



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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> burners or mid-kiln firing (63 FR 56416). The EPA projects that low-NO<sub>x</sub> 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.



we ask you to remember that When You Can't Breathe, Nothing  
Else Matters.

Sincerely,

Kathleen Fackler  
Chief Executive Officer  
American Lung Association of Pennsylvania  
6041 Linglestown Road  
Harrisburg, PA 17112-1208  
e-mail: [kfackler@alapa.org](mailto:kfackler@alapa.org)

INTERNATIONAL PAPER COMPANY  
SUMMARY OF WRITTEN COMMENTS  
OTR REGULATIONS

Original: 2009

Bush

cc: Smith  
Tyrrell  
Sandusky  
Legal

99 MAY 13 9:23  
RECEIVED  
COMMISSION

1. The Department should adopt EPA's 25 MW cutoff and sells electricity requirement for Electric-Generating Units (EGUs).
  - a. The 15 MW cutoff in the proposed OTR Regulations is much broader in scope than the 15 MW cutoff in the NO<sub>x</sub> Allowance Regulations and goes well beyond what is required or justified by EPA's SIP Call.
  - b. The Department has no technical basis to regulate units that serve generators smaller than 25 MW.
  - c. The Department has no technical basis to regulate non-EGUs as EGUs by failing to include the "sells electricity" requirement relied upon by EPA in determining Pennsylvania's budget.
  - d. Due to stricter applicability standards adopted by the Department in the OTR Regulations, the Erie Mill will have three additional boilers regulated, none of which has a rated design capacity that exceeds 250 MMBtu/hr, none of which alone can even generate 15 MW of power, and none of which are regulated by the existing NO<sub>x</sub> Allowance Regulations.
  - e. The cost to the Erie Mill to comply with the proposed 15 MW cutoff in the Pennsylvania OTR Regulations far exceeds the \$2,000 per ton of ozone season NO<sub>x</sub> reductions identified by EPA as highly cost effective.
  - f. The Department's adoption of stricter applicability standards contravenes the Pennsylvania Air Pollution Control Act, the Governor's Executive Order 1996-1 and the Regulatory Review Act.
  - g. International Paper recommends that Pennsylvania adopt the language used by EPA in its Final 126 Petition Rulemaking.
  - h. Alternatively, International Paper recommends the following language:

A unit that, any time on or after January 1, 1995, serves a generator with a nameplate capacity greater than or equal to 25 MW, and which produces electricity for sale under a firm contract to the electric grid.
2. The Department should include EPA's exemption for units willing to accept a 25-ton ozone season emission limit.
3. The Department should adopt EPA's deadline for submission of NO<sub>x</sub> Budget Permits.
4. The Department should apply the monitoring requirements of the OTR Regulations in a manner consistent with the NO<sub>x</sub> Allowance Regulations.

BUSH

COPIES: Smith  
Tyrrell  
Sandusky  
Legal

**Freeman, Sharon**

**From:** John Rohrbach [rohrbach@pafuture.org]  
**Sent:** Monday, May 10, 1999 4:03 PM  
**To:** DEP Reg Comments  
**Subject:** NOx SIP CALL COMMENTS from PENNFUTURE

99 MAY 14 PM 1:23

RECEIVED

"Comments may be submitted electronically to the EQB at [RegComments@dep.state.pa.us](mailto:RegComments@dep.state.pa.us). A subject heading of the proposal and return name and address must be included in each transmission. Comments submitted electronically must also be received by the EQB by May 10, 1999 (65 days from date of publication)."

John Rohrbach  
PennFuture  
212 Locust Street - Suite 410  
Harrisburg, PA 17101  
717.214.7923  
FAX214.7927  
[rohrbach@pafuture.org](mailto:rohrbach@pafuture.org)  
[ROHRBACH@paonline.com](mailto:ROHRBACH@paonline.com)

**Notice of Proposed Rulemaking  
Department of Environmental Protection  
Environmental Quality Board  
25 Pa. Code Chapters 123 and 145  
Interstate Ozone Transport Reduction**

**Comments of the Citizens for Pennsylvania's Future ("PennFuture")  
In Support of a 25 Pa. Code Chapter 145 and a Energy Efficiency  
and Renewable Energy ("EE/RE") Allocation  
as part of the NO<sub>x</sub> Budget Trading Program**

**I. Introduction**

Citizens for Pennsylvania's Future ("PennFuture") welcomes this opportunity to provide comments to the Environmental Quality Board's ("Board") proposed amendments to 25 Pa. Code Chapter 123 (standards for contaminants) and proposal to adopt a new 25 Pa. Code Chapter 145 (interstate ozone transport reduction). There is good reason for the Board to try to integrate a Renewable Energy/ Energy Efficiency ("EE/RE") program into the Commonwealth's environmental policy. As the Chairman and Chief Executive of ARCO said:

*We've embarked on the beginning of the Last Days of the Age of Oil. Nations of the world that are striving to modernize will make choices different from the ones we have made. They will have to. And even today's industrial powers will shift energy use patterns. So I believe it's time to prepare our selves for the "new look" of the energy industry of the 21<sup>st</sup> Century.<sup>1</sup>*

The Board should be commended for its response to the US Environmental Protection Agency ("EPA") NO<sub>x</sub> SIP Call, which requires 22 states and the District of Columbia to submit state implementation plans (SIPs) to address the regional transport of ground-level ozone through reductions in NO<sub>x</sub>. The Board's proposed regulations establish a program to limit the emission of nitrogen oxides (NO<sub>x</sub>) from fossil fired combustion units with rated heat input capacity of 250 MMBtu per hour or more and electric generating facilities of 15 megawatts or greater. This program, scheduled to begin in 2003 would replace the existing NO<sub>x</sub> allowance requirements contained at 25 Pa. Code Chapter 123. The SIP call requires that Pennsylvania and the other states in the SIP call region submit the SIP by September 1999 and that reduction measures be put in place by May 1, 2003.

---

<sup>1</sup> Mike R. Bowlin, Chairman and Chief Executive Officer, ARCO "Clean Energy: Preparing Today for Tomorrow's Challenges" Presented at Cambridge Energy Research Associates (CERA) 18<sup>th</sup> Annual Executive Conference: *Globality & Energy: Strategies for the New Millennium* February 9, 1999 <http://www.arco.com/spark/1999-02Cambridge/FullText.html>

To insure that the Pennsylvania NO<sub>x</sub> cap is met the DEP should take the lead and establish a state-wide forward market for legitimately achieved, beyond-“business as usual”(“BAU”)<sup>2</sup> EE/RE measures. PennFuture proposes that 10% of the allowances available after the new-growth set-aside be available for a EE/RE program similar to what included in the US Environmental Protection Agency’s guidelines.<sup>3</sup> PennFuture recommends that 10 percent, or 4,940 allowances from the state’s NO<sub>x</sub> budget for electricity generating units be reserved for use by companies, manufacturers, schools, hospitals, energy service companies, aggregators and others who invest in energy efficiency and renewable energy. By taking this step, Pennsylvania would join New York, Massachusetts, Missouri, and soon possibly Maryland, in creating a EE/RE program.

PennFuture’s proposal has little cost and a tremendous benefit going forward.<sup>4</sup> The reason the PennFuture proposal carries very little cost to the current allowance holders is that each year several hundred or several hundred seasonal emission allowances are banked and unused. Taking a small portion of the banked unused allowances and allowing them to be used by developers of EE/RE projects would allow these unused allowances to improve environmental quality while at the same time hold-harmless those who receive allowances in 2003. The DEP could forecast the likely banking of allowances for the 2003 and 2004 period and permit energy efficiency or renewable investment with those allowances. By 2003 however perhaps as much as 13,700 allowances will be banked by the current allowance recipients, leaving approximately 63,000 allowances to be used in 2003-2004 period. Out of these 63,000 allowances, the DEP could reserve 4940 seasonal-tons (10% of 49,400 tons) for EE/RE purposes, and the developers of those projects could sell allowances certified by DEP to be genuinely beyond BAU in Pennsylvania-only market the following year. This proposal would have the effect of creating the extra incentives necessary for EE/RE while

---

<sup>2</sup> Defining what is not “business as usual” will require attention. Awarding allowances to energy efficiency projects that are expected to occur without the EE/RE program may work against the goals of (1) encouraging the implementation of additional energy efficiency measures that otherwise would not occur and (2) lowering the cost of compliance with the NO<sub>x</sub> cap. Questions about how much data will be necessary to certify an improvement in EE will have to be answered. There exists a trade-off between the level of certainty associated with the verification of the EE measure and the resulting load reduction and participation in the EE/RE program. If the “verification” cost is excessive, fewer otherwise worthy projects will participate in the EE aspect program. However, because the NO<sub>x</sub> cap will ensure that total NO<sub>x</sub> emissions are not exceeded, it is not necessary to expend an endless amount of resources to ensure that the EE project is not BAU. However, to maximize emission reductions it is necessary to be as accurate as possible in determining whether a project is BAU or not.

<sup>3</sup> “Guidance on Establishing an Energy Efficiency and Renewable Energy (EE/RE) Set Aside in the NO<sub>x</sub> Budget Trading Program” Office of Atmospheric Programs, Office of Air and Radiation, USEPA, March 1999.

<sup>4</sup> An additional reason why the cost of an EE/RE program is not costly is that the cost of meeting the NO<sub>x</sub> SIP call is likely to be included in each electric utility’s stranded cost award from the Public Utility Commission. When it is recognized that there will be several thousand banked allowances available in 2003, the EE/RE program’s costs are not costly.

allowing Chapter 145 to be implemented with no increase in the unit cost for 2003' allowance-holders.

PennFuture also notes that its EE/RE proposal would not require changing the algorithm used by the EPA to set allowance budgets. As such the EE/RE proposal is fully consistent with the desire to maintain all legal defenses.

Reasons to support PennFuture's proposal include:

Energy Savings/Economic Vitality: -- An EPA analysis of the economic benefits of linking a 5 percent NOx allowance to EE/RE investments throughout the SIP Call Region (22 states and the District of Columbia) estimates that approximately \$5 billion in savings on energy bills by 2003 and emissions compliance costs by \$150 million over the same time frame will occur. It would also create 20,000 jobs. Applied to Pennsylvania, this would mean that a program to reserve 10 percent of the state's NOx allowances would generate 2,250 jobs, save \$750,000,000 on energy bills and result in over \$18 million in compliance cost savings here in Pennsylvania.

CO<sub>2</sub> Reduction: -- the positive impacts of energy efficiency and renewable on carbon emissions. We believe that linking 4,940 allowances — each allowance equal to 1 ton of NOx emissions — would reduce NOx emissions statewide by 3,700 tons. According to our analysis, total electric consumption could be expected to decline by almost 10 billion kilowatt-hours. Finally, the allowances could provide enough new demand for renewable energy to create 300 megawatts of new renewable generation by 2003.

PennFuture recommends that allowances be allocated to participants by application on a first-come first-served basis, provided that all other eligibility criteria have been met. Applications for allowances could be received prior to the start of the energy efficiency improvement project or at the time that allowances are to be allocated (if allocation is delayed until after implementation and demonstration of load reduction). The advantage of accepting and reviewing applications prior to the start of a project is that the implementing entity's application can be reviewed, their eligibility confirmed, and their expected future allowance allocation reserved

An important part of the approach outlined here is in data collection. New Jersey's Measurement Protocol for Commercial Industrial and Residential Facilities, for instance, lists monitoring and verification methodologies by project type and also provides procedures for developing new monitoring and verification methods. Pennsylvania can develop a similar protocol. We hope the Board will agree.

## II. Requested Comments

The Board is specifically requesting comments in four areas:

1. EPA's emission budget calculation and model trading rule allow NO<sub>x</sub> allowances banked under the NO<sub>x</sub> Allowance Requirements at 25 Pa. Code §123.110(a)(3) to be transitioned for use as banked allowances under this proposed rule. This is one of the authorized uses of the supplemental compliance pool established by the EPA rule. The amount of the bank is established at §145.55(c)(10). Under §145.55(c)(9), these banked allowances can only be used in 2003-2004. *The Board is requesting comment on whether to allow the use of banked allowances from the existing program, as authorized by the EPA rule, or whether to use the supplemental compliance pool for other purposes. In addition, the Board requests comment on how to determine the number of banked allowances, i.e., should the bank only include allowances created in Pennsylvania, should the bank authorize the use of allowances created in other states and sold to companies located in Pennsylvania or should some other more appropriate process be used.*

As stated above PennFuture urges the Board to recognize that the supplemental compliance pool can be used as the allowance base for awarding allowances to genuinely non-BAU energy efficiency and renewable projects.

2. Sections 145.42(b)(1) and (c)(1) use the lower of the EPA model rule emission limitation or any more restrictive allowance emission rate to be used to calculate allowances provided to each NO<sub>x</sub> budget unit. This provision is more restrictive than the EPA model rule and results in less allowances being provided to units that meet lower emission limits than provided by the EPA budget calculations. This primarily affects newer units and those recently modified (including repowered sources) that have very low allowance emission levels established. The AQTAC had concerns about this approach. *The Board is specifically requesting comments on whether to use the approach contained in the proposed rulemaking, the approach included in the EPA model rule or some other alternative approach.*

PennFuture endorses the Board's proposed rulemaking in this regard. PennFuture notes that the DEP will not have to adjust the EPA's IPM modeling in any fashion other than to make a pro-rata reduction to accommodate the EE/RE program described herein.

3. The proposed rulemaking includes electric generating units of 15 MW or greater in the NO<sub>x</sub> trading program. This is the cutoff established by the NO<sub>x</sub> Allowance Requirements in Sections 123.101-123.120. The EPA budget calculations and model rule includes only electric generating units of 25 MW or greater as part of the trading program. *The Board is requesting input on what level of electric generation is appropriate for regulation under the Pennsylvania rule.*

PennFuture endorses the 15mW cutoff included in the Board's proposal.

4. Both the EPA model rule and the proposed rulemaking incorporate the trading program into the Department's existing permit program contained in Chapter 127. *The Board seeks input on integrating the trading program into the existing plan approval and operating permit program so as to create as few additional administrative requirements as possible.*

PennFuture believes that trading of the NO<sub>x</sub> allowances is a central component in meeting the NO<sub>x</sub> cap in a least cost fashion. In encouraging incremental load reductions, a EE/RE program will help to reduce the cost of compliance under the NO<sub>x</sub> cap. The holder of an allowance awarded through a EE/RE program will be able to sell that allowance in the market. The DEP may wish to consider establishing a clearing-house for Pennsylvania-created allowances and for buyers located in the Commonwealth needing allowances that are used in the EE/RE set-aside.

### **III. Conclusion**

PennFuture believes that integrating an EE/RE program as part of Pennsylvania's SIP call is sound public policy with little downside. PennFuture hopes the Board will agree that it sets out sensible, affordable and attainable goals that will improve the quality of our natural resources, protect the public's health and improve the competitiveness of Pennsylvania's economy.

Interstate Ozone Transport Reduction Hearing  
April 6, 1999

RECEIVED  
99 APR 20 AM 8:31

Testimony of International Paper Company  
Presented by  
Mark J. Shaw, Esq.  
MacDonald, Illig, Jones & Britton LLP  
100 State Street, Suite 700  
Erie, PA 16507-1498

ADVISORY  
COMMISSION

ORIGINAL: 2009  
MIZNER  
COPIES: Smith  
Tyrrell  
Sandusky  
Legal

I am presenting this testimony on behalf of International Paper Company. International Paper has a pulp and paper mill in Erie, Pennsylvania which is significantly impacted by Pennsylvania's proposed Interstate Ozone Transport Reduction Regulations ("OTR Regulation"). International Paper's Erie facility is comprised of pulp, paper making and converting operations and employs approximately 900 people. It is one of the largest industrial employers in Erie County, Pennsylvania. The Erie Mill has several sources which would be significantly affected by the OTR Regulation.

The main purpose of this testimony is to respond to the Environmental Quality Board's ("the Board") request for comments on whether the OTR Regulation should include electric-generating units of 15 MW or greater despite the fact that EPA is requiring only that electric-generating units of 25 MW capacity or greater be included.

As an initial matter, in its request for comments, the Board appears to imply that the 15 MW "cutoff" in the OTR Regulation is the same "cutoff established by the NO<sub>x</sub> Allowance Requirements;"

however, this implication is not supported by the language used in the OTR Regulation. The NO<sub>x</sub> Allowance Regulation applies to "all fossil fuel-fired electric-generating sources rated at 15 megawatts or greater." In contrast, the OTR Regulation applies to "A unit that, . . . , serves a generator with a nameplate capacity greater than or equal to 15 MW." (Emphasis added). The use of the term "serves" in the OTR Regulation significantly expands the scope of the OTR Regulation beyond the scope of the NO<sub>x</sub> Allowance Regulations. For instance, the NO<sub>x</sub> Allowance Regulations apply only to fossil fuel-fired units which generate 15 MW of electricity; however, the proposed OTR Regulation would apply to any fossil fuel-fired unit connected to a 15 MW generator, regardless of how much power that individual unit actually can generate. This expanded definition has significant impacts on the Erie Mill, and goes well beyond what is required by EPA's SIP call.

Under its SIP call, EPA is requiring 22 states and the District of Columbia to regulate units that serve 25 MW generators and that sell electricity. EPA, in developing its Model Rule, determined that 25 MW was an appropriate size cutoff. It based this determination on a number of factors. First, EPA determined that emissions from sources below 25 MW are not significant as compared to sources above 25 MW. Second, EPA determined that the 25 MW level was consistent size-wise with a 250 MMBtu/hr unit, which is a type of source also covered by the SIP call. Third, EPA wanted

to maintain consistency between the NO<sub>x</sub> Budget Trading Program and the Title IV monitoring requirements which already use a 25 MW cutoff level. This consistency reduces the economic impact of EPA's SIP call because units covered by the Title IV monitoring requirements already are equipped with the costly monitoring equipment which is required under the SIP call. Fourth, the financial impact on a per ton reduction basis is significant on sources below 25 MW as compared to larger sources. For example, unlike the larger sources, most smaller sources do not have the required Continuous Emissions Monitors ("CEMS"), which can cost several hundred thousand dollars per unit. In the Erie Mill's case, under the language proposed by the Department, it would need to install CEMS on three additional units solely because they serve one generator which exceeds 15 MW. Lastly, EPA determined that including units of less than 25 MW creates significant administrative burdens on the owner/operator of the unit as well as the regulatory agency.

In summary, EPA has determined that only highly cost-effective NO<sub>x</sub> reductions are necessary at this time (i.e., those at \$2,000/ton or less) and that controlling sources below 25 MW will not be highly cost-effective. More importantly, EPA has specifically determined that once the reductions envisioned in the model rule are achieved, NO<sub>x</sub> emissions will not significantly contribute to ozone nonattainment, or interfere with ozone maintenance by a downwind

state. Thus, controlling beyond what is prescribed by EPA will provide minimal benefit to meeting or attaining the National Ambient Air Quality Standards for Ozone. Despite EPA's determinations, the Department proposes to expand the scope of the OTR Regulation to include units that serve 15 MW generators.

EPA also has concluded that its SIP call should apply only to 25 MW electrical generators which sell electricity. The key here is EPA's definition of what constitutes a source that sells electricity. EPA defines sources selling electricity as those sources "listed as sources that sell power under contract to the electric grid using the electric generation forecasts of the North American Electric Reliability Council." 63 F.R. 71223. Sources that are on this list have entered into specific contracts with utilities to sell power when the utilities require it. In the vernacular of the electric generation market, this is known as a sale of capacity. The utilities rely upon this capacity availability to satisfy regulatory requirements imposed upon them regarding the amount of electric generation they must have available to meet demands. During the ozone season when demand is often greatest, utilities use these capacity sources to meet peak demands. Thus, the need to regulate NO<sub>x</sub> emissions from such sources is clearly evident.

In contrast, there also are sales of electricity known as the sale of energy. Energy sales are not, and cannot be, relied upon by utilities to satisfy their capacity requirements, nor can a utility require such sales. Typically, sales of energy occur when an industrial user happens to generate more electricity than it can consume at a given time. In Pennsylvania, sales of energy are regulated by PUC-approved tariffs, not negotiated contracts. Sales of energy are not the kind of electricity sales intended to be covered by EPA's SIP call. It is these types of "sales" that the Erie Mill incurs. Ironically, the Erie Mill typically experiences these sales outside of the ozone season when its steam demands are highest.

EPA's "sells electricity" requirement is a critical component to its SIP call. It ensures that sources rated less than 250 MMBtu/hr which serve electric generators, but which are not utility based are not regulated under this part of the SIP call. For the same reasons discussed above, the benefit of controlling such sources is outweighed by the significant costs associated with such control. Again despite EPA's determination, the Department has not included this "sells electricity" requirement in its Regulation and has accordingly expanded the scope of the OTR Regulation to include all 15 MW units which generate electricity, rather than just those which sell electricity for capacity.

The Department decision to expand the scope of the OTR Regulations beyond EPA requirements violates Executive Order 1996-1 issued February 6, 1996 by Governor Thomas J. Ridge which prohibits Pennsylvania regulations from exceeding federal standards in a manner not justified by a compelling and articulable Pennsylvania interest or required by state law, and which also prohibits regulations which hamper Pennsylvania's ability to compete effectively with other states.

As described above, the scope of sources regulated by the proposed OTR Regulations exceed the scope of sources regulated under EPA's SIP call by applying the Regulation to units that serve 15 MW generators and eliminating the electricity sale requirement.

The Department has offered no compelling or articulable Pennsylvania interest or state law which justifies exceeding the standards in the EPA SIP call. Although the Ozone Transport Commission concluded in 1996 that controlling 15 MW generating units would cost-effectively reduce ozone, EPA, after substantial additional modeling and analysis, has concluded that controlling 25 MW generating units is the most cost-effective way to reduce ozone, and that imposing the cost of control on smaller units simply is not supported by the evidence at this time. We can discern no compelling or articulable Pennsylvania interest or state law which contradicts EPA's more educated decision. In fact, EPA

has determined that by solely controlling the sources it has identified, states will be able to meet National Ambient Air Quality Standards for Ozone. Thus, there is no legal or technical basis to control beyond those sources.

