the EPA Model Rule only to impose upon the cleanest sources more stringent requirements than EPA has suggested.

Because the allocation under the Proposed Ozone Transport Rule is based not only upon an emission rate, but also upon past operating levels, the allocation of allowances to a source at greater than its permit rate need not result in an allocation of more allowances than the source could require for an ozone season. Those sources subjected to the most stringent permit-based emission limitations are necessarily the newest sources in Pennsylvania, and therefore have very limited operating histories. Typically, an electric generating unit requires many years of operation before it achieves its maximum operating capacity. Therefore, if the Board follows EPA's recommended approach and provides an allowance allocation to these new, clean sources based upon the 0.15 rate, although greater than their permit rate, then the Board would merely allow these sources to continue to increase their operational levels relative to their start-up years. This result would be favorable because the current rulemaking should promote, rather than hinder, the maximum operation of these cleanest sources.

In addition, as discussed above, the ARIPPA facilities combust waste coal piles as a fuel source. The characteristics of these waste coal piles can vary dramatically between piles, and even within piles. Therefore, the ARIPPA facilities can experience substantial variations in operating conditions depending upon the specific waste coal pile utilized as fuel. As a result of these potential variations, past operating data, upon which the proposed allocation to these ARIPPA facilities would be based, may not be representative of future operating conditions. Therefore, in order to allow these cleanest sources to maximize operation – and thereby produce electricity at the cleanest level for coal-fired sources – the allocation scheme should be based upon an emission rate of 0.15 lbs/MMBtu for all sources, even if the waste coal-fired source may be permitted at a lower rate.

Further, the allocation to these cleanest sources based upon an emission rate of 0.15 lbs/MMBtu rather than the permit rate has significant implications for these individual sources while having minimal impact upon the overall allocation scheme. Specifically, allocating allowances to a source based upon a rate of 0.15 rather than the permit rate would likely result in an additional allowance allocation to the source of less than 50 allowances per ozone season. For the individual source, these additional allowances can mean the difference

between operating at a higher capacity at its extremely low emission rate throughout the ozone season; however, the impact upon the remaining sources in Pennsylvania subject to the program would be insignificant - on the order of several allowances per source.

ARIPPA's proposed change to the Board's allocation scheme would also address another concern with the implementation of the Board's currently-proposed allocation method. Under the Board's currently-proposed scheme, an existing electric generating facility faces a significant disincentive to repowering -- construction of a new, replacement source of electricity -- relative to the option of merely modifying or otherwise controlling an existing source. Specifically, existing facility that installs control equipment, or otherwise modifies existing equipment to reduce NOx emissions, would continue to receive an allocation of NOx allowances based upon an emission rate of 0.15 lbs/MMBtu, even if the modifications and/or control technologies result in a NOx emission rate less than 0.15. By contrast, if the owner of the existing unit constructs an entirely new, state-of-the-art facility with an even lower emission rate, the facility owner will receive a NOx allowance allocation based upon its lower permitted rate. This disincentive to the construction of new, state-of-the-art replacement units should be removed from the Proposed Ozone Transport Rule. ARIPPA's proposal to incorporate the allocation scheme from the EPA Model Rule, and consistently allocate to all electric generating units based upon the 0.15 emission rate, would resolve this concern.

The Board's Proposed Ozone Transport Rule would also depart from the EPA Model Rule by extending the regulatory requirements to electric generating units that generate electricity at a rate between 15 MW and 25 MW. In general, ARIPPA does not support the extension of this regulatory program to sources beyond those governed by the EPA Model Rule. Most importantly in this context, ARIPPA states that Pennsylvania's Ozone Transport Rule should not be extended to apply to additional sources unless Pennsylvania's budget can be expanded to accommodate the emissions from these sources. In other words, Pennsylvania should not unilaterally include additional sources within this regulatory program if the same fixed quantity of NOx allowances available to Pennsylvania electric generating units must then be divided among a larger number of sources. Therefore, if additional sources are added to the program, the Pennsylvania budget should be correspondingly increased to account for these sources.