International Paper also is greatly concerned that Pennsylvania's proposed Regulation will place Pennsylvania at a significant disadvantage in competing effectively with other states in attracting new business and, more importantly, in retaining existing businesses in Pennsylvania. Pennsylvania is in the unenviable position of having several neighboring states which are subject to the EPA SIP call, but which were not subject to the NO<sub>x</sub> Allowance Regulation. Many of these neighboring states, including Ohio and West Virginia, have challenged EPA's SIP call as unnecessary. It can be safely presumed that these states will not implement Regulations more strict than EPA has promulgated. In fact, Michigan has proposed its SIP call Regulations which appear even more lenient than EPA's 25 MW applicability standard. Thus, Pennsylvania clearly will be at a competitive disadvantage to Michigan and most likely will be at a competitive disadvantage to every other non-OTC state which must implement the SIP call, including states such as Ohio, West Virginia, Wisconsin and Virginia.

It also is likely that Pennsylvania will be at a competitive disadvantage to even other OTC states. For instance, in July of 1998, New Jersey adopted NO<sub>x</sub> control regulations in anticipation of EPA's SIP call. New Jersey's Regulations apply only to 15 MW generating units, not to units that serve 15 MW generators. Thus, Pennsylvania is proposing regulations that would be more strict than New Jersey. It is difficult to imagine that other OTC states would follow Pennsylvania's lead and require stricter regulations than their sister western and southern states. Thus, Pennsylvania risks having the most stringent NO<sub>x</sub> regulations in the nation under its current proposal. This clearly will put Pennsylvania at a competitive disadvantage, which also puts the Erie Mill at a competitive disadvantage. The proposed Regulation will discourage businesses from coming to Pennsylvania and encourage businesses already located in Pennsylvania to leave.

As mentioned above, the proposed OTR Regulation would have a significant impact on the Erie Mill. Presently, the Erie Mill has only one boiler subject to the NO<sub>x</sub> Allowance Regulation due to its heat rate exceeding 250 MM Btu/hr; however, under the proposed Regulations, three (3) additional boilers, all with a heat rate of less than 250 MMBtu/hr and none of which individually can generate 15 MW, will be covered by the OTR Regulation due to the fact that each will "serve a 15 MW generator" through a common steam header. The cost per ozone season ton reduction for these three separate

units is staggering, and far exceeds the \$2,000 per ozone season ton reduction used by EPA in determining whether a control would be highly cost-effective. Depending upon how the Erie Mill may decide to achieve compliance, the Erie Mill estimates that its cost of control per ton of NO<sub>x</sub> reduced in the ozone season (based on actual usage as opposed to maximum usage), will be approximately \$8,500 to \$21,700 per ton. Even if you assume NO<sub>x</sub> reductions based on maximum output, the cost ranges from \$6,300 to \$12,600 per ton. These costs severely impede the Erie Mill's ability to operate competitively.

The Erie Mill does not anticipate that the availability of allowances will help its predicament. As the Department may recall, during the Hearing for the NO<sub>x</sub> Allowance Program, the Erie Mill predicted that the cost of NO<sub>x</sub> Allowances would be between \$5,000 - \$10,000 per ton despite the claim that it would only cost utilities \$500 per ton to control. Presently, NO<sub>x</sub> Allowances are trading at \$6,600/ton. Given that the monitoring system costs alone exceed \$2,000 per ozone season ton reduction, the total cost of relying on allowances is nearly \$9,000 per ton. Clearly, these are the exact kinds of costs, together with the lack of benefits, which led to EPA's decision to exclude units such as those at the Erie Mill from inclusion in the program. Given EPA's expressed uncertainty of the exact impact of ozone transport and the most

effective ways to assure downwind attainment, the imposition of such costs cannot be justified.

International Paper appreciates the dilemma that Pennsylvania, and the other OTC states, are in because EPA's SIP call established 25 MW as the cutoff, whereas the OTC model rule adopted a 15 MW cutoff. However, given the significant additional modeling and analysis performed by EPA to support its SIP call, Pennsylvania must be aware that such modeling and analysis undercuts the OTC's decision to use a 15 MW cutoff. Accordingly, International Paper recommends that the Department adopt the applicability language recommended by EPA in its SIP call, and regulate only units that serve 25 MW generators or larger.

MJS/485436

Writer's Direct Dial Number  
(814) 533-8811

May 7, 1999

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

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

Dear Environmental Quality Board:

***Subject: GPU, Inc. Comments to Proposed Regulations and Amendments for  
Interstate Ozone Transport Reduction (25 PA Code Chs. 123 and 145)***

Following are the comments of GPU, Inc. and its subsidiaries GPU Generation, Inc., GPU Energy and GPU Nuclear Corporation, to the Pennsylvania Department of Environmental Protection's proposed amendments on Chapter 123 and proposed Chapter 145. These extremely important proposals implement U.S. EPA's Section 110 Nitrogen Oxides State Implementation Plan Call (NO<sub>x</sub> SIP Call).

### **General Comments**

#### **Issue:**

Proposed Chapter 145 incorporates changes and provisions which prevent the "seamless" transition from Chapter 123 regulations. Chapter 123 regulations implement the nitrogen oxide (NO<sub>x</sub>) reductions specified in the Ozone Transport Commission's NO<sub>x</sub> Memorandum of Understanding (OTCMOU). The proposed Chapter 145 implements the NO<sub>x</sub> SIP Call and will supercede Chapter 123.

#### **Recommendation:**

A "seamless transition can be accomplished by changing the proposed Chapter 145, as recommended in the section specific GPU, Inc. comments. These changes would reward the sources which are achieving NO<sub>x</sub> emissions reductions in Pennsylvania. Alternatively, the program could be implemented by modifying the existing Chapter 123 regulations to incorporate the NO<sub>x</sub> SIP Call budget and federally proposed allocation methodology.

**Discussion:**

Proposed Chapter 145 contains provisions which clearly demonstrate the EPA model rule was developed with little consideration of the NO<sub>x</sub> emission reduction programs already in place in the Ozone Transport Region (OTR). EPA had originally proposed a "seamless" transition from one program to the next. To accomplish this, the proposed Chapter 145 must be modified. Changes recommended in the section specific comments will better provide for an effective program that minimizes significant costs otherwise associated with transition to a smaller NO<sub>x</sub> budget.

**Issue:**

Unless the adoption of Pennsylvania's nitrogen oxides (NO<sub>x</sub>) emission reduction program is contingent on the adoption of similar programs in other states, the economy of Pennsylvania will be negatively affected.

**Recommendation:**

A contingency provision should be included in proposed Chapter 145 which requires broad participation by a majority of states before amending current NO<sub>x</sub> regulations (Chapter 123) and proposing superceding NO<sub>x</sub> regulations (Chapter 145).

**Discussion:**

Eight (8) states have filed Petitions for Review of the NO<sub>x</sub> SIP Call in the D. C. Circuit Court of Appeals. Additionally, affected states which are not located in Ozone Transport Region (OTR) have issued public policy statements regarding their intention to implement alternate, less stringent NO<sub>x</sub> control programs in response to the NO<sub>x</sub> SIP Call. If there are not comparable NO<sub>x</sub> control programs in other states, there will be significant economic disadvantage to Pennsylvania. This is especially true with the restructuring of the electrical generation and supply businesses. Since generators of electricity in Pennsylvania must bid a price at which they are willing to sell their electricity, generators in other states without comparable pollution control programs would likely be able to underbid Pennsylvania generators. This would be a competitive disadvantage to the generators of electricity, and to the providers of fuels, raw materials and services. This proposal is consistent with Connecticut and Massachusetts restructuring legislation which requires participation by three states with a total population of 23 million before certain provisions become effective.

Importantly, a clear demonstration of the lack of commitment of some states to implement these types of emission reduction programs occurred in the Ozone Transport Region. Maryland, Delaware, New York and Massachusetts only recently issued final regulations implementing the previously agreed to NO<sub>x</sub> emission reductions specified in the Ozone Transport Commission NO<sub>x</sub> Memorandum of Understanding (OTCMOU). Maryland was so late in issuing their final regulations that upon litigation it was found by the court that the regulations were so late that no NO<sub>x</sub> emission reduction will be required in 1999. Additionally, the Commonwealth of Virginia has never signed the OTCMOU or proposed regulations to implement the NO<sub>x</sub> reductions specified in the OTCMOU. As a result, in the

1999 ozone season Pennsylvania generators will be at a competitive disadvantage compared to other generators in some areas in the OTR as well as compared to electric generators located outside the OTR.

**§ 145.2 Definitions:**

**Issue:**

The definition of CEMS requires a permanent record of NO<sub>x</sub> emissions expressed as tons per hour. This record is not part of the Electronic Data Report (EDR) version 2.0 which will be used to report emissions under the existing Chapter 123. EDR version 2.0 records pounds per hour of NO<sub>x</sub> emitted which is adequate to develop a record of NO<sub>x</sub> emitted during the ozone season.

**Recommendation:**

The definition should be changed to require "a permanent record of emissions which allow the calculation of ozone NO<sub>x</sub> emissions expressed as tons." This would eliminate the need for any further modification the EDR version 2.0.

**Issue:**

The definition of "NO<sub>x</sub> allowance transfer deadline" defines November 30 as the date by which transfers must be made to ensure accounts are adequately funded for a discrete ozone season.

**Recommendation:**

Change the date to December 31. This is the deadline specified under the existing Chapter 123 regulations, which is consistent with the OTCMOU.

**§ 145.4 Applicability**

**Issue:**

Proposed § 145.4(1) identifies electrical generation units greater than or equal to 15 MWe as affected sources.

**Recommendation:**

Follow the federally proposed applicability requirements which specifies greater than 25 MWe sources as being affected. This is consistent with the April 23, 1999 recommendation of the Air Quality Technical Advisory Committee (AQTAC) to PaDEP.

**Discussion:**

The proposed Chapter 145 is more stringent than the EPA model rule which establishes 25 MWe generators as affected sources. This was done in the proposed Chapter 145 to mimic the OTCMOU - Chapter 123 requirements. However, the Chapter 145 requirements require emission reduction not required under Chapter 123. In fact, all the non-boiler units specified

in § 145.4 (1), regardless of size, are not required to make any reductions from their 1990 NO<sub>x</sub> emission levels under the OTCMOU and Chapter 123. They are however, allocated allowances consistent with the 1990 ozone season NO<sub>x</sub> mass emissions. Consequently, affecting units as small as 15 MWe will require significant reductions from very small units or require them to purchase very expensive allowances, assuming they are available.

**Issue:**

The EPA regulations identify "nameplate capacity" as the maximum output when not restricted by seasonal or other deratings.

**Recommendation:**

Since this is an ozone season program, the "nameplate capacity" should be identified as the summer rating which is provided to an electric interconnection dispatching system (i.e. PJM interconnect).

**Discussion:**

EPA's nameplate capacity definition clearly does not recognize the need to identify a specific temperature to rate a combustion turbine (CT). The MWe output and the amount of heat input to a CT can vary significantly over a full range of ambient temperatures. To best represent the seasonality of the program, the summertime capacity rating identified to a recognized electric interconnection dispatching system.

**§ 145.6 Standard Requirements**

**Issue:**

§ 145.6(e)(i),(ii),(iii) and (iv) specify data and records which must be kept on site at the source.

**Recommendation:**

This is unnecessary and may be inconsistent with various management structures. Therefore, the requirements should specify that records and data should be made available upon request.

**§ 145.30 Compliance Certification Report**

**Issue:**

§ 145.30(a) specifies a deadline of November 30.

**Recommendation:**

The deadline should be changed to December 31, consistent with the Chapter 123.

**§ 145.42 NO<sub>x</sub> Allowance Allocation**

**Issue:**

§ 145.42(a)(i) uses the average of the two highest years for 1995, 1996 and 1997 to establish NO<sub>x</sub> allowance allocations for 2003, 2004 and 2005. Because of other requirements, 1995 may not be a representative year for some sources.

**Recommendation:**

The years used to establish the two year average heat input should be expanded to include 1998.

**Discussion:**

Reasonably available control technology (RACT) was implemented by May 31, 1995, on sources in the OTR. As a result, there is a significant possibility that 1995 ozone season capacity was affected negatively. This information is readily available and should be used. This is an example of how the early reduction program under the Chapter 123 could economically disadvantage Pennsylvania generators without changing the proposed Chapter 145.

**Issue:**

Proposed § 145.42(b)(1) does not adequately allocate NO<sub>x</sub> allowances to new or repowered units.

**Recommendation:**

This section should incorporate the April 23, 1999 unanimous recommendation of the Air Quality Technical Advisory Committee (AQTAC) to follow the EPA model rule allocation methodology.

**Discussion:**

The EPA allocation methodology is appropriate for numerous reasons. Most importantly, it establishes consistency and uniformity among all affected areas. Simply stated, an area using the EPA allocation proposal will reward, and consequently attract new, lower emitting, more efficient electric generation facilities. The proposed § 145.42(b)(i) actually provides a disincentive to construction of new or repowered facilities by allocating a minimal number of NO<sub>x</sub> allowances to those sources while providing an incentive for "life extension" projects of existing sources which install NO<sub>x</sub> emission controls.

The suggested recommendation is also consistent with the policies supporting development of "Brownfield" sites as repowered or reconstructed facilities are not NO<sub>x</sub> allocation disadvantaged compared to existing units which install pollution control equipment.

### **§ 145.54 Compliance**

**Issue:**

Proposed § 145.54(d)(1) requires the surrender of three allowances for each ton of excess emissions.

**Recommendation:**

Because of the very small NO<sub>x</sub> budget, this section should be modified to require the surrender of one allowance for each ton of excess emission. This recommendation is consistent with EPA's Acid Rain Program allowance surrender requirements.

**Discussion:**

This section proposes the surrender of three allowances for each excess ton of NO<sub>x</sub> emitted. While this is consistent with the OTC Model Rule and Chapter 123, this is not a reasonable provision due to its potential effect on a viable trading market due to greatly reduced NO<sub>x</sub> budgets. For example, if for some reason (eg. unavailability of nuclear powered generating facilities) certain units must run at an abnormally high capacity factor and allowances are unavailable to account for emissions, the 3:1 surrender ratio could cause a severe market disruption. A one for one deduction is appropriate to account for the excess emissions. Penalties will be imposed based on the number of excess tons and violation days. Quite simply, the small budget is such a constraint on emissions and the potential for those units to have unused allowances to "bank," this provision is unnecessary and unreasonable.

**Issue:**

Every day of the ozone season and every ton of excess emission is a separate violation.

**Recommendation:**

Determine the number of days for which insufficient allowances are available and specify that number to represent the number of violations.

**Discussion:**

Proposed § 145.54(d)(3)(i) and (ii) section are unreasonably punitive. If a unit surrenders even one allowance less than the NO<sub>x</sub> tons emitted during the ozone season, that unit is potentially subject to 154 separate violations (153 days ozone season plus one of excess emission). Each of these violations is subject to a potential penalty of \$25,000 with a total potential penalty of \$3,850,000.00.

A much more reasonable, but adequately punitive approach, would be to determine the number of days during an ozone season for which insufficient NO<sub>x</sub> allowances are surrendered. This number should represent the number of violations. Additionally, future NO<sub>x</sub> allocations should be deducted at a ratio of one NO<sub>x</sub> allowance for every one ton of excess emissions. Surrender of future NO<sub>x</sub> allowances should not be excessive due to the

limited number of allowances in the NO<sub>x</sub> budget. Excessive future allowance surrender has the potential to create future inability to comply by reducing the size of the Pennsylvania, as well as, regional NO<sub>x</sub> budget. These problems can be avoided by using the following strategy:

1500	= Available NO <sub>x</sub> allowances at "true-up"
1600	= Tons of actual ozone season NO <sub>x</sub> emissions
September 19	= Last day on which all NO <sub>x</sub> emissions are fully accounted with NO <sub>x</sub> allowances.
No. of violations	= 11 (September 20 - September 30)
Surrendered No. of future allowances	= 100
Potential Penalty	= (11) (\$25,000) = \$275,000.00 plus the loss of 100 future allowances at a value of \$5,000-\$7,500 each (\$500,000 - \$750,000)

#### **§ 145.55 Banking**

##### **Issue:**

If the "regional" bank of NO<sub>x</sub> allowances exceeds 10% of the total "regional" NO<sub>x</sub> budget, each unit bank is limited to a limited number of "banked" allowances which can be used at a 1:1 ratio.

##### **Recommendation:**

Because of the very small NO<sub>x</sub> budgets, all banked NO<sub>x</sub> allowances should be eligible for use at 1:1 ratio.

##### **Discussion:**

Proposed § 145.55 (b) (3) incorporates the "Progressive Flow Control" provision included in the OTC Model rule and Chapter 123. GPU opposes these provisions because this level of conservatism is unnecessary. The state budget is so small that the budget itself will limit inter-temporal trading. Progressive flow control will also constrain inter-company trading and cause higher prices for allowances. This occurs because the more allowances maintained in a "bank," the greater the number of banked allowances from that bank which can be used at a 1:1 ratio. Consequently, no facility would want to trade away any allowances. The potential use of some allowances at a 2:1 ratio further restricts the market because under these provisions, it is unlikely a facility will reach a "comfort level" relative to the number of allowances in their bank. Finally, the proposal inappropriately reduces the number of useable allowances in small banks when the 2:1 ratio requirement will be triggered by the number of allowances in large banks.

**Issue:**

Limitations are established on the method to calculate early reductions and the ultimate number of unused NO<sub>x</sub> allowances which can be transferred from the Chapter 123 program into the proposed Chapter 145 program.

**Recommendation:**

Allow all "banked" NO<sub>x</sub> allowances from the Chapter 123 to transfer into the proposed Chapter 145 Program as an incentive to maximize reductions under the existing Chapter 123 regulations.

**Discussion:**

The proposed § 145.55(c) is a complicated section that does not appropriately recognize or reward the OTR sources which are reducing NO<sub>x</sub> via RACT implementation in 1995 and will make further reductions through Chapter 123 requirements in 1999 through 2002.

If PaDEP truly wants to reward the units that are achieving significant NO<sub>x</sub> emission reductions, the proposed rule should be modified to allow all "banked" NO<sub>x</sub> allowances under Chapter 123 to move forward into the NO<sub>x</sub> SIP call program (Chapter 145).

Although EPA has specified a compliance supplement pool of 13,716 allowances, this is an inappropriate limit as it removes incentive to maximize controls under Chapter 123. The opportunity to carry forward all "banked" allowances not only provides incentives to sources, but also helps to develop the market and reduces the economic effect of the new, more stringent emission reduction requirements. These proposed changes are consistent with the EPA's acid rain program.

**§ 145.70 General Monitoring Requirements**

**Issue:**

The monitoring requirements in the proposed Chapter 145 are significantly different from those in Chapter 123. These differences will result in the surrender of allowances for emissions which never occur. They also will require sources compliant with Chapter 123 to expend significant additional time and resources for software and hardware with no commensurate increase in the accuracy of the data.

**Recommendation:**

The proposed regulations should incorporate the monitoring requirements set forth in §123.108 of the Department's regulations. These requirements were taken from the Ozone Transport Commission (OTC) "NO<sub>x</sub> Model Rule." The "Model Rule" was developed by a stakeholder group consisting of state regulators, EPA, environmental groups and industry representatives.

**Discussion:**

The monitoring requirements of this section are significantly different than those required by Chapter 123. The proposed Chapter 145 relies on the new 40 CFR 75.19. The specific problem with that section is the unit-specific default NO<sub>x</sub> emission rates for low mass emitter units.

In Part 2, (G) of the "Guidance for Implementation of Emission Monitoring Requirements for the NO<sub>x</sub> Budget Program" ("Guidance Document"), incorporated into Chapter 123 by the Department, oil and gas fired peaking units (e.g. simple-cycle combustion turbines) are permitted to use a tested NO<sub>x</sub> "default" emission rate. Coupled with long-term fuel flow measurement, this provides a cost effective emission monitoring method for NO<sub>x</sub> monitoring and reporting. Page 17 of the "Guidance Document" specifies that the average NO<sub>x</sub> emission rate be used as the "default" value. This "default" emission rate includes the average of a series of peak load tests of a single unit or, multiple "identical units." This involves averaging the peak load NO<sub>x</sub> rates for a number of units to calculate a default rate that all units would use for reporting for all "identical units." This is consistent with the language that requires representative testing of multiple units to have a NO<sub>x</sub> emission rate within 10% of the average of all units tested.

Revised Part 75, Section 75.19 (c)(1)(iv)(C) (1, 2, 3, 4, 5 and 6) not only requires the use of the highest NO<sub>x</sub> test run conducted using Appendix E procedures (by fuel) for any and all units (as opposed to the average of all peak load tests for all "identical units"), but then requires that this highest peak value of all runs to be multiplied by 1.15 (15% "increase") to create a default emission rate to be used for NO<sub>x</sub> emission reporting. For units with "add-on" controls, the regulations would require the use of 0.15 Lb/mmBtu as the default even if actual NO<sub>x</sub> rates are significantly lower.

These requirements create the following problems:

- a.) Combustion turbines operate at base load conditions almost exclusively. Appendix E requires a test series at four load conditions, including "peak" load. GPU Genco test data show that NO<sub>x</sub> defaults generated at peak load are approximately 10% higher than same day base load NO<sub>x</sub> emission rates (see attached Table 1). The language in 75.19 will require future tests to follow Appendix E procedures including peak load runs unless both the state and EPA can be convinced that base load testing is more representative. Additionally, if only a default value is being developed, and not an Appendix E NO<sub>x</sub> vs. load curve, single load testing is all that is required. Data submitted to EPA shows that the highest NO<sub>x</sub> rate always occurs at the highest load. This is consistent with the formation of NO<sub>x</sub> during the combustion process and is reasonable. Unless EPA has data which show combustion processes that produce more NO<sub>x</sub> at reduced load, single load testing (either base or peak load) is all that should be required for sources which are only establishing default NO<sub>x</sub> rates.

- b.) By using the highest NO<sub>x</sub> run of all units tested (by fuel), then multiplying that value by 1.15, a default value is developed that is almost 30% greater than same day base load NO<sub>x</sub> emission rates (see attached Table 1). Table 1 was developed from test data from simple cycle combustion turbines located in Pennsylvania. EPA justified the 15% "multiplier" to the highest peak load value by reviewing CEMS data from uncontrolled combustion turbines that were acid rain affected. The dilemma for non-acid rain affected units is that EPA reviewed annual data and concluded that NO<sub>x</sub> rates are highly variable. NO<sub>x</sub> can vary greatly on a seasonal basis (e.g. July vs. January) but will not show great variability within the control period. Language should be included to exempt non-acid rain affected sources from using the 1.15 multiplier because they are required to report emissions only during the May through September period. The use of peak load test data for defaults increases the reported value 10 % above measured same day base load emissions but the 15 % multiplier will increase reported NO<sub>x</sub> rates almost 30% over typical base load operating conditions.
- c.) The requirement to employ the highest measured NO<sub>x</sub> rate tested is inconsistent with the language in 75.19 (c)(1)(iv)(B)(3) requiring all tested units to be within 10% of the average NO<sub>x</sub> rate of all "identical units" tested. Obviously this language was borrowed from the OTC NO<sub>x</sub> Budget Program. However, unlike the OTC Guidance Document which specifies that the average NO<sub>x</sub> rate be used as a default, the requirement to use the highest rate makes the "identical units" testing criteria meaningless. If forced to use the highest rate of all test runs at all units, there is no reason to require other units emissions to be within 10% of the average NO<sub>x</sub> rate. The language in these sections should be changed to read "the average of all units tested" instead of the highest rate at any unit.
- d.) Neither acid rain affected nor non-affected units that choose to develop and employ an Appendix E NO<sub>x</sub> vs. load curve (regardless of the time of year the curve is developed) are required to accommodate seasonal variations or increase the values along the curve by 15%. This is a significant disadvantage to sources using the less costly default method. Units following the OTC Guidance Document procedures to develop NO<sub>x</sub> defaults are already over-reporting because the average NO<sub>x</sub> rate measured at peak load is used to represent all operating scenarios, including base load and operations below base load. If sources using Appendix E NO<sub>x</sub> vs. load curves are not required to accommodate the effect of seasonal ambient conditions, sources already employing an inherently conservative approach should not be required to accommodate seasonal ambient conditions. To be consistent, EPA should eliminate the requirement to multiply NO<sub>x</sub> peak load defaults by 1.15, for non-acid rain affected units which are not required to report emissions which occur outside the ozone season.
- e.) The language in 75.19 (c)(1)(iv)(C)(4, 5 and 6) for low mass emission units with "add on" controls which requires a unit or groups of units that achieve an emission rate below 0.15 Lb/mmBtu to use 0.15 Lb/mmBtu as their default provides a powerful disincentive for sources to achieve high levels of control. Importantly, reductions in the NO<sub>x</sub> emission

rate below 0.15 lbs NO<sub>2</sub>/mmBtu will not be recognized in the quarterly report. If a unit controls to an emission rate less than 0.15 lbs. NO<sub>2</sub>/mmBtu, the actual test data that documents this level of performance should be used. This language should be deleted as it demotivates those sources that can achieve the highest level of NO<sub>x</sub> control by providing no value to the additional emission reduction.

Additional problems stem from 75.19 (c)(3)(ii)(D) and (E) concerning long term fuel flow measurement calculations. This language requires the measurement of specific gravity and the calculation of heat input using equation LM-2 or the defaults in Table 5. For non-acid rain affected sources, there is no need to measure or record specific gravity of fuel oil as oil consumption is recorded as gallons and the calorific value is reported as Btu per gallon. The heat input to the unit can then be determined by multiplying the oil consumed and the calorific value of oil.

Further deviation from the specifications of the OTC "Guidance Document" also creates problems for sources that are using CEMS to meet 40 CFR Part 60 or Chapter 139 monitoring requirements. These sources have invested significantly in upgrading data acquisition and handling system hardware and software to comply with the Chapter 123 requirements. Any deviation from Chapter 123 monitoring requirements under proposed Chapter 145 means these sources will need to make additional expenditures to satisfy the new requirements. This has been identified as a "cost of doing business," however, it is an unnecessary cost as it does not improve the representativeness of the emissions data.

Consequently, it is strongly recommended that proposed Chapter 145 use the monitoring requirements in Chapter 123. Use of these monitoring requirements solves all of the problems associated with the monitoring provisions of proposed Chapter 145.

#### **§ 145.90 Emission Reduction Credit Provisions**

**Issue:**

Proposed § 145.90(b) contains language which inappropriately restricts the generation of emission reduction credits (ERCs) which are necessary for the construction or modification of major stationary sources in Pennsylvania.

**Recommendation:**

Delete the proposed § 145.90(b) and make the necessary citation corrections.

**Discussion:**

This provision is virtually identical to § 123.118 and consequently, contains the same problems. Based on the provisions of § 145.90(c) and (d) which address the separation of allowances and emission reduction credits (ERCs) when transferred to another NO<sub>x</sub> budget unit and the retirement of allowances when transferred to non-NO<sub>x</sub> budget units, this provision is unnecessary and completely inappropriate. In fact, this provision (§ 123.118)

has prevented the transfer of NO<sub>x</sub> ERCs from a retired affected source to a new affected source. Importantly, "banking" is a mechanism to preserve allowances which are unused and therefore, is a historical perspective of emissions. ERCs, on the other hand, are a future authorization to construct and, for non-budget sources, emit. NO<sub>x</sub> budget sources will not only need ERCs to authorize emissions, those sources will also need NO<sub>x</sub> allowances to account for ozone season emissions.

This section must be corrected by deleting § 145.90 (b) and making the necessary citation changes.

**§ 145 Subchapter B. Emissions of NO<sub>x</sub> From Stationary Reciprocating Internal Combustion Engines.**

**Issue:**

Subchapter B of the proposed regulation sets prescriptive emission concentration standards for internal combustion engines that can not be satisfied via the NO<sub>x</sub> trading program

**Recommendation:**

The definition at §145.101(d) should be revised to focus solely on operating hours, per each diesel generator. Following is suggested exemption language:

*§145.101(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.*

**Discussion:**

The major potential impact of proposed Subchapter B to the electric generation industry is its treatment of diesel generators. Low capacity diesel generators should be exempt from the requirements of Subchapter B and the NO<sub>x</sub> SIP Call program.

Diesel generators are very small (e.g. usually in a range between 1 and 4 megawatts). They are utilized primarily to provide a source of electric power to power plants during times of real or potential loss of the normal electric supply used to operate the plant and its equipment. During such times of, diesel generators can be used for a variety of purposes, including the safe shut-down/operation of the power plant they support, or to provide electric power to start the power plant if it is not operating. Diesel generators located at fossil generating plants may also directly or indirectly, supply electric power to the grid during periods of real or potential power grid failure. Their operation with regard to power grid support during periods of potential grid difficulty may also be subject to PJM mandated operating requirements.

Regardless of their specific use, diesel electric generators operate at very low capacity factors (generally well under 5%). Many diesel generators are also permit restricted to a 5%, or other very low, capacity factor as part of their NOx RACT permits. Absent an emergency event during the ozone season, the majority of diesel generator NOx emissions are usually associated with periodic reliability testing which may take place for one, or several, hours on a weekly or monthly basis. Ozone season NOx mass emissions per emergency diesel generator are typically extremely small. Consequently, post-combustion NOx emission controls for electric diesel generators would be extremely costly in comparison to emission controls at other sources. Estimated costs to control diesel generators are as much as \$30,000 per ton removed - far in excess of the cost of any other EPA NOx control requirements

In its proposed March 6, 1999 regulation, DEP added new language to the Applicability section of Subchapter B at §145.101(d) which we believe was intended to provide an exemption for diesel generators. However, GPU believes that in its current form, it may not allow sufficient flexibility to exempt the electric diesel generators. For example, the currently proposed definition seems to only allow for operation of diesel generators when there is a "catastrophic failure of the primary electrical power source for the facility". As suggested in the above discussion, this is only one potential operating scenario.

GPU believes that the only eligibility constraint for gaining an exemption from the subchapter under §145.101(d) should be on the number of operating hours permitted during the ozone control period.

Thank you for the opportunity to comment on these extremely important proposals.

Sincerely,

Vincent J. Brisini  
Environmental Manager Air Quality

**GPU, INC.**

**SUMMARY OF COMMENTS TO PROPOSED REGULATIONS AND AMENDMENTS FOR  
INTERSTATE OZONE TRANSPORT REDUCTION (25 PA CODE CHS. 123 AND 145)**

**ORIGINAL: 2009/BUSH**

**E-MAIL FORWARDED TO: Smith, Tyrrell, Sandusky, Legal**

**General Comments**

**Issue:**

Proposed Chapter 145 incorporates changes and provisions which prevent the "seamless" transition from Chapter 123 regulations. Chapter 123 regulations implement the nitrogen oxide (NO<sub>x</sub>) reductions specified in the Ozone Transport Commission's NO<sub>x</sub> Memorandum of Understanding (OTCMOU). The proposed Chapter 145 implements the NO<sub>x</sub> SIP Call and will supercede Chapter 123.

**Recommendation:**

A "seamless transition can be accomplished by changing the proposed Chapter 145, as recommended in the section specific GPU, Inc. comments. These changes would reward the sources which are achieving NO<sub>x</sub> emissions reductions in Pennsylvania. Alternatively, the program should be implemented by modifying the existing Chapter 123 regulations to incorporate the NO<sub>x</sub> SIP Call budget and federally proposed allocation methodology.

**Issue:**

Unless the adoption of Pennsylvania's nitrogen oxides (NO<sub>x</sub>) emission reduction program is contingent on the adoption of similar programs in other states, the economy of Pennsylvania will be negatively affected.

**Recommendation:**

A contingency provision should be included in the proposed Chapter 145 which requires broad participation by a majority of states before amending current NO<sub>x</sub> regulations (Chapter 123) and proposing superceding NO<sub>x</sub> regulations (Chapter 145).

**§ 145.2 Definitions:**

**Issue:**

The definition of CEMS requires a permanent record of NO<sub>x</sub> emissions expressed as tons per hour. This record is not part of the Electronic Data Report (EDR) version 2.0 which will be used to report emissions under the existing Chapter 123. EDR version 2.0 records pounds per hour of NO<sub>x</sub> emitted which is adequate to develop a record of NO<sub>x</sub> emitted during the ozone season.

**Recommendation:**

The definition should be changed to require "a permanent record of emissions which allow the calculation of ozone NO<sub>x</sub> emissions expressed as tons." This would eliminate the need for any further modification the EDR version 2.0.

**Issue:**

The definition of "NO<sub>x</sub> allowance transfer deadline" defines November 30 as the date by which transfers must be made to ensure accounts are adequately funded for a discrete ozone season.

**Recommendation:**

Change the date to December 31. This is the deadline specified under the existing Chapter 123 regulations, which is consistent with the OTCMOU.

**§ 145.4 Applicability**

**Issue:**

Proposed § 145.4(1) identifies electrical generation units greater than or equal to 15 MWe as affected sources.

**Recommendation:**

Follow the federally proposed applicability requirements which specifies greater than 25 MWe sources as being affected. This is consistent with the April 23, 1999 recommendation of the Air Quality Technical Advisory Committee (AQTAC) to PaDEP.

**Issue:**

The EPA regulations identify "nameplate capacity" as the maximum output when not restricted by seasonal or other deratings.

**Recommendation:**

Since this is an ozone season program, the "nameplate capacity" should be identified as the summer rating which is provided to an electric interconnection dispatching system (i.e. PJM interconnect).

**§ 145.6 Standard Requirements**

**Issue:**

§ 145.6(e)(i),(ii),(iii) and (iv) specify data and record which must be kept on site at the source.

**Recommendation:**

This is unnecessary and may be inconsistent with various management structures. Therefore, the requirements should specify that records and data should be made available upon request.

**§ 145.30 Compliance Certification Report**

**Issue:**

§ 145.30(a) specifies a deadline of November 30.

**Recommendation:**

The deadline should be changed to December 31, consistent with the Chapter 123.

**§ 145.42 NO<sub>x</sub> Allowance Allocation**

**Issue:**

§ 145.42(a)(i) uses the average of the two highest years for 1995, 1996 and 1997 to establish NO<sub>x</sub> allowance allocations for 2003, 2004 and 2005. Because of other requirements, 1995 may not be a representative year for some sources.

**Recommendation:**

The years used to establish the two year average heat input should be expanded to include 1998.

**Issue:**

Proposed § 145.42(b)(1) does not adequately allocate NO<sub>x</sub> allowances to new or repowered units.

**Recommendation:**

This section should incorporate the April 23, 1999 unanimous recommendation of the Air Quality Technical Advisory Committee (AQTAC) to follow the EPA model rule allocation methodology.

**§ 145.54 Compliance**

**Issue:**

Proposed § 145.54(d)(1) requires the surrender of three allowances for each ton of excess emissions.

**Recommendation:**

Because of the very small NO<sub>x</sub> budget, this section should be modified to require the surrender of one allowance for each ton of excess emission. This recommendation is consistent with EPA's Acid Rain Program allowance surrender requirements.

**Issue:**

Every day of the ozone season and every ton of excess emission is a separate violation.

**Recommendation:**

Determine the number of days for which insufficient allowances are available and specify that number to represent the number of violations.

### **§ 145.55 Banking**

**Issue:**

If the "regional" bank of NO<sub>x</sub> allowances exceeds 10% of the total "regional" NO<sub>x</sub> budget, each unit bank is limited to a limited number of "banked" allowances which can be used at a 1:1 ratio.

**Recommendation:**

Because of the very small NO<sub>x</sub> budgets, all banked NO<sub>x</sub> allowances should be eligible for use at 1:1 ratio.

**Issue:**

Limitations are established on the method to calculate early reductions and the ultimate number of unused NO<sub>x</sub> allowances which can be transferred from the Chapter 123 program into the proposed Chapter 145 program.

**Recommendation:**

Allow all "banked" NO<sub>x</sub> allowances from the Chapter 123 to transfer into the proposed Chapter 145 Program as an incentive to maximize reductions under the existing Chapter 123 regulations.

### **§ 145.70 General Monitoring Requirements**

**Issue:**

The monitoring requirements in the proposed 25 PA Chapter 145 are significantly different from those in PA Chapter 123. These differences will result in the surrender of allowances for emissions which never occur. They also will require sources compliant with Chapter 123 to expend significant additional time and resources for software and hardware with no commensurate increase in the accuracy of the data.

**Recommendation:**

The proposed regulations should incorporate the monitoring requirements set forth in Chapter 123.108 of the Department's regulations. These requirements were taken from the Ozone Transport Commission (OTC) "NO<sub>x</sub> Model Rule." The "Model Rule" was developed by a stakeholder group consisting of state regulators, EPA, environmental groups and industry representatives.

### **§ 145.90 Emission Reduction Credit Provisions**

**Issue:**

Proposed § 145.90(b) contains language which inappropriately restricts the generation of emission reduction credits (ERCs) which are necessary for the construction or modification of major stationary sources in Pennsylvania.

**Recommendation:**

Delete the proposed § 145.90(b) and make the necessary citation corrections.

### **§ 145 Subchapter B. Emissions of NO<sub>x</sub> From Stationary Reciprocating Internal Combustion Engines.**

**Issue:**

Subchapter B of the proposed regulation sets prescriptive emission concentration standards for internal combustion engines that can not be satisfied via the NO<sub>x</sub> trading program

**Recommendation:**

The definition at §145.101(d) should be revised to focus simply on operating hours, per each diesel generator. Following is suggested exemption language:

*§145.101(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.*

TABLE 1

**OTC NOx Budget Default NOx Rate vs EPA SIP Call NOx Default Rate**

ORIGINAL: E-MAIL TO	2009 Smith	BUSH Tyrrell	Sandusky	Legal		Avg. Peak Vaue	OTC Rate % Above Base Load	Highest Peak Value	EPA SIP Value Highest x 1.15	EPA SIP Value % Above Base Load
Site	Unit	Fuel	Low	Mid	Base					
Titus	4	gas	0.111	0.205	0.245	0.273	11.4	0.275	0.316	29.1
Titus	4	oil	0.224	0.436	0.548	0.549	0.2	0.550	0.633	15.4
Titus	5	gas	0.179	0.241	0.318	0.371	16.7	0.376	0.432	36.0
Titus	5	oil	0.346	0.462	0.512	0.597	16.6	0.601	0.691	35.0
Hunterstown	1	oil	0.293	0.381	0.558	0.623	11.6	0.631	0.726	30.0
Hunterstown	2	gas	0.142	0.219	0.281	0.316	12.5	0.338	0.389	38.4
Hunterstown	3	gas	0.153	0.223	0.301	0.335	11.3	0.338	0.389	29.1
Hunterstown	3	oil	0.287	0.417	0.553	0.621	12.3	0.631	0.726	31.2
Orrtanna	1	oil	0.250	0.407	0.593	0.656	10.6	0.692	0.796	34.2
Hamilton	1	oil	0.257	0.433	0.632	0.683	8.1	0.692	0.796	25.9
Mountain	1	gas	0.203	0.261	0.368	0.394	7.1	0.395	0.454	23.4
Mountain	1	oil	0.393	0.461	0.651	0.718	10.3	0.725	0.834	28.1
Mountain	2	gas	0.186	0.250	0.361	0.391	8.3	0.395	0.454	25.8
Mountain	2	oil	0.370	0.465	0.646	0.703	8.8	0.725	0.834	29.1
Warren	1	gas	0.189	0.251	0.399	0.431	8.0	0.434	0.499	25.1
Warren	1	oil	0.332	0.466	0.733	0.775	5.7	0.783	0.900	22.8
<b>NOx Rate % Increase Over Base Load =</b>							<b>10.0</b>			<b>28.7</b>

**Kim Garner**

**From:** vbrisini@gpu.com  
**Sent:** Tuesday, May 11, 1999 10:20 AM  
**To:** IRRRC@irrc.state.pa.us  
**Subject:** GPU, Inc. Comments to Proposed Regulations and Amendments for Interstate Ozone Transport Reduction (25 PA Code Chs. 123 and 145)

ORIGINAL: 2009/BUSH

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

Attached are the comments of GPU, Inc and it's subsidiaries to the subject proposal.

If you have any questions or would like to discuss these comments, please call me at 814-533-8811.

Vince Brisini

----- Forwarded by Vince Brisini on 05/11/99 10:16 AM

---

tcarr@gpu.com on 05/07/99 01:11:26 PM

**To:** RegComments@dep.state.pa.us  
**cc:** (bcc: Vince Brisini)  
**Subject:** GPU, Inc. Comments to Proposed Regulations and Amendments for Interstate Ozone Transport Reduction (25 PA Code Chs. 123 and 145)

Attached below are the comments of GPU, Inc. and its subsidiaries to the above proposals. A copy was also sent via overnight mail (Monday-AM delivery).

Vincent J. Brisini  
GPU Generation, Inc.  
1001 Broad Street  
Johnstown, PA 15906

(See attached file: vjb428c.doc)  
VJB430C.xls)

(See attached file: vjb430c.doc)

(See attached file:



Mac Word 3.0



Mac Word 3.0



Microsoft Excel 97



99 MAY 14 PM 1:27

REVIEW COMMISSION

ORIGINAL: 2009  
BUSH  
COPIES: Smith  
Tyrrell  
Sandusky  
Legal

GPU Generation, Inc.  
1001 Broad Street  
Johnstown, PA 15907  
Tel 814-533-8111

Writer's Direct Dial Number  
(814) 533-8811

May 7, 1999

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

Dear Environmental Quality Board:

***Subject: GPU, Inc. Comments to Proposed Regulations and Amendments for Interstate Ozone Transport Reduction (25 PA Code Chs. 123 and 145)***

Following are the comments of GPU, Inc. and its subsidiaries GPU Generation, Inc., GPU Energy and GPU Nuclear Corporation, to the Pennsylvania Department of Environmental Protection's proposed amendments on Chapter 123 and proposed Chapter 145. These extremely important proposals implement U.S. EPA's Section 110 Nitrogen Oxides State Implementation Plan Call (NO<sub>x</sub> SIP Call).

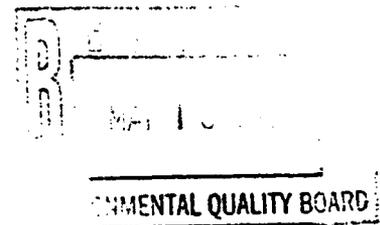
### **General Comments**

#### **Issue:**

Proposed Chapter 145 incorporates changes and provisions which prevent the "seamless" transition from Chapter 123 regulations. Chapter 123 regulations implement the nitrogen oxide (NO<sub>x</sub>) reductions specified in the Ozone Transport Commission's NO<sub>x</sub> Memorandum of Understanding (OTCMOU). The proposed Chapter 145 implements the NO<sub>x</sub> SIP Call and will supercede Chapter 123.

#### **Recommendation:**

A "seamless transition can be accomplished by changing the proposed Chapter 145, as recommended in the section specific GPU, Inc. comments. These changes would reward the sources which are achieving NO<sub>x</sub> emissions reductions in Pennsylvania. Alternatively, the program could be implemented by modifying the existing Chapter 123 regulations to incorporate the NO<sub>x</sub> SIP Call budget and federally proposed allocation methodology.



**Discussion:**

Proposed Chapter 145 contains provisions which clearly demonstrate the EPA model rule was developed with little consideration of the NO<sub>x</sub> emission reduction programs already in place in the Ozone Transport Region (OTR). EPA had originally proposed a "seamless" transition from one program to the next. To accomplish this, the proposed Chapter 145 must be modified. Changes recommended in the section specific comments will better provide for an effective program that minimizes significant costs otherwise associated with transition to a smaller NO<sub>x</sub> budget.

**Issue:**

Unless the adoption of Pennsylvania's nitrogen oxides (NO<sub>x</sub>) emission reduction program is contingent on the adoption of similar programs in other states, the economy of Pennsylvania will be negatively affected.

**Recommendation:**

A contingency provision should be included in proposed Chapter 145 which requires broad participation by a majority of states before amending current NO<sub>x</sub> regulations (Chapter 123) and proposing superceding NO<sub>x</sub> regulations (Chapter 145).