5. Management of the Compliance Supplement Pool

Separately, EPA's NOx SIP Call Rule provides for the distribution of NOx allowances to certain states, including Pennsylvania, from a state-specific compliance supplement pool, to assist such states in complying with the emission limitations imposed under the NOx SIP Call Rule. See 63 Fed. Reg. 57356, 57428. For states, such as Pennsylvania, implementing NOx allowance regulatory programs pursuant to the MOU, the NOx SIP Call Rule provides that allowances banked under the existing NOx Allowance Regulations may be carried forward by affected sources for use in complying with the respective state's ozone transport regulations. However, the NOx SIP Call Rule limits the quantity of banked allowances that may be carried forward from the existing NOx Allowance Regulations to the quantities of allowances included

in Pennsylvania's compliance supplement pool. Therefore, Pennsylvania may carry forward no more than 13,716 allowances banked under the existing NOx Allowance Regulations for application to the Proposed Ozone Transport Rule.

Unfortunately, the NOx SIP Call Rule provides virtually no guidance as to the determination of the specific allowances subject to this cap. It is possible that all banked allowances held by sources located in Pennsylvania at the conclusion of 2002 will be aggregated toward this limitation. It is also possible that the limitation will apply to all banked allowances held by any party, regardless of location, to the extent that such banked allowances were initially allocated to an affected source in Pennsylvania.

ARIPPA recommends that the Board and the Department work with EPA to ensure that this program is implemented in a consistent manner on a state-by-state basis in order to ensure that sources located in other affected jurisdictions do not gain a competitive advantage relative to sources located in the Commonwealth with respect to this "carry forward" issue. To the extent that the Commonwealth can specifically influence the determination of the appropriate methodology for this calculation, ARIPPA recommends that only those banked allowances held at the conclusion of 2002 in the authorized accounts of affected sources located in Pennsylvania should apply toward Pennsylvania's compliance supplement pool.

Conclusion

ARIPPA understands the basis for, and generally endorses, the Board's decision to propose a regulatory scheme that closely parallels the EPA Model Rule in order to ensure that the Commonwealth satisfies both the scheduling and substantive requirements imposed by EPA under the NOx SIP Call Rule. However, the Board should abandon the current hierarchy included in the Proposed Ozone Transport Rule concerning heat input data. The heat input data reported on an annual emission statement is not prepared for purposes of providing accurate heat input information, but rather for ensuring accurate emission reporting. The Board's regulations should allow for a source-specific determination of the most accurate and reliable heat input data used for allocation calculations.

Second, the initial allocation of NOx allowances to affected sources should also be determined based upon the most accurate data available to the Department. The Proposed Ozone Transport Rule should not merely incorporate, or otherwise rely upon, the inaccurate baseline inventory compiled by EPA as the basis for heat input data utilized in initial allowance allocations. Any expediencies afforded by that approach cannot justify the resulting inequities and inaccuracies in allocations.

Third, the Board should revise the proposed monitoring provisions of the Proposed Ozone Transport Rule. Specifically, the Board should ensure that this regulatory package does not impose yet another set of monitoring standards upon affected sources that only recently spent significant time and money to modify existing monitoring systems to comply with the NOx

Allowance Regulations. Instead, the Board should modify the Proposed Ozone Transport Rule to directly incorporate the monitoring provisions of the NOx Allowance Regulations.

Fourth, ARIPPA specifically opposes the Board's proposal to depart from the EPA's Model Rule only in the context of providing fewer NOx allowance allocations to the cleanest affected sources in the Commonwealth, relative to that proposed for allocation in EPA's Model Rule. The Board's program should not result in less favorable treatment for such sources relative to that proposed by EPA, merely because such sources operate at the lowest NOx emission levels. The Board should modify its proposed allocation scheme to provide for an equitable allocation methodology that consistently allocates NOx allowances to all affected electric generating units in the Commonwealth at a rate of 0.15, as proposed in the EPA Model Rule. To the extent that the Board nonetheless preserves its proposed allocation scheme and provides for a reduced allocation to the cleanest affected source in the Commonwealth, then the allocation should <u>not</u> be based upon such sources's historic heat input data, but rather upon the source's maximum operating capacity. The allocation of allowances in this matter would at least ensure that these very clean facilities can maximize operations.

Finally, the Board and the Department should ensure that the Commonwealth's ozone transport regulatory program protects Pennsylvania sources in the determination of those banked NOx allowances which count against the Commonwealth's compliance supplement pool. ARIPPA recommends that the Commonwealth advocate to EPA that only those banked allowances held at the conclusion of 2002 in the authorized accounts of Pennsylvania-based affected sources should be aggregated against this cap.

We appreciate this opportunity to provide these comments to the Board and look forward to continued active participation in this regulatory process.

Very truly yours,

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