**Discussion:**

Eight (8) states have filed Petitions for Review of the NO<sub>x</sub> SIP Call in the D. C. Circuit Court of Appeals. Additionally, affected states which are not located in Ozone Transport Region (OTR) have issued public policy statements regarding their intention to implement alternate, less stringent NO<sub>x</sub> control programs in response to the NO<sub>x</sub> SIP Call. If there are not comparable NO<sub>x</sub> control programs in other states, there will be significant economic disadvantage to Pennsylvania. This is especially true with the restructuring of the electrical generation and supply businesses. Since generators of electricity in Pennsylvania must bid a price at which they are willing to sell their electricity, generators in other states without comparable pollution control programs would likely be able to underbid Pennsylvania generators. This would be a competitive disadvantage to the generators of electricity, and to the providers of fuels, raw materials and services. This proposal is consistent with Connecticut and Massachusetts restructuring legislation which requires participation by three states with a total population of 23 million before certain provisions become effective.

Importantly, a clear demonstration of the lack of commitment of some states to implement these types of emission reduction programs occurred in the Ozone Transport Region. Maryland, Delaware, New York and Massachusetts only recently issued final regulations implementing the previously agreed to NO<sub>x</sub> emission reductions specified in the Ozone Transport Commission NO<sub>x</sub> Memorandum of Understanding (OTCMOU). Maryland was so late in issuing their final regulations that upon litigation it was found by the court that the regulations were so late that no NO<sub>x</sub> emission reduction will be required in 1999. Additionally, the Commonwealth of Virginia has never signed the OTCMOU or proposed regulations to implement the NO<sub>x</sub> reductions specified in the OTCMOU. As a result, in the

1999 ozone season Pennsylvania generators will be at a competitive disadvantage compared to other generators in some areas in the OTR as well as compared to electric generators located outside the OTR.

**§ 145.2 Definitions:**

**Issue:**

The definition of CEMS requires a permanent record of NO<sub>x</sub> emissions expressed as tons per hour. This record is not part of the Electronic Data Report (EDR) version 2.0 which will be used to report emissions under the existing Chapter 123. EDR version 2.0 records pounds per hour of NO<sub>x</sub> emitted which is adequate to develop a record of NO<sub>x</sub> emitted during the ozone season.

**Recommendation:**

The definition should be changed to require "a permanent record of emissions which allow the calculation of ozone NO<sub>x</sub> emissions expressed as tons." This would eliminate the need for any further modification the EDR version 2.0.

**Issue:**

The definition of "NO<sub>x</sub> allowance transfer deadline" defines November 30 as the date by which transfers must be made to ensure accounts are adequately funded for a discrete ozone season.

**Recommendation:**

Change the date to December 31. This is the deadline specified under the existing Chapter 123 regulations, which is consistent with the OTCMOU.

**§ 145.4 Applicability**

**Issue:**

Proposed § 145.4(1) identifies electrical generation units greater than or equal to 15 MWe as affected sources.

**Recommendation:**

Follow the federally proposed applicability requirements which specifies greater than 25 MWe sources as being affected. This is consistent with the April 23, 1999 recommendation of the Air Quality Technical Advisory Committee (AQTAC) to PaDEP.

**Discussion:**

The proposed Chapter 145 is more stringent than the EPA model rule which establishes 25 MWe generators as affected sources. This was done in the proposed Chapter 145 to mimic the OTCMOU - Chapter 123 requirements. However, the Chapter 145 requirements require emission reduction not required under Chapter 123. In fact, all the non-boiler units specified

in § 145.4 (1), regardless of size, are not required to make any reductions from their 1990 NO<sub>x</sub> emission levels under the OTCMOU and Chapter 123. They are however, allocated allowances consistent with the 1990 ozone season NO<sub>x</sub> mass emissions. Consequently, affecting units as small as 15 MWe will require significant reductions from very small units or require them to purchase very expensive allowances, assuming they are available.

**Issue:**

The EPA regulations identify "nameplate capacity" as the maximum output when not restricted by seasonal or other deratings.

**Recommendation:**

Since this is an ozone season program, the "nameplate capacity" should be identified as the summer rating which is provided to an electric interconnection dispatching system (i.e. PJM interconnect).

**Discussion:**

EPA's nameplate capacity definition clearly does not recognize the need to identify a specific temperature to rate a combustion turbine (CT). The MWe output and the amount of heat input to a CT can vary significantly over a full range of ambient temperatures. To best represent the seasonality of the program, the summertime capacity rating identified to a recognized electric interconnection dispatching system.

**§ 145.6 Standard Requirements**

**Issue:**

§ 145.6(e)(i),(ii),(iii) and (iv) specify data and records which must be kept on site at the source.

**Recommendation:**

This is unnecessary and may be inconsistent with various management structures. Therefore, the requirements should specify that records and data should be made available upon request.

**§ 145.30 Compliance Certification Report**

**Issue:**

§ 145.30(a) specifies a deadline of November 30.

**Recommendation:**

The deadline should be changed to December 31, consistent with the Chapter 123.

**§ 145.42 NO<sub>x</sub> Allowance Allocation**

**Issue:**

§ 145.42(a)(i) uses the average of the two highest years for 1995, 1996 and 1997 to establish NO<sub>x</sub> allowance allocations for 2003, 2004 and 2005. Because of other requirements, 1995 may not be a representative year for some sources.

**Recommendation:**

The years used to establish the two year average heat input should be expanded to include 1998.

**Discussion:**

Reasonably available control technology (RACT) was implemented by May 31, 1995, on sources in the OTR. As a result, there is a significant possibility that 1995 ozone season capacity was affected negatively. This information is readily available and should be used. This is an example of how the early reduction program under the Chapter 123 could economically disadvantage Pennsylvania generators without changing the proposed Chapter 145.

**Issue:**

Proposed § 145.42(b)(1) does not adequately allocate NO<sub>x</sub> allowances to new or repowered units.

**Recommendation:**

This section should incorporate the April 23, 1999 unanimous recommendation of the Air Quality Technical Advisory Committee (AQTAC) to follow the EPA model rule allocation methodology.

**Discussion:**

The EPA allocation methodology is appropriate for numerous reasons. Most importantly, it establishes consistency and uniformity among all affected areas. Simply stated, an area using the EPA allocation proposal will reward, and consequently attract new, lower emitting, more efficient electric generation facilities. The proposed § 145.42(b)(i) actually provides a disincentive to construction of new or repowered facilities by allocating a minimal number of NO<sub>x</sub> allowances to those sources while providing an incentive for "life extension" projects of existing sources which install NO<sub>x</sub> emission controls.

The suggested recommendation is also consistent with the policies supporting development of "Brownfield" sites as repowered or reconstructed facilities are not NO<sub>x</sub> allocation disadvantaged compared to existing units which install pollution control equipment.

### § 145.54 Compliance

**Issue:**

Proposed § 145.54(d)(1) requires the surrender of three allowances for each ton of excess emissions.

**Recommendation:**

Because of the very small NO<sub>x</sub> budget, this section should be modified to require the surrender of one allowance for each ton of excess emission. This recommendation is consistent with EPA's Acid Rain Program allowance surrender requirements.

**Discussion:**

This section proposes the surrender of three allowances for each excess ton of NO<sub>x</sub> emitted. While this is consistent with the OTC Model Rule and Chapter 123, this is not a reasonable provision due to its potential effect on a viable trading market due to greatly reduced NO<sub>x</sub> budgets. For example, if for some reason (eg. unavailability of nuclear powered generating facilities) certain units must run at an abnormally high capacity factor and allowances are unavailable to account for emissions, the 3:1 surrender ratio could cause a severe market disruption. A one for one deduction is appropriate to account for the excess emissions. Penalties will be imposed based on the number of excess tons and violation days. Quite simply, the small budget is such a constraint on emissions and the potential for those units to have unused allowances to "bank," this provision is unnecessary and unreasonable.

**Issue:**

Every day of the ozone season and every ton of excess emission is a separate violation.

**Recommendation:**

Determine the number of days for which insufficient allowances are available and specify that number to represent the number of violations.

**Discussion:**

Proposed § 145.54(d)(3)(i) and (ii) section are unreasonably punitive. If a unit surrenders even one allowance less than the NO<sub>x</sub> tons emitted during the ozone season, that unit is potentially subject to 154 separate violations (153 days ozone season plus one of excess emission). Each of these violations is subject to a potential penalty of \$25,000 with a total potential penalty of \$3,850,000.00.

A much more reasonable, but adequately punitive approach, would be to determine the number of days during an ozone season for which insufficient NO<sub>x</sub> allowances are surrendered. This number should represent the number of violations. Additionally, future NO<sub>x</sub> allocations should be deducted at a ratio of one NO<sub>x</sub> allowance for every one ton of excess emissions. Surrender of future NO<sub>x</sub> allowances should not be excessive due to the

limited number of allowances in the NO<sub>x</sub> budget. Excessive future allowance surrender has the potential to create future inability to comply by reducing the size of the Pennsylvania, as well as, regional NO<sub>x</sub> budget. These problems can be avoided by using the following strategy:

1500	= Available NO <sub>x</sub> allowances at "true-up"
1600	= Tons of actual ozone season NO <sub>x</sub> emissions
September 19	= Last day on which all NO <sub>x</sub> emissions are fully accounted with NO <sub>x</sub> allowances.
No. of violations	= 11 (September 20 - September 30)
Surrendered No. of future allowances	= 100
Potential Penalty	= (11) (\$25,000) = \$275,000.00 plus the loss of 100 future allowances at a value of \$5,000-\$7,500 each (\$500,000 - \$750,000)

#### **§ 145.55 Banking**

##### **Issue:**

If the "regional" bank of NO<sub>x</sub> allowances exceeds 10% of the total "regional" NO<sub>x</sub> budget, each unit bank is limited to a limited number of "banked" allowances which can be used at a 1:1 ratio.

##### **Recommendation:**

Because of the very small NO<sub>x</sub> budgets, all banked NO<sub>x</sub> allowances should be eligible for use at 1:1 ratio.

##### **Discussion:**

Proposed § 145.55 (b) (3) incorporates the "Progressive Flow Control" provision included in the OTC Model rule and Chapter 123. GPU opposes these provisions because this level of conservatism is unnecessary. The state budget is so small that the budget itself will limit inter-temporal trading. Progressive flow control will also constrain inter-company trading and cause higher prices for allowances. This occurs because the more allowances maintained in a "bank," the greater the number of banked allowances from that bank which can be used at a 1:1 ratio. Consequently, no facility would want to trade away any allowances. The potential use of some allowances at a 2:1 ratio further restricts the market because under these provisions, it is unlikely a facility will reach a "comfort level" relative to the number of allowances in their bank. Finally, the proposal inappropriately reduces the number of useable allowances in small banks when the 2:1 ratio requirement will be triggered by the number of allowances in large banks.

**Issue:**

Limitations are established on the method to calculate early reductions and the ultimate number of unused NO<sub>x</sub> allowances which can be transferred from the Chapter 123 program into the proposed Chapter 145 program.

**Recommendation:**

Allow all "banked" NO<sub>x</sub> allowances from the Chapter 123 to transfer into the proposed Chapter 145 Program as an incentive to maximize reductions under the existing Chapter 123 regulations.

**Discussion:**

The proposed § 145.55(c) is a complicated section that does not appropriately recognize or reward the OTR sources which are reducing NO<sub>x</sub> via RACT implementation in 1995 and will make further reductions through Chapter 123 requirements in 1999 through 2002.

If PaDEP truly wants to reward the units that are achieving significant NO<sub>x</sub> emission reductions, the proposed rule should be modified to allow all "banked" NO<sub>x</sub> allowances under Chapter 123 to move forward into the NO<sub>x</sub> SIP call program (Chapter 145).

Although EPA has specified a compliance supplement pool of 13,716 allowances, this is an inappropriate limit as it removes incentive to maximize controls under Chapter 123. The opportunity to carry forward all "banked" allowances not only provides incentives to sources, but also helps to develop the market and reduces the economic effect of the new, more stringent emission reduction requirements. These proposed changes are consistent with the EPA's acid rain program.

**§ 145.70 General Monitoring Requirements**

**Issue:**

The monitoring requirements in the proposed Chapter 145 are significantly different from those in Chapter 123. These differences will result in the surrender of allowances for emissions which never occur. They also will require sources compliant with Chapter 123 to expend significant additional time and resources for software and hardware with no commensurate increase in the accuracy of the data.

**Recommendation:**

The proposed regulations should incorporate the monitoring requirements set forth in §123.108 of the Department's regulations. These requirements were taken from the Ozone Transport Commission (OTC) "NO<sub>x</sub> Model Rule." The "Model Rule" was developed by a stakeholder group consisting of state regulators, EPA, environmental groups and industry representatives.

**Discussion:**

The monitoring requirements of this section are significantly different than those required by Chapter 123. The proposed Chapter 145 relies on the new 40 CFR 75.19. The specific problem with that section is the unit-specific default NO<sub>x</sub> emission rates for low mass emitter units.

In Part 2, (G) of the "Guidance for Implementation of Emission Monitoring Requirements for the NO<sub>x</sub> Budget Program" ("Guidance Document"), incorporated into Chapter 123 by the Department, oil and gas fired peaking units (e.g. simple-cycle combustion turbines) are permitted to use a tested NO<sub>x</sub> "default" emission rate. Coupled with long-term fuel flow measurement, this provides a cost effective emission monitoring method for NO<sub>x</sub> monitoring and reporting. Page 17 of the "Guidance Document" specifies that the average NO<sub>x</sub> emission rate be used as the "default" value. This "default" emission rate includes the average of a series of peak load tests of a single unit or, multiple "identical units." This involves averaging the peak load NO<sub>x</sub> rates for a number of units to calculate a default rate that all units would use for reporting for all "identical units." This is consistent with the language that requires representative testing of multiple units to have a NO<sub>x</sub> emission rate within 10% of the average of all units tested.

Revised Part 75, Section 75.19 (c)(1)(iv)(C) (1, 2, 3, 4, 5 and 6) not only requires the use of the highest NO<sub>x</sub> test run conducted using Appendix E procedures (by fuel) for any and all units (as opposed to the average of all peak load tests for all "identical units"), but then requires that this highest peak value of all runs to be multiplied by 1.15 (15% "increase") to create a default emission rate to be used for NO<sub>x</sub> emission reporting. For units with "add-on" controls, the regulations would require the use of 0.15 Lb/mmBtu as the default even if actual NO<sub>x</sub> rates are significantly lower.

These requirements create the following problems:

- a.) Combustion turbines operate at base load conditions almost exclusively. Appendix E requires a test series at four load conditions, including "peak" load. GPU Genco test data show that NO<sub>x</sub> defaults generated at peak load are approximately 10% higher than same day base load NO<sub>x</sub> emission rates (see attached Table 1). The language in 75.19 will require future tests to follow Appendix E procedures including peak load runs unless both the state and EPA can be convinced that base load testing is more representative. Additionally, if only a default value is being developed, and not an Appendix E NO<sub>x</sub> vs. load curve, single load testing is all that is required. Data submitted to EPA shows that the highest NO<sub>x</sub> rate always occurs at the highest load. This is consistent with the formation of NO<sub>x</sub> during the combustion process and is reasonable. Unless EPA has data which show combustion processes that produce more NO<sub>x</sub> at reduced load, single load testing (either base or peak load) is all that should be required for sources which are only establishing default NO<sub>x</sub> rates.

- b.) By using the highest NO<sub>x</sub> run of all units tested (by fuel), then multiplying that value by 1.15, a default value is developed that is almost 30% greater than same day base load NO<sub>x</sub> emission rates (see attached Table 1). Table 1 was developed from test data from simple cycle combustion turbines located in Pennsylvania. EPA justified the 15% "multiplier" to the highest peak load value by reviewing CEMS data from uncontrolled combustion turbines that were acid rain affected. The dilemma for non-acid rain affected units is that EPA reviewed annual data and concluded that NO<sub>x</sub> rates are highly variable. NO<sub>x</sub> can vary greatly on a seasonal basis (e.g. July vs. January) but will not show great variability within the control period. Language should be included to exempt non-acid rain affected sources from using the 1.15 multiplier because they are required to report emissions only during the May through September period. The use of peak load test data for defaults increases the reported value 10 % above measured same day base load emissions but the 15 % multiplier will increase reported NO<sub>x</sub> rates almost 30% over typical base load operating conditions.
- c.) The requirement to employ the highest measured NO<sub>x</sub> rate tested is inconsistent with the language in 75.19 (c)(1)(iv)(B)(3) requiring all tested units to be within 10% of the average NO<sub>x</sub> rate of all "identical units" tested. Obviously this language was borrowed from the OTC NO<sub>x</sub> Budget Program. However, unlike the OTC Guidance Document which specifies that the average NO<sub>x</sub> rate be used as a default, the requirement to use the highest rate makes the "identical units" testing criteria meaningless. If forced to use the highest rate of all test runs at all units, there is no reason to require other units emissions to be within 10% of the average NO<sub>x</sub> rate. The language in these sections should be changed to read "the average of all units tested" instead of the highest rate at any unit.
- d.) Neither acid rain affected nor non-affected units that choose to develop and employ an Appendix E NO<sub>x</sub> vs. load curve (regardless of the time of year the curve is developed) are required to accommodate seasonal variations or increase the values along the curve by 15%. This is a significant disadvantage to sources using the less costly default method. Units following the OTC Guidance Document procedures to develop NO<sub>x</sub> defaults are already over-reporting because the average NO<sub>x</sub> rate measured at peak load is used to represent all operating scenarios, including base load and operations below base load. If sources using Appendix E NO<sub>x</sub> vs. load curves are not required to accommodate the effect of seasonal ambient conditions, sources already employing an inherently conservative approach should not be required to accommodate seasonal ambient conditions. To be consistent, EPA should eliminate the requirement to multiply NO<sub>x</sub> peak load defaults by 1.15, for non-acid rain affected units which are not required to report emissions which occur outside the ozone season.
- e.) The language in 75.19 (c)(1)(iv)(C)(4, 5 and 6) for low mass emission units with "add on" controls which requires a unit or groups of units that achieve an emission rate below 0.15 Lb/mmBtu to use 0.15 Lb/mmBtu as their default provides a powerful disincentive for sources to achieve high levels of control. Importantly, reductions in the NO<sub>x</sub> emission

rate below 0.15 lbs NO<sub>2</sub>/mmBtu will not be recognized in the quarterly report. If a unit controls to an emission rate less than 0.15 lbs. NO<sub>2</sub>/mmBtu, the actual test data that documents this level of performance should be used. This language should be deleted as it demotivates those sources that can achieve the highest level of NO<sub>x</sub> control by providing no value to the additional emission reduction.

Additional problems stem from 75.19 (c)(3)(ii)(D) and (E) concerning long term fuel flow measurement calculations. This language requires the measurement of specific gravity and the calculation of heat input using equation LM-2 or the defaults in Table 5. For non-acid rain affected sources, there is no need to measure or record specific gravity of fuel oil as oil consumption is recorded as gallons and the calorific value is reported as Btu per gallon. The heat input to the unit can then be determined by multiplying the oil consumed and the calorific value of oil.

Further deviation from the specifications of the OTC "Guidance Document" also creates problems for sources that are using CEMS to meet 40 CFR Part 60 or Chapter 139 monitoring requirements. These sources have invested significantly in upgrading data acquisition and handling system hardware and software to comply with the Chapter 123 requirements. Any deviation from Chapter 123 monitoring requirements under proposed Chapter 145 means these sources will need to make additional expenditures to satisfy the new requirements. This has been identified as a "cost of doing business," however, it is an unnecessary cost as it does not improve the representativeness of the emissions data.

Consequently, it is strongly recommended that proposed Chapter 145 use the monitoring requirements in Chapter 123. Use of these monitoring requirements solves all of the problems associated with the monitoring provisions of proposed Chapter 145.

#### **§ 145.90 Emission Reduction Credit Provisions**

**Issue:**

Proposed § 145.90(b) contains language which inappropriately restricts the generation of emission reduction credits (ERCs) which are necessary for the construction or modification of major stationary sources in Pennsylvania.

**Recommendation:**

Delete the proposed § 145.90(b) and make the necessary citation corrections.

**Discussion:**

This provision is virtually identical to § 123.118 and consequently, contains the same problems. Based on the provisions of § 145.90(c) and (d) which address the separation of allowances and emission reduction credits (ERCs) when transferred to another NO<sub>x</sub> budget unit and the retirement of allowances when transferred to non-NO<sub>x</sub> budget units, this provision is unnecessary and completely inappropriate. In fact, this provision (§ 123.118)

has prevented the transfer of NO<sub>x</sub> ERCs from a retired affected source to a new affected source. Importantly, "banking" is a mechanism to preserve allowances which are unused and therefore, is a historical perspective of emissions. ERCs, on the other hand, are a future authorization to construct and, for non-budget sources, emit. NO<sub>x</sub> budget sources will not only need ERCs to authorize emissions, those sources will also need NO<sub>x</sub> allowances to account for ozone season emissions.

This section must be corrected by deleting § 145.90 (b) and making the necessary citation changes.

**§ 145 Subchapter B. Emissions of NO<sub>x</sub> From Stationary Reciprocating Internal Combustion Engines.**

**Issue:**

Subchapter B of the proposed regulation sets prescriptive emission concentration standards for internal combustion engines that can not be satisfied via the NO<sub>x</sub> trading program

**Recommendation:**

The definition at §145.101(d) should be revised to focus solely on operating hours, per each diesel generator. Following is suggested exemption language:

*§145.101(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.*

**Discussion:**

The major potential impact of proposed Subchapter B to the electric generation industry is its treatment of diesel generators. Low capacity diesel generators should be exempt from the requirements of Subchapter B and the NO<sub>x</sub> SIP Call program.

Diesel generators are very small (e.g. usually in a range between 1 and 4 megawatts). They are utilized primarily to provide a source of electric power to power plants during times of real or potential loss of the normal electric supply used to operate the plant and its equipment. During such times of, diesel generators can be used for a variety of purposes, including the safe shut-down/operation of the power plant they support, or to provide electric power to start the power plant if it is not operating. Diesel generators located at fossil generating plants may also directly or indirectly, supply electric power to the grid during periods of real or potential power grid failure. Their operation with regard to power grid support during periods of potential grid difficulty may also be subject to PJM mandated operating requirements.

Regardless of their specific use, diesel electric generators operate at very low capacity factors (generally well under 5%). Many diesel generators are also permit restricted to a 5%, or other very low, capacity factor as part of their NOx RACT permits. Absent an emergency event during the ozone season, the majority of diesel generator NOx emissions are usually associated with periodic reliability testing which may take place for one, or several, hours on a weekly or monthly basis. Ozone season NOx mass emissions per emergency diesel generator are typically extremely small. Consequently, post-combustion NOx emission controls for electric diesel generators would be extremely costly in comparison to emission controls at other sources. Estimated costs to control diesel generators are as much as \$30,000 per ton removed - far in excess of the cost of any other EPA NOx control requirements

In its proposed March 6, 1999 regulation, DEP added new language to the Applicability section of Subchapter B at §145.101(d) which we believe was intended to provide an exemption for diesel generators. However, GPU believes that in its current form, it may not allow sufficient flexibility to exempt the electric diesel generators. For example, the currently proposed definition seems to only allow for operation of diesel generators when there is a "catastrophic failure of the primary electrical power source for the facility". As suggested in the above discussion, this is only one potential operating scenario.

GPU believes that the only eligibility constraint for gaining an exemption from the subchapter under §145.101(d) should be on the number of operating hours permitted during the ozone control period.

Thank you for the opportunity to comment on these extremely important proposals.

Sincerely,



Vincent J. Brisini  
Environmental Manager Air Quality

VJB/cms/VJB428C

**GPU, INC.**  
**SUMMARY OF COMMENTS TO PROPOSED REGULATIONS AND AMENDMENTS FOR  
INTERSTATE OZONE TRANSPORT REDUCTION (25 PA CODE CHS. 123 AND 145)**

**General Comments**

**Issue:**

Proposed Chapter 145 incorporates changes and provisions which prevent the "seamless" transition from Chapter 123 regulations. Chapter 123 regulations implement the nitrogen oxide (NO<sub>x</sub>) reductions specified in the Ozone Transport Commission's NO<sub>x</sub> Memorandum of Understanding (OTCMOU). The proposed Chapter 145 implements the NO<sub>x</sub> SIP Call and will supercede Chapter 123.

**Recommendation:**

A "seamless transition can be accomplished by changing the proposed Chapter 145, as recommended in the section specific GPU, Inc. comments. These changes would reward the sources which are achieving NO<sub>x</sub> emissions reductions in Pennsylvania. Alternatively, the program should be implemented by modifying the existing Chapter 123 regulations to incorporate the NO<sub>x</sub> SIP Call budget and federally proposed allocation methodology.

**Issue:**

Unless the adoption of Pennsylvania's nitrogen oxides (NO<sub>x</sub>) emission reduction program is contingent on the adoption of similar programs in other states, the economy of Pennsylvania will be negatively affected.

**Recommendation:**

A contingency provision should be included in the proposed Chapter 145 which requires broad participation by a majority of states before amending current NO<sub>x</sub> regulations (Chapter 123) and proposing superceding NO<sub>x</sub> regulations (Chapter 145).

**§ 145.2 Definitions:**

**Issue:**

The definition of CEMS requires a permanent record of NO<sub>x</sub> emissions expressed as tons per hour. This record is not part of the Electronic Data Report (EDR) version 2.0 which will be used to report emissions under the existing Chapter 123. EDR version 2.0 records pounds per hour of NO<sub>x</sub> emitted which is adequate to develop a record of NO<sub>x</sub> emitted during the ozone season.

**Recommendation:**

The definition should be changed to require "a permanent record of emissions which allow the calculation of ozone NO<sub>x</sub> emissions expressed as tons." This would eliminate the need for any further modification the EDR version 2.0.

**Issue:**

The definition of "NO<sub>x</sub> allowance transfer deadline" defines November 30 as the date by which transfers must be made to ensure accounts are adequately funded for a discrete ozone season.

**Recommendation:**

Change the date to December 31. This is the deadline specified under the existing Chapter 123 regulations, which is consistent with the OTCMOU.

**§ 145.4 Applicability**

**Issue:**

Proposed § 145.4(1) identifies electrical generation units greater than or equal to 15 MWe as affected sources.

**Recommendation:**

Follow the federally proposed applicability requirements which specifies greater than 25 MWe sources as being affected. This is consistent with the April 23, 1999 recommendation of the Air Quality Technical Advisory Committee (AQTAC) to PaDEP.

**Issue:**

The EPA regulations identify "nameplate capacity" as the maximum output when not restricted by seasonal or other deratings.

**Recommendation:**

Since this is an ozone season program, the "nameplate capacity" should be identified as the summer rating which is provided to an electric interconnection dispatching system (i.e. PJM interconnect).

**§ 145.6 Standard Requirements**

**Issue:**

§ 145.6(e)(i),(ii),(iii) and (iv) specify data and record which must be kept on site at the source.

**Recommendation:**

This is unnecessary and may be inconsistent with various management structures. Therefore, the requirements should specify that records and data should be made available upon request.

**§ 145.30 Compliance Certification Report**

**Issue:**

§ 145.30(a) specifies a deadline of November 30.

**Recommendation:**

The deadline should be changed to December 31, consistent with the Chapter 123.

**§ 145.42 NO<sub>x</sub> Allowance Allocation**

**Issue:**

§ 145.42(a)(i) uses the average of the two highest years for 1995, 1996 and 1997 to establish NO<sub>x</sub> allowance allocations for 2003, 2004 and 2005. Because of other requirements, 1995 may not be a representative year for some sources.

**Recommendation:**

The years used to establish the two year average heat input should be expanded to include 1998.

**Issue:**

Proposed § 145.42(b)(1) does not adequately allocate NO<sub>x</sub> allowances to new or repowered units.

**Recommendation:**

This section should incorporate the April 23, 1999 unanimous recommendation of the Air Quality Technical Advisory Committee (AQTAC) to follow the EPA model rule allocation methodology.

**§ 145.54 Compliance**

**Issue:**

Proposed § 145.54(d)(1) requires the surrender of three allowances for each ton of excess emissions.

**Recommendation:**

Because of the very small NO<sub>x</sub> budget, this section should be modified to require the surrender of one allowance for each ton of excess emission. This recommendation is consistent with EPA's Acid Rain Program allowance surrender requirements.

**Issue:**

Every day of the ozone season and every ton of excess emission is a separate violation.

**Recommendation:**

Determine the number of days for which insufficient allowances are available and specify that number to represent the number of violations.

### **§ 145.55 Banking**

**Issue:**

If the "regional" bank of NO<sub>x</sub> allowances exceeds 10% of the total "regional" NO<sub>x</sub> budget, each unit bank is limited to a limited number of "banked" allowances which can be used at a 1:1 ratio.

**Recommendation:**

Because of the very small NO<sub>x</sub> budgets, all banked NO<sub>x</sub> allowances should be eligible for use at 1:1 ratio.

**Issue:**

Limitations are established on the method to calculate early reductions and the ultimate number of unused NO<sub>x</sub> allowances which can be transferred from the Chapter 123 program into the proposed Chapter 145 program.

**Recommendation:**

Allow all "banked" NO<sub>x</sub> allowances from the Chapter 123 to transfer into the proposed Chapter 145 Program as an incentive to maximize reductions under the existing Chapter 123 regulations.

### **§ 145.70 General Monitoring Requirements**

**Issue:**

The monitoring requirements in the proposed 25 PA Chapter 145 are significantly different from those in PA Chapter 123. These differences will result in the surrender of allowances for emissions which never occur. They also will require sources compliant with Chapter 123 to expend significant additional time and resources for software and hardware with no commensurate increase in the accuracy of the data.

**Recommendation:**

The proposed regulations should incorporate the monitoring requirements set forth in Chapter 123.108 of the Department's regulations. These requirements were taken from the Ozone Transport Commission (OTC) "NO<sub>x</sub> Model Rule." The "Model Rule" was developed by a stakeholder group consisting of state regulators, EPA, environmental groups and industry representatives.

### **§ 145.90 Emission Reduction Credit Provisions**

**Issue:**

Proposed § 145.90(b) contains language which inappropriately restricts the generation of emission reduction credits (ERCs) which are necessary for the construction or modification of major stationary sources in Pennsylvania.

**Recommendation:**

Delete the proposed § 145.90(b) and make the necessary citation corrections.

### **§ 145 Subchapter B. Emissions of NO<sub>x</sub> From Stationary Reciprocating Internal Combustion Engines.**

**Issue:**

Subchapter B of the proposed regulation sets prescriptive emission concentration standards for internal combustion engines that can not be satisfied via the NO<sub>x</sub> trading program

**Recommendation:**

The definition at §145.101(d) should be revised to focus simply on operating hours, per each diesel generator. Following is suggested exemption language:

*§145.101(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.*

TABLE 1

### OTC NOx Budget Default NOx Rate vs EPA SIP Call NOx Default Rate

Site	Unit	Fuel	Low	Mid	Base	Avg. Peak Vaue	OTC Rate % Above Base Load	Highest Peak Value	EPA SIP Value Highest x 1.15	EPA SIP Value % Above Base Load
Titus	4	gas	0.111	0.205	0.245	0.273	11.4	0.275	0.316	29.1
Titus	4	oil	0.224	0.436	0.548	0.549	0.2	0.550	0.633	15.4
Titus	5	gas	0.179	0.241	0.318	0.371	16.7	0.376	0.432	36.0
Titus	5	oil	0.346	0.462	0.512	0.597	16.6	0.601	0.691	35.0
Hunterstown	1	oil	0.293	0.381	0.558	0.623	11.6	0.631	0.726	30.0
Hunterstown	2	gas	0.142	0.219	0.281	0.316	12.5	0.338	0.389	38.4
Hunterstown	3	gas	0.153	0.223	0.301	0.335	11.3	0.338	0.389	29.1
Hunterstown	3	oil	0.287	0.417	0.553	0.621	12.3	0.631	0.726	31.2
Orrtanna	1	oil	0.250	0.407	0.593	0.656	10.6	0.692	0.796	34.2
Hamilton	1	oil	0.257	0.433	0.632	0.683	8.1	0.692	0.796	25.9
Mountain	1	gas	0.203	0.261	0.368	0.394	7.1	0.395	0.454	23.4
Mountain	1	oil	0.393	0.461	0.651	0.718	10.3	0.725	0.834	28.1
Mountain	2	gas	0.186	0.250	0.361	0.391	8.3	0.395	0.454	25.8
Mountain	2	oil	0.370	0.465	0.646	0.703	8.8	0.725	0.834	29.1
Warren	1	gas	0.189	0.251	0.399	0.431	8.0	0.434	0.499	25.1
Warren	1	oil	0.332	0.466	0.733	0.775	5.7	0.783	0.900	22.8

**NOx Rate % Increase Over Base Load =**

**10.0**

**28.7**

Original: 2009

Bush

cc: Smith  
Tyrrell  
Sandusky  
Legal

**GENERAL ELECTRIC COMPANY  
SUMMARY OF WRITTEN COMMENTS  
OTR REGULATIONS**

RECEIVED

99 MAY 13 AM 9:22

STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

1. The Department should include EPA's exemption for units willing to accept a 25-ton ozone season NO<sub>x</sub> emission limit.
  - a. The GE Erie facility has one unit with a rated design capacity in excess of 250 MMBtu/hr to which the proposed OTR Regulations apply.
  - b. The GE Erie facility affected unit is under a RACT permit restriction which prevents GE Erie from operating the unit during the ozone season; thus, during the ozone season, the affected unit will have zero emissions.
  - c. Despite having no NO<sub>x</sub> emissions during the ozone season, GE Erie would be required to install very costly monitoring equipment on its affected unit under the proposed OTR Regulations.
  - d. The GE Erie facility needs Pennsylvania to adopt EPA's exemption to enable it to avoid significant unnecessary monitoring costs.
2. The Department should determine the applicability of the OTR Regulations to Internal Combustion Engines (ICEs) based upon the actual emissions of the units, not horsepower ratings.
  - a. EPA included in its budget calculations for ICEs only those ICEs whose actual 1995 NO<sub>x</sub> emissions exceeded one ton per day.
  - b. Pennsylvania's use of horsepower cutoffs which are equivalent to a unit's potential to emit of one ton per day of NO<sub>x</sub> results in a significant number of ICEs regulated by Pennsylvania which were not included in EPA's SIP Call budget.
  - c. Pennsylvania's horsepower cutoffs ignore the recommendations of OTAG that only ICEs with horsepower ratings of 8,000 or greater be subject to regulation.
  - d. Numerous other states, including New York, Massachusetts, Delaware, Wisconsin, Connecticut, Kentucky, Missouri, Tennessee, Michigan and West Virginia have either not regulated ICEs or have adopted standards that more closely resemble the actual one-ton-per-day standard used by EPA to determine the SIP Call Budget for ICEs.
3. The Department should adopt the exemptions for ICEs provided by EPA in its FIP at Section 98.41.
4. The Department should adopt EPA's 25 MW cutoff and sells electricity requirement for electric-generating units.

Original: 2009  
Bush  
cc: Smith  
Tyrrell  
Sandusky  
Legal

RECEIVED  
99 MAY 13 AM 9:37

RECEIVED  
GENERAL ELECTRIC COMPANY  
GENERAL ELECTRIC COMPANY

**EXHIBITS TO**  
**GENERAL ELECTRIC COMPANY'S**  
**COMMENTS TO PROPOSED OTR REGULATIONS**

**Reference method** means any direct test method of sampling and analyzing for an air pollutant as specified in appendix A of part 60 of this chapter.

**Serial number** means, when referring to NO<sub>x</sub> allowances, the unique identification number assigned to each NO<sub>x</sub> allowance by the Administrator, under § 96.53(c).

**Source** means any governmental, institutional, commercial, or industrial structure, installation, plant, building, or facility that emits or has the potential to emit any regulated air pollutant under the CAA. For purposes of section 502(c) of the CAA, a "source," including a "source" with multiple units, shall be considered a single "facility."

**State** means one of the 48 contiguous States and the District of Columbia specified in § 51.121 of this chapter, or any non-federal authority in or including such States or the District of Columbia (including local agencies, and Statewide agencies) or any eligible Indian tribe in an area of such State or the District of Columbia, that adopts a NO<sub>x</sub> Budget Trading Program pursuant to § 51.121 of this chapter. To the extent a State incorporates by reference the provisions of this part, the term "State" shall mean the incorporating State. The term "State" shall have its conventional meaning where such meaning is clear from the context.

**State trading program budget** means the total number of NO<sub>x</sub> tons apportioned to all NO<sub>x</sub> Budget units in a given State, in accordance with the NO<sub>x</sub> Budget Trading Program, for use in a given control period.

**Submit or serve** means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

- (1) In person;
- (2) By United States Postal Service; or
- (3) By other means of dispatch or transmission and delivery. Compliance with any "submission," "service," or "mailing" deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

**Title V operating permit** means a permit issued under title V of the CAA and part 70 or part 71 of this chapter.

**Title V operating permit regulations** means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the CAA and part 70 or 71 of this chapter.

**Ton or tonnage** means any "short ton" (i.e., 2,000 pounds). For the purpose of determining compliance with the NO<sub>x</sub> Budget emissions limitation, total tons for a control period shall be calculated as the sum of all recorded hourly

emissions (or the tonnage equivalent of the recorded hourly emissions rates) in accordance with subpart H of this part, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one ton and any fraction of a ton less than 0.50 ton deemed to equal zero tons.

**Unit** means a fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system.

**Unit load** means the total (i.e., gross) output of a unit in any control period (or other specified time period) produced by combusting a given heat input of fuel, expressed in terms of:

- (1) The total electrical generation (MWe) produced by the unit, including generation for use within the plant; or
- (2) In the case of a unit that uses heat input for purposes other than electrical generation, the total steam pressure (psia) produced by the unit, including steam for use by the unit.

**Unit operating day** means a calendar day in which a unit combusts any fuel.

**Unit operating hour or hour of unit operation** means any hour (or fraction of an hour) during which a unit combusts any fuel.

**Utilization** means the heat input (expressed in mmbtu/time) for a unit. The unit's total heat input for the control period in each year will be determined in accordance with part 75 of this chapter if the NO<sub>x</sub> Budget unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the Administrator for the unit if the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.

#### § 96.3 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this part are defined as follows:

- Btu—British thermal unit.
- hr—hour.
- Kwh—kilowatt hour.
- lb—pounds.
- mmbtu—million Btu.
- MWe—megawatt electrical.
- ton—2000 pounds.
- CO<sub>2</sub>—carbon dioxide.
- NO<sub>x</sub>—nitrogen oxides.
- O<sub>2</sub>—oxygen.

#### § 96.4 Applicability.

(a) The following units in a State shall be NO<sub>x</sub> Budget units, and any source that includes one or more such units shall be a NO<sub>x</sub> Budget source, subject to the requirements of this part:

- (1) Any unit that, any time on or after January 1, 1995, serves a generator with a nameplate capacity greater than 25

MWe and sells any amount of electricity; or

(2) Any unit that is not a unit under paragraph (a) of this section and that has a maximum design heat input greater than 250 mmbtu/hr.

(b) Notwithstanding paragraph (a) of this section, a unit under paragraph (a) of this section shall be subject only to the requirements of this paragraph (b) if the unit has a federally enforceable permit that meets the requirements of paragraph (b)(1) of this section and restricts the unit to burning only natural gas or fuel oil during a control period in 2003 or later and each control period thereafter and restricts the unit's operating hours during each such control period to the number of hours (determined in accordance with paragraph (b)(1)(ii) and (iii) of this section) that limits the unit's potential NO<sub>x</sub> mass emissions for the control period to 25 tons or less.

Notwithstanding paragraph (a) of this section, starting with the effective date of such federally enforceable permit, the unit shall not be a NO<sub>x</sub> Budget unit.

(1) For each control period under paragraph (b) of this section, the federally enforceable permit must:

- (i) Restrict the unit to burning only natural gas or fuel oil.
- (ii) Restrict the unit's operating hours to the number calculated by dividing 25 tons of potential NO<sub>x</sub> mass emissions by the unit's maximum potential hourly NO<sub>x</sub> mass emissions.
- (iii) Require that the unit's potential NO<sub>x</sub> mass emissions shall be calculated as follows:

(A) Select the default NO<sub>x</sub> emission rate in Table 2 of § 75.19 of this chapter that would otherwise be applicable assuming that the unit burns only the type of fuel (i.e., only natural gas or only fuel oil) that has the highest default NO<sub>x</sub> emission factor of any type of fuel that the unit is allowed to burn under the fuel use restriction in paragraph (b)(1)(i) of this section; and

(B) Multiply the default NO<sub>x</sub> emission rate under paragraph (b)(1)(iii)(A) of this section by the unit's maximum rated hourly heat input. The owner or operator of the unit may petition the permitting authority to use a lower value for the unit's maximum rated hourly heat input than the value as defined under § 96.2. The permitting authority may approve such lower value if the owner or operator demonstrates that the maximum hourly heat input specified by the manufacturer or the highest observed hourly heat input, or both, are not representative, and that such lower value is representative of the unit's current capabilities because

modifications have been made to the unit, limiting its capacity permanently.

(iv) Require that the owner or operator of the unit shall retain at the source that includes the unit, for 5 years, records demonstrating that the operating hours restriction, the fuel use restriction, and the other requirements of the permit related to these restrictions were met.

(v) Require that the owner or operator of the unit shall report the unit's hours of operation (treating any partial hour of operation as a whole hour of operation) during each control period to the permitting authority by November 1 of each year for which the unit is subject to the federally enforceable permit.

(2) The permitting authority that issues the federally enforceable permit with the fuel use restriction under paragraph (b)(1)(i) and the operating hours restriction under paragraphs (b)(1)(ii) and (iii) of this section will notify the Administrator in writing of each unit under paragraph (a) of this section whose federally enforceable permit issued by the permitting authority includes such restrictions. The permitting authority will also notify the Administrator in writing of each unit under paragraph (a) of this section whose federally enforceable permit issued by the permitting authority is revised to remove any such restriction, whose federally enforceable permit issued by the permitting authority includes any such restriction that is no longer applicable, or which does not comply with any such restriction.

(3) If, for any control period under paragraph (b) of this section, the fuel use restriction under paragraph (b)(1)(i) of this section or the operating hours restriction under paragraphs (b)(1)(ii) and (iii) of this section is removed from the unit's federally enforceable permit or otherwise becomes no longer applicable or if, for any such control period, the unit does not comply with the fuel use restriction under paragraph (b)(1)(i) of this section or the operating hours restriction under paragraphs (b)(1)(ii) and (iii) of this section, the unit shall be a NO<sub>x</sub> Budget unit, subject to the requirements of this part. Such unit shall be treated as commencing operation and, for a unit under paragraph (a)(1) of this section, commencing commercial operation on September 30 of the control period for which the fuel use restriction or the operating hours restriction is no longer applicable or during which the unit does not comply with the fuel use restriction or the operating hours restriction.

#### § 96.5 Retired unit exemption.

(a) This section applies to any NO<sub>x</sub> Budget unit, other than a NO<sub>x</sub> Budget opt-in source, that is permanently retired.

(b)(1) Any NO<sub>x</sub> Budget unit, other than a NO<sub>x</sub> Budget opt-in source, that is permanently retired shall be exempt from the NO<sub>x</sub> Budget Trading Program, except for the provisions of this section, §§ 96.2, 96.3, 96.4, 96.7 and subparts E, F, and G of this part.

(2) The exemption under paragraph (b)(1) of this section shall become effective the day on which the unit is permanently retired. Within 30 days of permanent retirement, the NO<sub>x</sub> authorized account representative (authorized in accordance with subpart B of this part) shall submit a statement to the permitting authority otherwise responsible for administering any NO<sub>x</sub> Budget permit for the unit. A copy of the statement shall be submitted to the Administrator. The statement shall state (in a format prescribed by the permitting authority) that the unit is permanently retired and will comply with the requirements of paragraph (c) of this section.

(3) After receipt of the notice under paragraph (b)(2) of this section, the permitting authority will amend any permit covering the source at which the unit is located to add the provisions and requirements of the exemption under paragraphs (b)(1) and (c) of this section.

(c) *Special provisions.* (1) A unit exempt under this section shall not emit any nitrogen oxides, starting on the date that the exemption takes effect. The owners and operators of the unit will be allocated allowances in accordance with subpart E of this part.

(2)(i) A unit exempt under this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the NO<sub>x</sub> authorized account representative of the source submits a complete NO<sub>x</sub> Budget permit application under § 96.22 for the unit not less than 18 months (or such lesser time provided under the permitting authority's title V operating permits regulations for final action on a permit application) prior to the later of May 1, 2003 or the date on which the unit is to first resume operation.

(ii) A unit exempt under this section and located at a source that is required, or but for this exemption would be required, to have a non-title V permit shall not resume operation unless the NO<sub>x</sub> authorized account representative of the source submits a complete NO<sub>x</sub> Budget permit application under § 96.22 for the unit not less than 18 months (or

such lesser time provided under the permitting authority's non-title V permits regulations for final action on a permit application) prior to the later of May 1, 2003 or the date on which the unit is to first resume operation.

(3) The owners and operators and, to the extent applicable, the NO<sub>x</sub> authorized account representative of a unit exempt under this section shall comply with the requirements of the NO<sub>x</sub> Budget Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit that is exempt under this section is not eligible to be a NO<sub>x</sub> Budget opt-in source under subpart I of this part.

(5) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under this section shall retain at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(6) *Loss of exemption.* (i) On the earlier of the following dates, a unit exempt under paragraph (b) of this section shall lose its exemption:

(A) The date on which the NO<sub>x</sub> authorized account representative submits a NO<sub>x</sub> Budget permit application under paragraph (c)(2) of this section; or

(B) The date on which the NO<sub>x</sub> authorized account representative is required under paragraph (c)(2) of this section to submit a NO<sub>x</sub> Budget permit application.

(ii) For the purpose of applying monitoring requirements under subpart H of this part, a unit that loses its exemption under this section shall be treated as a unit that commences operation or commercial operation on the first date on which the unit resumes operation.

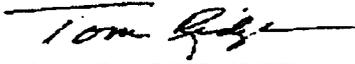
#### § 96.6 Standard requirements.

(a) *Permit Requirements.* (1) The NO<sub>x</sub> authorized account representative of each NO<sub>x</sub> Budget source required to have a federally enforceable permit and each NO<sub>x</sub> Budget unit required to have a federally enforceable permit at the source shall:

(i) Submit to the permitting authority a complete NO<sub>x</sub> Budget permit application under § 96.22 in accordance

Commonwealth of Pennsylvania  
GOVERNOR'S OFFICE

**EXECUTIVE ORDER**

Subject:		Regulatory Review and Promulgation		Number:	1996-1
Date:	February 6, 1996	Distribution:	B	By Direction Of:	 THOMAS J. RIDGE, GOVERNOR

- WHEREAS, the volume and scope of regulations promulgated by Commonwealth agencies has grown at an alarming rate in recent years; and
- WHEREAS, a regulation should be promulgated only after a determination that it is necessary to address a compelling public interest; and
- WHEREAS, political subdivisions and the private sector have often been asked to comply with regulations that were drafted and promulgated without meaningful input from these members of the regulated community; and
- WHEREAS, burdensome regulations have placed undue restrictions on the regulated community and have hampered Pennsylvania's ability to compete effectively with other states; and
- WHEREAS, despite the increasing volume and burden of regulations, they remain an appropriate and necessary means of protecting the public health and safety.

NOW, THEREFORE, I, Thomas J. Ridge, Governor of the Commonwealth of Pennsylvania, by virtue of the authority vested in me by the Constitution of the Commonwealth of Pennsylvania, the Regulatory Review Act, and other laws, do hereby establish the following procedures regarding the review and promulgation of regulations:

1. **General Requirements.** In the drafting and promulgating of new regulations and the application and review of existing regulations, all agencies shall adhere to the following principles:
  - a. Regulations shall address a compelling public interest.
  - b. Costs of regulations shall not outweigh their benefits.
  - c. Regulations shall be written in clear, concise and, when possible, nontechnical language.

- d. Regulations shall address definable public health, safety, or environmental risks.
- e. Where federal regulations exist, Pennsylvania's regulations shall not exceed federal standards unless justified by a compelling and articulable Pennsylvania interest or required by state law.
- f. Compliance shall be the goal of all regulations.
- g. Where viable nonregulatory alternatives exist, they shall be preferred over regulations.
- h. Regulations shall be drafted and promulgated with early and meaningful input from the regulated community.
- i. Regulations shall not hamper Pennsylvania's ability to compete effectively with other states.
- j. All agency heads shall be held directly accountable for regulations promulgated by their respective agencies.

## **2. Evaluation of Existing Regulations.**

- a. Existing regulations shall be reviewed by agencies for consistency with the aforementioned principles. Any regulations that are inconsistent with these principles shall be considered for amendment or repeal.
- b. Agency heads shall have the flexibility to construct a program that reviews their existing regulations to assure consistency with these principles. A plan and schedule for review of existing regulations is to be submitted to the Governor's Policy Office within six months of the effective date of this order. All review programs shall commence within one year of the effective date of this order.
- c. Regulations proposed for repeal should be submitted to the General Counsel, Secretary of the Budget, and Governor's Policy Director along with a Repeal Analysis Form. The analysis shall state:
  - The name of the agency.
  - The name of a contact person at that agency.
  - A short title of the regulation.
  - An explanation of the regulation.
  - A justification for the proposed repeal.
  - A proposed schedule for repeal – noting any public comment periods.
  - Any costs and/or savings associated with the repeal.

d. If a statute prohibits the repeal of a regulation that the agency deems to be inconsistent with the aforementioned principles, the agency head shall submit to the General Counsel, Governor's Policy Director, and Secretary for Legislative Affairs the specific citation for the statute that prohibits the repeal and the citation for any regulation that is determined to be inconsistent with the aforementioned principles, the nature of and reason for the inconsistency, and a recommendation for legislative action, if appropriate.

### **3. Pre-Drafting and Drafting Guidelines.**

a. Before drafting a regulation, agencies, where practical, shall undertake extensive public outreach to those who are likely to be affected by the regulation. Creating advisory committees, using regulatory negotiation, and developing other creative procedures are encouraged as means to solicit the public's input during the regulatory development process.

b. Those to be affected by the regulation should continue to be consulted during the drafting process. When appropriate, members of the regulated community should be involved with the formulation of language, the development of standards, and any other areas in which the regulated community has an interest and/or can provide insight. During the regulation development and drafting process, agencies should advise and consult with the Governor's Policy Office, Office of General Counsel, and the Budget Office whenever the agency determines that any such involvement would hasten the review process.

c. Each agency shall develop its own policies regarding public involvement tailored best to meet the needs of the agency and the regulated community.

d. Within six months of the effective day of this order, agencies shall submit to the Governor's Policy Office their internal guidelines for pre-drafting and drafting public outreach.

### **4. Review by Governor's Office.**

a. Prior to submitting a proposed rulemaking, the agency head shall evaluate each regulation and attest to the fact that the regulation addresses a compelling public need that can be best remedied by the promulgation of the regulation.

b. The agency head shall submit to the General Counsel, Secretary of the Budget, and Governor's Policy Director a written Regulatory Analysis. The analysis shall state:

- The name of the agency.
- The name of a contact person at that agency.
- A short title for the regulation and a citation from the Pennsylvania Code.
- Whether the regulation is a proposed, final-form or final-omitted rulemaking.
- A brief, clear and, if possible, nontechnical explanation of the regulation.
- The statutory authority or mandate for the regulation.
- The compelling public need that justifies the regulation.
- The public health, safety, or environmental risks associated with nonregulation.
- Individuals or groups that are likely to benefit from the regulation.

- Individuals, groups, or entities that will be required to comply with the regulation.
- The outreach conducted by the agency with the regulated community prior to submission of the regulation.
- An estimate of the costs and/or savings associated with compliance and implementation.
- A cost/benefit analysis of the regulation.
- Nonregulatory alternatives considered and the reasons for their dismissal.
- Alternative regulatory schemes considered and the reasons for their dismissal.
- A statement of the compelling Pennsylvania interest if the regulation exceeds federal standards.
- Any requirements that would place Pennsylvania at a competitive disadvantage compared to other states.
- An intra-agency review schedule for the regulation.

c. Each regulation submitted for review shall contain a brief preamble, written in clear and concise language, which shall describe in nontechnical terms the compelling public need the regulation is designed to address, what the regulation requires in legal and practical terms, and who the regulation is likely to affect.

d. The regulatory analysis, along with the preamble and draft regulation, will be reviewed by the Office of General Counsel for form, language, and legal authority. The Governor's Policy Office will review the request to determine that public interest is compelling, that no viable alternative to the regulation exists, and that the costs of the regulation reasonably relate to the benefits. The Office of General Counsel will also consider whether the proposed regulation exceeds federal standards. If the regulation does exceed federal standards, the Policy Office will then evaluate whether the regulation is justified by a compelling and unique Pennsylvania interest. The Budget Office will evaluate the cost analysis prepared by the agency and prepare a fiscal note for the regulation.

e. No agency shall proceed with a proposed, final-form or final-omitted regulation until the General Counsel, Secretary of the Budget, and Policy Director have informed the agency that the regulation is consistent with the regulatory principles and overall policies of the Administration. Review by these three offices will be conducted in a fair and timely manner.

## **5. Nonregulatory Documents.**

a. Nonregulatory public documents such as internal guidelines, policy statements, guidance manuals, decisions, rules and other written materials that provide directives, guidance, or other relevant compliance related information to the public shall be cataloged by every agency.

b. The cataloged titles of these documents, along with an agency contact and phone number, shall be published in the Pennsylvania Bulletin on August 3, 1996. Each year thereafter every agency shall publish and update its list in the Pennsylvania Bulletin on the first Saturday in August.

**6. Petitions.** To further the goal of greater public participation in the regulatory process; individuals, groups, and businesses are encouraged to use the regulatory petition process outlined in *1 PA Code Section 35.18*. Agencies that have not already done so shall develop internal procedures to receive and review petitions in a fair and timely manner.

**7. Continual Review of Regulations.** All regulations shall be reviewed in accordance with the review schedule published annually by each agency. As part of its review, the agency shall determine whether the regulation continues to effectively fulfill the goals for which it was intended and remains consistent with the previously-mentioned principles.

**8. Regulatory Agendas.** Semiannually, on February 1 and July 1, each agency head shall submit to the General Counsel, the Secretary of the Budget, and the Governor's Policy Office Director, for publishing in the *Pennsylvania Bulletin*, an agenda of regulations under development or consideration. The agenda shall describe the regulations being considered, the proposed date for promulgation, the need and legal basis for the action being taken, and the status of regulations previously listed on the agenda. Each item on the agenda shall also include a contact person within the agency from whom additional information may be obtained.

**9. Exemptions.** The procedure prescribed by this Order shall not apply to:

a. Emergency regulations as defined in the Regulatory Review Act.

b. Any regulation for which consideration or reconsideration under the terms of this order would conflict with deadlines imposed by statute, consent decree or by judicial order, provided that any such regulation shall be reported to the Director of the Governor's Policy Office together with a brief explanation of the conflict. The agency shall publish in the *Pennsylvania Bulletin* a statement of the reasons why it is impracticable for the agency to follow the procedures of this order with respect to such a rule. The agency, in consultation with the Governor's Policy Office, shall adhere to the requirements of this order to the extent permitted by statutory or judicial deadlines.

**10. Applicability.**

a. This order shall apply to all agencies under the jurisdiction of the Governor's Office.

b. This order is intended only to improve the internal management of executive agencies and is not intended to create any right or benefit, substantive or procedural, enforceable at law by a party against the Commonwealth, its agencies, its officers or any person.

**11. Effective Date.** This order is effective immediately

**12. Rescission.** Executive Order 1982-2 is rescinded.

**Responses to the 2007 Baseline Sub-Inventory Information and  
Significant Comments for the Final NO<sub>x</sub> SIP Call  
(63 FR 57356, October 27, 1998)**

Docket Number A-96-56  
X-C-01

U.S. Environmental Protection Agency  
May 1999

Exhibit C

B029 process unit heater with design capacity of 234 mmBtu/hr

P002 is a FCC Regenerator Unit which does not have the potential to emit greater than 1 ton/day NOx  
MAP Canton has no other heaters with a design duty over 250 mmBtu/hr and the most recent 1997 emissions  
inventory for the facility indicates no other NOx emission sources that approach the 1 ton/day cutoff number.

EPA Final Decision:  
Modify inventory as requested.

**Item Number:** VIII-B-57  
**Origin:** United States Enrichment Corporation (USEC); Robert Blythe  
**Category:** Non-EGU  
**States Affected:** OH

**Requested Modification:**

Facility ID 0666000000, Source IDs B001, B002, and B003, SCC 10200204

Requests that these points be removed from the inventory, as they are each rated at a heat input of 158 mmBtu/hr.

EPA Final Decision:  
Modify boiler capacity of each boiler to 158 MMBtu/hr.

**Item Number:** VIII-B-58  
**Origin:** Jackson & Kelly PLLC (for Consolidation Coal Co.); Kathy Beckett  
**Category:** Non-EGU  
**States Affected:** IL, PA, VA, WV

**Requested Modification:**  
Requests modification of inventory for multiple sources.

EPA Final Decision:  
Modify base inventory as requested.

**Item Number:** VIII-B-61  
**Origin:** General Electric Corporation; Robert Schenker  
**Category:** EGU & Non-EGU  
**States Affected:** AL, IN, IL, KY, MA, NY, OH, PA

**Requested Modification:**  
Requests modification of inventory for multiple sources and removal of sources from tables allocating emissions.

EPA Final Decision:  
Non-EGU: Modify non-EGU capacity inventory as requested with following exceptions.  
Remove sources from inventory where shown to not be in operation in 1995.  
No modifications made to 2007 heat input values as this topic not open during this comment period.

AL: Cannot match data to comment. Point ID's and SCCs do not match EPA data.  
State comment addresses the large unit.  
IN: Cannot match EPA data to comment. No such FIPS county.  
KY: Comment addressed by Jefferson Co., KY data submitted.  
MA: Large units deleted from non-egu inventory.  
NY: Comment addressed by NY state comment.  
OH: B01 deleted from non-egu inventory.  
PA: Pointids begin at 031. Matched EPA point # 032 to boiler 2 in supplied comment using other  
parameters.  
Emissions for boiler 2 changed to 0 to indicate seasonal shutdown.  
Modified other boiler capacities as requested.

**Item Number:** VIII-B-62  
**Origin:** Illinois Environmental Protection Agency; Bharat Mathur  
**Category:** EGU, Non-EGU, Area, Nonroad, Mobile  
**States Affected:** IL

TABLE A.2.—ALLOCATIONS TO NON-EGUS BY MMBTU—Continued

State	Plant	Point ID	Unit 1995, Summer HI	Unit allocations by HI
OH	ARMCO STEEL COMPANY L.P.	P009	1,035,705	118
OH	ARMCO STEEL COMPANY L.P.	B010	511,020	58
OH	ARMCO STEEL COMPANY L.P.	B009	511,020	58
OH	ARMCO STEEL COMPANY L.P.	B008	818,504	93
OH	ARMCO STEEL COMPANY L.P.	B007	818,504	93
OH	BP CHEMICALS, INC.	B003	3,729,738	423
OH	BP CHEMICALS, INC.	B002	532,325	60
OH	BP CHEMICALS, INC.	B001	599,876	68
OH	BP OIL COMPANY—LIMA REFINERY	P010	1,224,000	139
OH	GENERAL ELECTRIC CO	B004	166,309	19
OH	PROCTER & GAMBLE CO	B021	932,754	106
OH	WHEELING PITTSBURGH STEEL STEUBENVILLE S	B004	125,864	14
OH	ARMCO STEEL COMPANY L.P.	P012	1,035,705	118
OH	PROCTER & GAMBLE CO	B022	5,348,925	607
OH	HENKEL CORP.—EMERY GROUP	B027	3,846,420	438
OH	HENKEL CORP.—EMERY GROUP	B015	681,360	77
OH	HENKEL CORP.—EMERY GROUP	B014	317,220	36
OH	ANHEUSER-BUSCH COLUMBUS BREWERY	X001	302,149	34
OH	FAIRFIELD RECYCLED PAPER, INC.	B003	192,697	22
OH	GENERAL ELECTRIC CO	B002	1,240,166	141
OH	LTV STEEL COMPANY, INC.	B905	87,181	10
OH	LTV STEEL COMPANY, INC.	B009	707,842	80
OH	LTV STEEL COMPANY, INC.	B005	473,434	54
OH	LTV STEEL COMPANY, INC.	B007	527,014	60
OH	LTV STEEL COMPANY, INC.	B004	632,208	72
OH	LTV STEEL COMPANY, INC.	B010	192,838	22
OH	LTV STEEL COMPANY, INC.	B001	575,218	65
OH	LTV STEEL COMPANY, INC.	B002	931,161	106
OH	LTV STEEL COMPANY, INC.	B003	437,625	50
OH	LTV STEEL COMPANY, INC.	B004	1,008,422	114
OH	LTV STEEL COMPANY, INC.	B005	259,811	29
OH	LTV STEEL COMPANY, INC.	B006	202,653	23
PA	INTERNATIONAL PAPER CO.	040	662,852	68
PA	ALLIED CHEMICAL CORP	052	844,191	87
PA	TEXAS EASTERN GAS PIPELINE CO	032	753,026	77
PA	GENERAL ELECTRIC CO	035	627,589	65
PA	MERCK SHARP & DOHME	039	532,174	55
PA	BETHLEHEM STEEL CORP.	041	639,151	66
PA	BETHLEHEM STEEL CORP.	042	635,996	66
PA	BETHLEHEM STEEL CORP.	067	1,333,002	137
PA	BETHLEHEM STEEL CORP.	147	3,110,558	320
PA	GENERAL ELECTRIC CO	032	1,000,620	103
PA	SUN REFINING AND MARKETING 1 O	008	450,087	46
PA	SUN REFINING AND MARKETING 1 O	007	740,245	76
PA	SUN REFINING AND MARKETING 1 O	038	549,423	57
PA	SUN REFINING AND MARKETING 1 O	039	549,423	57
PA	PROCTER & GAMBLE PAPER PRODUCTS CO.	932	5,618,055	578
PA	ALLIED CHEMICAL CORP	051	175,825	18
PA	JEFFERSON SMURFIT (FRMLY CONTAINER CORP)	001	724,340	75
PA	MONESSEN INC.	031	252,039	26
PA	PROCTER & GAMBLE PAPER PRODUCTS CO.	035	2,522,800	259
PA	INTERNATIONAL PAPER CO.	037	1,029,159	106
PA	ALLIED CHEMICAL CORP	050	100,620	10
PA	LTV STEEL COMPANY—PITTSBURGH WORKS	17	114,361	12
PA	GLATFELTER, P. H. CO.	031	1,030,727	106
PA	LTV STEEL COMPANY—PITTSBURGH WORKS	15	114,361	12
PA	LTV STEEL COMPANY—PITTSBURGH WORKS	19	157,590	16
PA	LTV STEEL COMPANY—PITTSBURGH WORKS	21	95,486	10
PA	SHENANGO IRON & COKE WORKS	06	168,766	17
PA	SHENANGO IRON & COKE WORKS	09	137,678	14
PA	BMG ASPHALT CO.	101	30,943	3
PA	ZINC CORPORATION OF AMERICA	034	1,498,461	154
PA	ZINC CORPORATION OF AMERICA	035	1,759,488	181
PA	UNITED STATES STEEL CORP., THE	043	999,098	103
PA	BP OIL, INC.	033	1,234,200	127
PA	PENNTech PAPERS, INC.	041	1,063,116	109
PA	UNITED STATES STEEL CORP., THE	045	1,172,194	121
PA	PENNTech PAPERS, INC.	040	978,703	101
PA	SUN REFINING & MARKETING CO.	090	2,212,658	228
PA	SCOTT PAPER CO.	035	2,173,948	224
PA	SCOTT PAPER CO.	034	858,330	88
PA	INTERNATIONAL PAPER COMPANY	034	1,099,800	113
PA	INTERNATIONAL PAPER COMPANY	033	1,100,520	113
PA	BETHLEHEM STEEL CORP.	132	981,509	101
PA	UNITED STATES STEEL CORP., THE	046	982,367	101
TN	EASTMAN, TENN. CO	002	540,192	64
TN	EASTMAN, TENN. CO	001	540,192	64
TN	KRAFT FOOD INGREDIENTS CORP	003	621,815	74
TN	HUMKO-DIV WITCO CHEM	010	453,804	54
TN	HUMKO-DIV WITCO CHEM	009	468,815	55

# federal register

---

Tuesday  
October 27, 1998

---

Part II

## Environmental Protection Agency

---

40 CFR Parts 51, 72, 75, and 96  
Finding of Significant Contribution and  
Rulemaking for Certain States in the  
Ozone Transport Assessment Group  
Region for Purposes of Reducing  
Regional Transport of Ozone; Rule

alternative compliance options for units with low NO<sub>x</sub> mass emissions, explained below. Combustion turbines smaller than 100 MWe are also likely candidates to qualify for the alternative compliance option explained below.

The Acid Rain Program exempts cyclone boilers with a maximum continuous steam flow at 100 percent load of greater than 1060 thousand lb/hr from NO<sub>x</sub> control requirements under part 76. These units were exempted because one of the primary criteria in title IV of the CAA for setting emissions limitations under part 76 was comparability of cost with low NO<sub>x</sub> emission controls on boilers categorized as group 1 boilers under Title IV (large tangentially fired and dry bottom, wall fired). There is no such criterion in the CAA applicable to this rulemaking. Also, since the emission reductions required by this rulemaking are more substantial than the emission reductions required under part 76<sup>70</sup>, the cost per ton of reducing NO<sub>x</sub> emission reductions is correspondingly higher. Therefore, applicability cutoffs that were relevant in the part 76 rulemaking are not relevant in this rulemaking.

In response to the comment that small electrical generators less than 25 MWe should be exempt from the NO<sub>x</sub> Budget Trading Program, they were proposed to be exempt and will be exempt under the final model rule. They do still have the option of opting into the program if they choose to do so.

In the SNPR (63 FR 25926), EPA took comment on allowing units with a low federally enforceable NO<sub>x</sub> emission limit (e.g. 25 tons per ozone season), that because of their size would be included in the trading program, to be exempt from the requirements of the trading program. In general commenters supported this concept. One commenter who supported the concept also added that it would be important to ensure that there were adequate requirements to assure that the individual sources who took advantage of this option demonstrated compliance with their unit-specific caps. The commenters who disagreed with this option expressed concern that a State's budget could be exceeded if emissions from these units were not accounted for.

Based on the comments received EPA continues to believe that it is appropriate to offer States the option of providing units that are above the applicability threshold but that have a very low potential to emit an alternative compliance option. This option would allow units that meet the requirements

described below to be exempt from the requirements to hold allowances, and to comply with quarterly reporting requirements. In order to address the concern that sources must demonstrate compliance with their individual cap, EPA has added specific requirements that sources must meet in order to use this alternative compliance option.

Units that use this option would be required to:

(1) have a federally enforceable permit restricting ozone season emissions to less than 25 tons;

(2) keep on site records demonstrating that the conditions of the permit were met, including restrictions on operating time;

(3) report hours of operation during the ozone season to the permitting authority on an annual basis.

A unit choosing to use this compliance option would be required to determine the appropriate restrictions on its operating time by dividing 25 tons by the unit's maximum potential hourly NO<sub>x</sub> mass emissions. The unit's maximum potential hourly NO<sub>x</sub> mass emissions would be determined by multiplying the highest default emission rate for any fuel that the unit burned (using the default emission rates, in part 75.19 of this chapter) by the maximum rated hourly heat input of the unit (as defined in part 72 of this chapter).

States would be allowed, but not required, to incorporate this alternative compliance option into their SIPs. The EPA does agree that if a State does incorporate this option into the SIP, it would have to account for the emissions under its budget. Thus a State that chose to use this option would have to either:

(1) Subtract the total amount of potential emissions permitted to be emitted using this approach from the trading portion of the budget before the remaining portion of the trading budget is allocated to the trading participants; or (2) Offset the difference between total amount of potential emissions permitted to be emitted using this approach and the 2007 base year inventory emissions for these same sources with additional reductions outside of the trading portion of the budget.

If States choose not to incorporate this alternative compliance option into their SIPs, or if they choose to incorporate it exactly as it is set forth in the model rule, it will not affect the streamlined approval of the trading rule portion of the SIP. A State may choose to require an alternative means of ensuring that the potential to emit for units utilizing the alternative means of compliance is limited to less than 25 tons, however if a State deviates from the model rule in

this way, the SIP will no longer receive streamlined approval.

## 2. Mobile/Area Sources

The proposed rule did not include mobile or area sources in the trading program, but solicited comment on expanding applicability to include these sources, or to include credits generated by these sources, in the trading program. Mobile and area sources were not included in the proposed trading rule due to EPA's concerns related to ensuring that reductions were real, developing and implementing procedures for monitoring emissions, and identifying responsible parties for the implementation of the program and associated emissions reductions.

The EPA received comment from State and local government, industry and coalitions of industry, and environmental groups regarding the inclusion of mobile and area sources in the program. Comments focused on the following main areas: inclusion or exclusion of mobile and area sources, subcategories of mobile sources for inclusion, and the use of pilot programs to foster innovation.

Some commenters urged EPA to include mobile and area sources with as few restrictions as possible in the trading program, primarily on an opt-in or voluntary basis. These commenters argued that excluding mobile sources would reduce the potential scope and benefits of the trading by placing a large portion of States' NO<sub>x</sub> inventory outside the scope of the trading program. They noted that the existence of RECLAIM protocols for mobile and area source credit generation demonstrated that EPA's quantification, verification, and administration concerns were misplaced.

The majority of commenters, however, indicated that mobile sources should not be included at this time and that the model rule should not be delayed to address concerns related to inclusion of these sources. Some commenters argued against ever including mobile and area sources in the program. One State argued that inclusion of mobile and area sources would destroy the integrity of the program since mobile and area source reductions are not necessarily real, verifiable and quantifiable, failing to display a level of certainty comparable to those sources included in the trading program. A few commenters indicated that mobile sources were inherently unsuited to a capped system, since the difficulties of measuring emissions from these sources precludes their inclusion in a budget.

<sup>70</sup> The lowest emission rate required under part 76 is 0.40 lbs/mmBtu.

**DEVELOPMENT OF MODELING INVENTORY AND BUDGETS  
FOR THE OZONE TRANSPORT SIP CALL**

*U.S. Environmental Protection Agency  
Office of Air and Radiation  
March 23, 1998*

Exhibit F

## **Table of Contents**

<b>CHAPTER I</b>	
<b>INTRODUCTION</b> .....	<b>1</b>
<b>CHAPTER II</b>	
<b>EGU DATA</b> .....	<b>3</b>
A. <b>DEVELOPMENT OF BASE YEAR DATA</b> .....	<b>3</b>
1. <b>Seasonal NO<sub>x</sub> Tons and Heat Input</b> .....	<b>5</b>
2. <b>Source Classification Codes (SCCs)</b> .....	<b>6</b>
3. <b>Stack Parameters</b> .....	<b>6</b>
B. <b>2007 BASE CASE</b> .....	<b>6</b>
C. <b>2007 BUDGET CASE</b> .....	<b>7</b>
D. <b>EGU EMISSION SUMMARY</b> .....	<b>7</b>
<b>CHAPTER III</b>	
<b>NON-EGU DATA</b> .....	<b>11</b>
A. <b>DEVELOPMENT OF 1995 BASE YEAR EMISSIONS</b> .....	<b>11</b>
B. <b>2007 BASE CASE</b> .....	<b>11</b>
C. <b>2007 BUDGET CASE</b> .....	<b>12</b>
D. <b>NON-EGU EMISSION SUMMARY</b> .....	<b>13</b>
<b>CHAPTER IV</b>	
<b>STATEWIDE NO<sub>x</sub> BUDGETS</b> .....	<b>25</b>
<b>APPENDIX A</b>	
<b>LIST OF DAILY EGU INVENTORY</b>	
<b>APPENDIX B</b>	
<b>LIST OF SEASONAL EGU INVENTORY</b>	
<b>APPENDIX C</b>	
<b>LIST OF SOURCES MOVED FROM OTAG UTILITY TO NON-EGU DATA</b>	
<b>APPENDIX D</b>	
<b>LIST OF LARGE AND MEDIUM NON-EGU SOURCES</b>	

---

**APPENDIX D**  
**LIST OF LARGE AND MEDIUM NON-EGU SOURCES**

---

SIP Size	State	County	Plant ID	Point	SCC	Plant	1990 NO. Emissions (Tons/Day)	1995 NO. Emissions (Tons/Day)	2007 NO. Uncontrolled (Tons/Day)	2007 NO. w/Reduction (Tons/Day)	2007 Control Eff (%)	Fuel
L	40	049	0507	40	306002	WYNNEWOOD REFINING COMPANY	1.0000	0.9514	1.2463	1.2463	0.00	NONCOM
L	40	071	0502	45	306002	CONOCO INC.	1.0000	0.9514	1.2463	1.2463	0.00	NONCOM
L	40	071	0502	46	306002	CONOCO INC.	1.0000	0.9514	1.2463	1.2463	0.00	NONCOM
L	40	143	0008	04	306002	SINCLAIR	1.0000	0.9514	1.2463	1.2463	0.00	NONCOM
L	40	097	0709	17	305006	LONE STAR INDUSTRIES	1.0000	0.9914	1.1599	1.1599	0.00	NONCOM
L	40	097	0709	18	305006	LONE STAR INDUSTRIES	1.0000	0.9914	1.1599	1.1599	0.00	NONCOM
L	40	097	0709	19	305006	LONE STAR INDUSTRIES	1.0000	0.9914	1.1599	1.1599	0.00	NONCOM
L	40	123	0701	12	305006	HOLNAM INC. (IDEAL CEMENT)	3.0000	2.9742	3.4798	3.4798	0.00	NONCOM
L	40	131	0703	10	305006	BLUE CIRCLE CEMENT	2.0000	1.9828	2.3199	2.3199	0.00	NONCOM
L	40	143	0556	01	501001	OGDEN MARTIN SYSTEMS OF TULSA,	2.0000	2.3568	2.0033	2.0033	0.00	NONCOM
L	40	089	0700	02	102004	WEYERHAEUSER COMPANY	4.0000	4.5780	5.8598	5.8598	0.00	OIL
L	40	143	0008	01	102005	SINCLAIR	2.0000	1.9028	2.9303	2.9303	0.00	OIL
L	40	109	0010	01	102005	OKLAHOMA GAS & ELECTRIC	1.0000	1.1784	1.4612	1.4612	0.00	OIL
L	40	089	0700	06	102009	WEYERHAEUSER COMPANY	2.0000	2.2890	2.0143	2.0143	0.00	OTHER
L	40	109	0071	30	204001	TINKER AIR FORCE BASE	0.0000	0.0000	0.0000	0.0000	0.00	OTHER
L	40	109	0071	84	204001	TINKER AIR FORCE BASE	0.0000	0.0000	0.0000	0.0000	0.00	OTHER
M	40	131	0703	09	390002	BLUE CIRCLE CEMENT	2.0000	1.9828	2.9147	2.9147	0.00	COAL
M	40	089	0700	01	390006	WEYERHAEUSER COMPANY	2.0000	2.2890	2.9299	2.9299	0.00	GAS
M	40	143	0035	01	390006	FORD MOTOR CORPORATION/TULSA	4.0000	3.9656	5.8294	5.8294	0.00	GAS
M	40	143	0035	02	390006	FORD MOTOR CORPORATION/TULSA	3.0000	2.9742	4.3721	4.3721	0.00	GAS
M	40	123	0701	11	390006	HOLNAM INC. (IDEAL CEMENT)	3.0000	2.9742	4.3721	4.3721	0.00	GAS
M	40	047	0218	01	310004	TRIDENT NGL, INC.	5.0000	5.0650	3.7988	3.7988	0.00	NONCOM
M	40	111	0703	01	305014	ANCHOR GLASS CONTAINER CORP.	2.0000	1.9828	2.3199	2.3199	0.00	NONCOM
L	42	013	0010	036	102002	APPLETON PAPERS INC.	1.0165	1.0111	1.1111	0.3333	70.00	COAL
L	42	035	0008	033	102002	INTERNATIONAL PAPER COMPANY	2.4983	2.4851	2.7309	0.8193	70.00	COAL
L	42	035	0008	034	102002	INTERNATIONAL PAPER COMPANY	2.4966	2.4834	2.7290	0.8187	70.00	COAL
L	42	047	0005	040	102002	PENNTECH PAPERS, INC.	1.7249	1.7158	1.8855	0.5657	70.00	COAL
L	42	047	0005	041	102002	PENNTECH PAPERS, INC.	1.8272	1.8175	1.9972	0.5992	70.00	COAL
L	42	049	0004	035	102002	INTERNATIONAL PAPER CO.	1.6797	1.6708	1.8360	0.5508	70.00	COAL
L	42	049	0004	036	102002	INTERNATIONAL PAPER CO.	1.6684	1.6596	1.8238	0.5471	70.00	COAL
L	42	049	0004	037	102002	INTERNATIONAL PAPER CO.	0.8357	0.8313	0.9135	0.2741	70.00	COAL
L	42	133	0016	033	102002	GLATFELTER, P. H. CO.	0.9520	0.9470	1.0406	0.3122	70.00	COAL
L	42	133	0016	034	102002	GLATFELTER, P. H. CO.	2.5436	2.5301	2.7804	0.8341	70.00	COAL
L	42	133	0016	035	102002	GLATFELTER, P. H. CO.	1.7162	1.7071	1.8759	0.5628	70.00	COAL
L	42	133	0016	036	102002	GLATFELTER, P. H. CO.	1.4960	1.4881	1.9204	0.5761	70.00	COAL
L	42	029	0015	932	102002	SONOCO PRODUCTS CO., DWNGTWN	1.0425	1.0370	1.1396	0.3419	70.00	COAL
L	42	101	1566	001	102002	CONTAINER CORP OF AMER	1.2090	0.6013	1.3108	0.3932	70.00	COAL
L	42	101	1566	002	102002	CONTAINER CORP OF AMER	1.2090	0.6013	1.3108	0.3932	70.00	COAL
L	42	091	0058	034	102002	OCCIDENTAL CHEMICAL CORP	1.0229	1.1369	1.1118	0.3335	70.00	COAL
L	42	083	0003	931	102002	PETROWAX PA INC.	1.0567	1.0755	1.1494	0.3448	70.00	COAL
L	42	007	0032	034	102002	ZINC CORPORATION OF AMERICA	3.3809	3.1966	3.6739	1.1022	70.00	COAL
L	42	007	0032	035	102002	ZINC CORPORATION OF AMERICA	3.7531	3.5486	4.0785	1.2236	70.00	COAL
L	42	049	0009	031	102002	GENERAL ELECTRIC CO.	1.0798	1.2927	1.1730	0.3519	70.00	COAL
L	42	049	0009	032	102002	GENERAL ELECTRIC CO.	5.9909	7.1723	6.4355	1.9307	70.00	COAL
L	42	049	0009	033	102002	GENERAL ELECTRIC CO.	2.2046	2.6393	2.3948	0.7184	70.00	COAL
L	42	049	0009	035	102002	GENERAL ELECTRIC CO.	1.3280	1.5899	1.4426	0.4328	70.00	COAL
L	42	007	0042	032	102002	AES BEAVER VALLEY PARTNERS, INC.	4.8307	5.1896	5.2843	1.5853	70.00	COAL
L	42	007	0042	033	102002	AES BEAVER VALLEY PARTNERS, INC.	5.2798	5.6721	5.7756	1.7327	70.00	COAL
L	42	007	0042	034	102002	AES BEAVER VALLEY PARTNERS, INC.	4.8242	5.1826	5.2771	1.5831	70.00	COAL
L	42	007	0042	035	102002	AES BEAVER VALLEY PARTNERS, INC.	2.6839	2.8833	2.9359	0.8808	70.00	COAL
L	42	003	0009	04	102007	USX CORPORATION - EDGAR THOMSON	0.2150	0.1075	0.2279	0.0684	70.00	GAS
L	42	003	0011	50	102007	USX CORPORATION - CLAIRTON WORKS	0.3800	0.1900	0.4028	0.1208	70.00	GAS
L	42	003	0011	53	102007	USX CORPORATION - CLAIRTON WORKS	1.8810	0.9405	1.9939	0.5982	70.00	GAS
L	42	003	0011	56	102007	USX CORPORATION - CLAIRTON WORKS	0.1870	0.0935	0.1982	0.0595	70.00	GAS
L	42	003	0022	15	102007	LTV STEEL COMPANY - PITTSBURGH	0.1930	0.0965	0.2046	0.0614	70.00	GAS
L	42	003	0022	17	102007	LTV STEEL COMPANY - PITTSBURGH	0.1930	0.0965	0.2046	0.0614	70.00	GAS
L	42	003	0022	19	102007	LTV STEEL COMPANY - PITTSBURGH	0.1930	0.0965	0.2046	0.0614	70.00	GAS
L	42	003	0022	21	102007	LTV STEEL COMPANY - PITTSBURGH	0.1600	0.0800	0.1696	0.0509	70.00	GAS
L	42	003	0050	06	102007	SHENANGO IRON & COKE WORKS	0.2840	0.1420	0.3010	0.0903	70.00	GAS

Commander, no person or vessel may enter or remain in the regulated area.

#### Regulatory Evaluation

This rule is not a significant regulatory action under section 3(f) of Executive Order 12866 and does not require an assessment of potential costs and benefits under section 6(a)(3) of that order. It has been exempted from review by the Office of Management and Budget under that order. It is not significant under the regulatory policies and procedures of the Department of Transportation (DOT) (44 FR 11040; February 26, 1979). The Coast Guard expects the economic impact of this rule to be so minimal that a full Regulatory Evaluation under paragraph 10e of the regulatory policies and procedures of DOT is unnecessary. Since the regulations will only be in effect for one hour, the impacts on routine navigation are expected to be minimal.

#### Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601-612), the Coast Guard must consider whether this rule will have a significant economic impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). Because it expects the impact of this rule to be minimal, the Coast Guard certifies under 5 U.S.C. 605(b) that this temporary final rule will not have a significant economic impact on a substantial number of small entities.

#### Collection of Information

These regulations contain no collection of information requirements under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520).

#### Federalism

The Coast Guard has analyzed this rule under the principles and criteria contained in Executive Order 12612 and has determined that this rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

#### Environment

The Coast Guard considered the environmental impact of this rule and concluded that, under figure 2-1, paragraph (34)(h) of COMDTINST M16475.1C, this rule is categorically excluded from further environmental documentation. Special local regulations issued in conjunction with a

regatta or marine parade are excluded under that authority.

#### List of Subjects in 33 CFR Part 100

Marine Safety, Navigation (water). Reporting and recordkeeping requirements, Waterways.

#### Temporary Regulations

In consideration of the foregoing, Part 100 of Title 33, Code of Federal Regulations is amended as follows:

#### PART 100—[AMENDED]

1. The authority citation for Part 100 continues to read as follows:

**Authority:** 33 U.S.C. 1233; 49 CFR 1.46 and 33 CFR 100.35.

2. A temporary section 100.35-T05-106 is added to read as follows:

**§ 100.35-T05-106 Cape Fear River, Wilmington, North Carolina.**

##### (a) Definitions:

(1) *Regulated Area.* The waters of the Cape Fear River from shoreline to shoreline, bounded on the north by a line drawn along latitude 34°14.4' North and bounded on the south by a line drawn along latitude 34°14.0' North. All coordinates reference Datum NAD 1983.

(2) *Coast Guard Patrol Commander.* The Coast Guard Patrol Commander is a commissioned, warrant, or petty officer of the Coast Guard who has been designated by the Commander, Coast Guard Group Fort Macon.

##### (b) Special Local Regulations:

(1) Except for persons or vessels authorized by the Coast Guard Patrol Commander, no person or vessel may enter or remain in the regulated area.

(2) The operator of any vessel in this area shall:

(i) Stop the vessel immediately when directed to do so by any official patrol, including any commissioned, warrant, or petty officer on board a vessel displaying a Coast Guard ensign.

(ii) Proceed as directed by any official patrol, including any commissioned, warrant, or petty officer on board a vessel displaying a Coast Guard ensign.

(c) *Effective Dates.* This temporary final rule is effective from 11:30 p.m. on December 31, 1998 to 12:30 a.m. on January 1, 1999.

Dated: December 8, 1998.

Roger T. Rufe, Jr.,

Vice Admiral, U.S. Coast Guard Commander, Fifth Coast Guard District.

[FR Doc. 98-34133 Filed 12-23-98; 8:45 am]

BILLING CODE 4910-15-M

#### ENVIRONMENTAL PROTECTION AGENCY

#### 40 CFR Parts 51 and 96

[FRL-6198-1]

#### Correction and Clarification to the Finding of Significant Contribution and Rulemaking for Purposes of Reducing Regional Transport of Ozone

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; correction and clarification.

**SUMMARY:** The EPA is correcting and clarifying certain aspects to the requirements for 22 States and the District of Columbia to submit State implementation plan (SIP) revisions to prohibit specified amounts of emissions of oxides of nitrogen (NO<sub>x</sub>) (also referred to as the NO<sub>x</sub> SIP call). Most importantly, EPA is reopening the period for emissions inventory revisions to 2007 baseline sub-inventory information used to establish each State's budget in the NO<sub>x</sub> SIP Call to February 22, 1999. This includes source-specific emission inventory data and vehicle miles traveled (VMT) and nonroad mobile growth rates, VMT distribution by vehicle class, average speed by roadway type, inspection and maintenance program parameters, and other input parameters used in the calculation of highway vehicle emissions. The comment period for 2007 baseline sub-inventory revisions will be reopened for two related notices of proposed rulemaking concerning Clean Air Act section 126 petitions (the section 126 proposal) and Federal implementation plans for the NO<sub>x</sub> SIP call (the FIP proposal) in a future action.

**DATES:** This rule is effective December 28, 1998.

**ADDRESSES:** Dockets containing information relating to this rulemaking (docket Nos. A-96-56, A-97-43, and A-98-12) are available for public inspection at the Air and Radiation Docket and Information Center (6102), U.S. Environmental Protection Agency, 401 M Street SW, room M-1500, Washington, DC 20460, telephone (202) 260-7548, between 8:00 a.m. and 4:00 p.m., Monday through Friday, excluding legal holidays. A reasonable fee may be charged for copying. E-mail is A-AND-R-DOCKET-GROUP@EPA.GOV.

**FOR FURTHER INFORMATION CONTACT:** General questions concerning today's action should be addressed to Kimber S. Scavo, Office of Air Quality Planning and Standards, Air Quality Strategies and Standards Division, MD-15,

identify "large" and "small" non-EGU boilers and turbines (for more detailed information refer to the "Development of Modeling Inventory and Budgets for Regional SIP Call" document, September 24, 1998, in docket A-96-56):

1. Where boiler heat input capacity data were available for a unit, those data were used. Units with such data that are less than or equal to 250 mmBtu are "small" and units greater than 250 mmBtu/hr are "large."

2. Where boiler heat input capacity data were not available for a unit, those data were estimated, as described in the NPR and SNPR. Units estimated to be greater than 250 mmBtu/hr are "large."

3. Where boiler heat input capacity data were not available for a unit and where the boiler capacity was estimated to be less than 250 mmBtu/hr, 1995 point-level emissions were checked for each unit. If the 1995 average daily ozone season emissions were greater than one ton, the unit was categorized as a "large" source; otherwise, the unit was categorized as a "small" source.

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.

#### Clarification to 40 CFR 51.121(f)(2)(ii)

This notice clarifies that 40 CFR 51.121(f)(2)(ii) requires that if a State controls large EGUs and large non-EGU boilers, turbines and combined cycle units for purposes of complying with the NO<sub>x</sub> SIP call, those control measures must assure that collectively all such sources, including new or modified units, will not exceed the total NO<sub>x</sub> emissions projected for such sources and that those control measures must be in place no later than May 1, 2003. The amendment made to 40 CFR 51.121(f)(2)(ii) in this correction notice also clarifies that if SIP rules allow the large EGUs and large non-EGU boilers, turbines, and combined cycle units to use credits from the State compliance supplement pool, those units may use credit from the State compliance supplement pool during the 2003 or 2004 control seasons.

Section 51.121(f)(2)(ii) in the October 27 final SIP call requires that if a State elects to impose control measures on fossil fuel-fired NO<sub>x</sub> sources serving electric generators with a nameplate capacity greater than 25 MWe or boilers, combustion turbines or combined cycle units with a maximum design heat input greater than 250 mmBtu/hr, those measures must assure that collectively

all such sources, including new or modified units, will not exceed in the 2007 ozone season the total NO<sub>x</sub> emissions projected for such sources. Section 51.121(b)(1)(i) requires that SIP revisions must contain control measures adequate to prohibit NO<sub>x</sub> emissions in excess of the budget for that jurisdiction and 40 CFR 51.121(b)(1)(ii) requires that those control measures be implemented by May 1, 2003. Therefore, 40 CFR 51.121(f)(2)(ii) is amended to contain an explicit reference to 40 CFR 51.121(b)(1)(i) and (ii). This amendment clarifies that the control measures adopted for large EGUs and large non-EGU boilers, turbines, and combined cycle units sources, including new or modified units, must be in place by May 1, 2003."

Additionally, by referencing 40 CFR 51.121(b)(1)(i) (40 CFR 51.121(b)(1)(i) references 40 CFR 51.121(e) which provides for distribution of the compliance supplement pool) in 40 CFR 51.121(f)(2)(ii), this notice clarifies that if SIP rules allow large EGUs and large non-EGU boilers, turbines and combined cycle units to use credits from the State compliance supplement pool, those sources, including new or modified units, may demonstrate compliance in the 2003 and 2004 control seasons using credit from the compliance supplement pool.

#### Correction to 40 CFR 96.42

This notice corrects the formula for distributing unused allowances in the new source set-aside back to existing sources. The October 27 final SIP call mistakenly included an extra parenthesis in the text of 40 CFR 96.42. The text of 40 CFR 96.42 is corrected to remove the extra parenthesis so that the formula reads: Unit's share of NO<sub>x</sub> allowances remaining in allocation set-aside = Total NO<sub>x</sub> allowances remaining in allocation set-aside × (Unit's NO<sub>x</sub> allowance allocation ÷ State trading program budget excluding allocation set-aside).

#### Correction to Page 57,404

On page 57,404, third column, the carryover sentence, beginning, "The Air Quality Modeling TSD \* \* \*" is inaccurate and is replaced with the following: "The 'National Air Quality and Emissions Trends Report, 1996,' included in the docket as VI-C-18, contains information as to the reductions in ozone values that have resulted from these controls."

#### Administrative Requirements

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement

Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. This rule is not a "major rule" as defined by 5 U.S.C. 804(2).

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and is therefore not subject to review by the Office of Management and Budget. In addition, this action does not impose any enforceable duty, contain any unfunded mandate, or impose any significant or unique impact on small governments as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4). This action also does not require prior consultation with State, local, and tribal government officials as specified by Executive Order 12875 (58 FR 58093, October 28, 1993) or Executive Order 13084 (63 FR 27655 (May 10, 1998), or involve special consideration of environmental justice related issues as required by Executive Order 12898 (59 FR 7629, February 16, 1994). Because this action is not subject to notice-and-comment requirements under the Administrative Procedure Act or any other statute, it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). This action also is not subject to Executive Order 13045 (Protection of Children from Environmental Health Risks and Safety Risks) (62 FR 19885, April 23, 1997) because EPA interprets E.O. 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5-501 of the Order has the potential to influence the regulation. This action is not subject to E.O. 13045 because it does not establish an environmental standard intended to mitigate health or safety risks. In addition, the National Technology Transfer and Advancement Act of 1997 (NTTAA) does not apply because today's action does not require the public to perform activities conducive to the use of voluntary consensus standards under that Act. The EPA's compliance with these statutes and Executive Orders for the underlying rule, the final NO<sub>x</sub> SIP call, is discussed in 63 FR 57477-81 (October 27, 1998).

# Federal Register

---

Wednesday  
October 21, 1998

---

Part III

## Environmental Protection Agency

---

40 CFR Parts 52 and 98

Federal Implementation Plans To Reduce  
the Regional Transport of Ozone;  
Proposed Rule

requirements of this rule are applicable requirements under § 70.2 and must be reflected in the title V operating permit of sources subject to the FIP that are required to have such a permit. The EPA believes that the large stationary internal combustion engines and cement kilns subject to the FIP are required to have a title V permit. Further, all State and local air permitting authorities currently have EPA-approved title V operating permits programs. Consequently, these State and local agencies would be the permitting authorities for the sources subject to the FIP.

### C. Stationary Internal Combustion Engines

#### 1. Rule Requirements

As described in the NO<sub>x</sub> SIP call, EPA's budget calculation includes a 90 percent decrease from uncontrolled levels for the large sources in this category. The FIP rules proposed today are designed to achieve that 90 percent emissions decrease, averaged over a rolling 30-day period, using control technologies that are estimated to be less than \$2,000 per ton of NO<sub>x</sub> removed on average. The requirements are contained in the regulatory section of this notice. To ensure that the rules apply only to large sources, the regulation includes a size cutoff of between 2,400 and 4,400 brake horsepower, depending on the fuel.

#### 2. Background

The control level selected for spark ignited rich-burn engines is a limit of 110 parts per million by volume (ppmv) NO<sub>x</sub> at 15 percent oxygen (O<sub>2</sub>) for engines that are 2400 brake horsepower (hp) or larger. This represents non-selective catalytic reduction (NSCR) control. The NSCR provides the greatest NO<sub>x</sub> reduction of all technologies considered in the Alternative Control Techniques (ACT) document for "NO<sub>x</sub> emissions from Stationary Reciprocating Internal Combustion Engines" (EPA-453/R-93-032) and is capable of providing a 90 to 98 percent reduction in NO<sub>x</sub> emissions. The range of controlled NO<sub>x</sub> is reported to be 0.3 to 1.6 grams per brake horsepower-hour (g/hp-hr), or 20 to 110 ppmv (at 15 percent O<sub>2</sub>) in the ACT document. The lower end of the range represents 98 percent control and the upper end represents 90 percent control. According to the ACT document, one NSCR supplier guarantees 98 percent reduction. However, an alternative limitation of 90 percent reduction was selected because 98 percent reduction is based on a single supplier's guarantee. Engines that

are 2400 hp or larger have the potential to emit 1 ton of NO<sub>x</sub> per day.

The control level selected for spark ignited lean-burn engines is a limit of 125 ppmv NO<sub>x</sub> at 15 percent O<sub>2</sub> for engines that are 2400 hp or larger. This represents selective catalytic reduction (SCR) control. The SCR provides the greatest NO<sub>x</sub> reduction of all technologies considered in the ACT document for lean-burn engines and is capable of providing a 90 percent reduction in NO<sub>x</sub> emissions. Engines that are 2400 hp or larger have the potential to emit 1 ton or more of NO<sub>x</sub> per day.

The control level selected for diesel engines is a limit of 175 ppmv NO<sub>x</sub> at 15 percent O<sub>2</sub> for engines that are 3100 hp or larger. This represents SCR control. The SCR provides the greatest NO<sub>x</sub> reduction of all technologies considered in the ACT document for diesel engines and is capable of providing a 90 percent reduction in NO<sub>x</sub> emissions. Engines that are 3100 hp or larger have the potential to emit 1 ton or more of NO<sub>x</sub> per day.

The control level selected for dual fuel engines is a limit of 125 ppmv NO<sub>x</sub> at 15 percent O<sub>2</sub> for engines that are 4400 hp or larger. This represents SCR control which provides the greatest NO<sub>x</sub> reduction of all technologies considered in the ACT document for dual fuel engines. The SCR is capable of providing a 90 percent reduction in NO<sub>x</sub> emissions from dual fuel engines. Dual fuel engines that are 4400 hp or larger have the potential to emit 1 ton of NO<sub>x</sub> per day.

To ensure compliance with these post-combustion controls, EPA is proposing requiring affected sources to install continuous emissions monitoring systems (CEMS). The CEMS must meet the requirements of 40 CFR part 60. The EPA is proposing the part 60 requirements rather than the part 75 requirements because the rule does not regulate mass emissions, but instead regulates on a volumetric (parts per million) basis.

The EPA invites comment on alternative approaches to monitoring emissions, including CEMS meeting the requirements of 40 CFR part 75. The EPA specifically requests comments on the use of predictive emissions monitoring systems (PEMS). The EPA will give greater consideration to comments that provide data demonstrating the accuracy of alternative methods such as PEMS, particularly if the data provide a comparison of the alternative method to simultaneous data gathered using either a CEM or using EPA reference method testing. More consideration will also be

given to data that provide complete information about the range of unit operating parameters that the method was tested over. If commenters do not have these data available, EPA requests comments explaining why the alternative methods would be valid over the range of operating conditions that the unit could be expected to be operating.

### D. Cement Manufacturing

#### 1. Rule Requirements

As described in the NO<sub>x</sub> SIP call, EPA's budget calculation includes a 30 percent decrease from uncontrolled levels for the large sources in this category. The FIP rules proposed today are designed to achieve that 30 percent emissions decrease using control technologies that are estimated to be less than \$2,000 per ton of NO<sub>x</sub> removed. The requirements are to install and operate low-NO<sub>x</sub> burners, mid-kiln firing, or alternative control techniques, subject to EPA approval, that achieve at least the same emissions decreases as low-NO<sub>x</sub> burners or mid-kiln firing. These requirements are contained in the regulatory section of this notice. To ensure that the rules apply only to large sources, the rule applies only to kilns 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

For the purpose of determining alternative control techniques that EPA would consider, it should be noted that EPA expects the following emissions limits can be met by low-NO<sub>x</sub> burners or mid-kiln firing:

(i) For any long wet kiln, 6.0 lbs/ton of clinker produced when averaged over any 30 consecutive days.

(ii) For any long dry kiln, 5.1 lbs/ton of clinker produced when averaged over any 30 consecutive days.

(iii) For any preheater kiln, 3.8 lbs/ton of clinker produced when averaged over any 30 consecutive days.

(iv) For any preheater/precalciner or precalciner kiln, 2.8 lbs/ton of clinker produced when averaged over any 30 consecutive days.

#### 2. Background

There are 4 types of cement kilns: long wet, long dry, preheater, and precalciner, as described in the ACT document for "NO<sub>x</sub> emissions from Cement Manufacturing" (EPA-453/R-94-004). For purposes of developing this rule, EPA is using the average of the standard EPA emission factor (see

**Subpart NN—Pennsylvania**

18. Subpart NN is amended to add § 52.2031 to read as follows:

**§ 52.2031 Interstate pollutant transport provisions; requirements for decreases in emissions of nitrogen oxides.**

*FIP Regulations.* The owner or operator of each NO<sub>x</sub> source located within the State of Pennsylvania and for which requirements are set forth in parts 97 or 98 of this chapter must comply with such applicable requirements.

**Subpart OO—Rhode Island**

19. Subpart OO is amended to add § 52.2082 to read as follows:

**§ 52.2082 Interstate pollutant transport provisions; requirements for decreases in emissions of nitrogen oxides.**

*FIP Regulations.* The owner or operator of each NO<sub>x</sub> source located within the State of Rhode Island and for which requirements are set forth in parts 97 or 98 of this chapter must comply with such applicable requirements.

**Subpart PP—South Carolina**

20. Subpart PP is amended to add § 52.2135 to read as follows:

**§ 52.2135 Interstate pollutant transport provisions; requirements for decreases in emissions of nitrogen oxides.**

*FIP Regulations.* The owner or operator of each NO<sub>x</sub> source located within the State of South Carolina and for which requirements are set forth in parts 97 or 98 of this chapter must comply with such applicable requirements.

**Subpart RR—Tennessee**

21. Subpart RR is amended to add § 52.2232 to read as follows:

**§ 52.2232 Interstate pollutant transport provisions; requirements for decreases in emissions of nitrogen oxides.**

*FIP Regulations.* The owner or operator of each NO<sub>x</sub> source located within the State of Tennessee and for which requirements are set forth in parts 97 or 98 of this chapter must comply with such applicable requirements.

**Subpart VV—Virginia**

22. Subpart VV is amended to add § 52.2429 to read as follows:

**§ 52.2429 Interstate pollutant transport provisions; requirements for decreases in emissions of nitrogen oxides.**

*FIP Regulations.* The owner or operator of each NO<sub>x</sub> source located

within the State of Virginia and for which requirements are set forth in parts 97 or 98 of this chapter must comply with such applicable requirements.

**Subpart XX—West Virginia**

23. Subpart XX is amended to add § 52.2529 to read as follows:

**§ 52.2529 Interstate pollutant transport provisions; requirements for decreases in emissions of nitrogen oxides.**

*FIP Regulations.* The owner or operator of each NO<sub>x</sub> source located within the State of West Virginia and for which requirements are set forth in parts 97 or 98 of this chapter must comply with such applicable requirements.

**Subpart YY—Wisconsin**

24. Subpart YY is amended to add § 52.2576 to read as follows:

**§ 52.2576 Interstate pollutant transport provisions; requirements for decreases in emissions of nitrogen oxides.**

*FIP Regulations.* The owner or operator of each NO<sub>x</sub> source located within the State of Wisconsin and for which requirements are set forth in parts 97 or 98 of this chapter must comply with such applicable requirements.

25. Part 98 is added to read as follows:

**PART 98—NITROGEN OXIDES (NO<sub>x</sub>) BUDGET PROGRAM REQUIREMENTS FOR STATIONARY SOURCES NOT IN THE TRADING PROGRAM**

**Subpart A—Emissions of NO<sub>x</sub> From Stationary Reciprocating Internal Combustion Engines**

**Sec.**

- 98.1 Applicability.
- 98.2 Definitions.
- 98.3 Standard requirements.
- 98.4 Compliance determination.
- 98.5 Reporting, monitoring and recordkeeping.
- 98.6 Exemptions.

**Subpart B—Emissions of NO<sub>x</sub> From Cement Manufacturing.**

- 98.41 Applicability.
- 98.42 Definitions.
- 98.43 Standard requirements.
- 98.44 Reporting, monitoring and recordkeeping.
- 98.45 Exemptions.

Authority: 42 U.S.C. 7401-7671q.

**Subpart A—Emissions of NO<sub>x</sub> From Stationary Reciprocating Internal Combustion Engines**

**§ 98.1 Applicability.**

(a) Any owner or operator of a rich burn stationary internal combustion

engine rated at equal to or greater than 2,400 brake horsepower shall comply with the applicable requirements of this section and §§ 98.2 through 97.6.

(b) Any owner or operator of a lean burn stationary internal combustion engine rated at equal to or greater than 2,400 brake horsepower shall comply with the applicable requirements of this section and §§ 98.2 through 98.6.

(c) Any owner or operator of a diesel stationary internal combustion engine rated at equal to or greater than 3,000 brake horsepower shall comply with the applicable requirements of this section and § 98.2 through 98.6.

(d) Any owner or operator of a dual fuel stationary internal combustion engine rated at equal to or greater than 4,400 brake horsepower shall comply with the applicable requirements of this section and § 98.2 through 98.6.

**§ 98.2 Definitions.**

For the purposes of this subpart, the following definitions shall apply.

(a) *Diesel engine* means a compression ignited two- or four-stroke engine in which liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition.

(b) *Dual fuel engine* means a compression ignited stationary internal combustion engine that is burning liquid fuel and gaseous fuel simultaneously.

(c) *Emergency standby engine* means an internal combustion engine used only when normal power line or natural gas service fails, or for the emergency pumping of water for either fire protection or flood relief. An emergency standby engine may not be operated to supplement a primary power source when the load capacity or rating of the primary power source has been either reached or exceeded.

(d) *Engine rating* means the output of an engine as determined by the engine manufacturer and listed on the nameplate of the unit, regardless of any derating.

(e) *Higher heating value (HHV)* means the total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard States at standard conditions. If certification of the HHV is not provided by the third party fuel supplier, it shall be determined by one of the following test methods: ASTM D2015-85 for solid fuels; ASTM D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for

gaseous fuels. These methods are all incorporated by reference as specified at 40 CFR 52.3002.

(f) *Lean-burn engine* means any two- or four-stroke spark-ignited engine that is not a rich-burn engine.

(g) *Maintenance operation* means the use of an emergency standby engine and fuel system during testing, repair and routine maintenance to verify its readiness for emergency standby use.

(h) *Malfunction* means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

(i) *Output* means the shaft work output from an engine plus the energy reclaimed by any useful heat recovery system.

(j) *Peak load* means the maximum instantaneous operating load.

(k) *Permitted capacity factor* means the annual permitted fuel use divided by the manufacturers specified maximum fuel consumption times 8,760 hours per year.

(l) *Rich-burn engine* means a two- or four-stroke spark-ignited engine where the manufacturers original recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is less than or equal to 1.1.

(m) *Shutdown* means the period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.

(n) *Startup* means the period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

(o) *Stationary internal combustion engine* means any internal combustion engine of the reciprocating type that is either attached to a foundation at a facility or is designed to be capable of being carried or moved from one location to another and remains at a single site at a building, structure, facility, or installation for more than 12 consecutive months. Any engine (or engines) that replaces an engine at a site that is intended to perform the same or similar function as the engine replaced is included in calculating the consecutive time period. Nonroad engines and engines used solely for competition are not stationary internal combustion engines.

(p) *Stoichiometric air/fuel ratio* means the air/fuel ratio where all fuel and all oxygen in the air/fuel mixture will be consumed.

(q) *Unit* means any diesel, lean-burn, or rich-burn stationary internal combustion engine as defined in paragraph (o) of this section.

#### § 98.3 Standard requirements.

After May 1, 2003, an owner or operator of a unit subject to the standards of this subpart shall not operate the unit May 1 through September 30 of 2003, and any subsequent year unless the owner or operator complies with the requirements of paragraph (a) of this section during May 1 through September 30 of each year.

(a) No owner or operator of a stationary internal combustion engine shall cause to be discharged into the atmosphere any gases that contain NO<sub>x</sub> in excess of the following applicable limit, expressed as NO<sub>2</sub> corrected to 15 percent parts per million by volume (ppmv) stack gas O<sub>2</sub> on a dry basis, averaged over a rolling 30-day period:

- (1) Rich-burn, ≥ 2400 bhp: 110 ppmv
- (2) Lean-burn, ≥ 2400 bhp: 125 ppmv
- (3) Diesel, ≥ 3000 bhp: 175 ppmv
- (4) Dual fuel, ≥ 4400 bhp: 125 ppmv

(b) Each emission limit expressed in paragraphs (a)(1) through (4) of this section may be multiplied by X, where X equals the engine efficiency (E) divided by a reference efficiency of 30 percent. Engine efficiency (E) shall be determined using one of the methods specified in paragraph (b)(1) or (2) of this section, whichever provides a higher value. However, engine efficiency (E) shall not be less than 30 percent. An engine with an efficiency lower than 30 percent shall be assigned an efficiency of 30 percent.

(1)

$$E = \frac{(\text{Engine output}) * (100)}{\text{Energy input}}$$

where energy input is determined by a fuel measuring device accurate to ±5 percent and is based on the higher heating value (HHV) of the fuel. Percent efficiency (E) shall be averaged over 15 consecutive minutes and measured at peak load for the applicable engine.

(2)

$$E = \frac{(\text{Mfrs Rated Efficiency [Continuous] at LHV}) * (\text{LHV})}{(\text{HHV})}$$

Where

LHV = the lower heating value of the fuel; and

HHV = the higher heating value of the fuel

#### § 98.4 Compliance determination.

Any owner or operator of a unit subject to the requirements of § 98.3

shall determine compliance using a continuous emissions monitoring system (CEMS) which meets the applicable requirements of Appendices B and F of 40 CFR part 60, excluding data obtained during periods specified in § 98.6.

#### § 98.5 Reporting, monitoring, and recordkeeping.

(a) *Reporting requirements.* Any owner or operator subject to the requirements of § 98.3 shall comply with the following requirements:

(1) By May 1, 2003, submit to the Administrator 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 NO<sub>x</sub> emissions from May 1 through September 30 of each year to the Administrator by October 31 of each year, beginning in 2003.

(3) Each owner or operator of a unit subject to this rule and operating a CEMS shall submit an excess emissions and monitoring systems performance report, in accordance with the requirements of 40 CFR 60.7(c) and 60.13.

(b) *Monitoring requirements.* (1) Any owner or operator subject to the requirements of § 98.3 shall not operate such equipment unless it is equipped with one of the following:

(i) A CEMS which meets the applicable requirements of 40 CFR part 60, subpart A, and appendix B, and complies with the quality assurance procedures specified in 40 CFR part 60, appendix F. The CEMS shall be used to demonstrate compliance with the applicable emission limit.

(ii) 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 EPA in writing prior to implementation.

(2) The CEMS or approved alternate recordkeeping procedure shall be operated and maintained in accordance with an on-site CEMS operating plan approved by EPA.

(c) *Recordkeeping requirements.*

(1) Any owner or operator of a unit subject to this subpart shall maintain all records necessary to demonstrate compliance with the section for a period of 2 calendar years at the plant at which the subject unit is located. The records shall be made available to the

Administrator upon request. The owner or operator shall maintain records of the following information for each day the unit is operated:

- (i) Identification and location of each engine subject to the requirements of this section.
- (ii) Calendar date of record.
- (iii) The number of hours the unit is operated during each day including startups, shutdowns, malfunctions, and the type and duration of maintenance and repairs.
- (iv) Date and results of each emissions inspection.
- (v) A summary of any emissions corrective maintenance taken.
- (vi) The results of all compliance tests.
- (vii) If a unit is equipped with a CEMS:

(A) Identification of time periods during which NO<sub>x</sub> standards are exceeded, the reason for the exceedance, and action taken to correct the exceedance and to prevent similar future exceedances.

(B) Identification of the time periods for which operating conditions and pollutant data were not obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(2) [Reserved]

#### § 98.6 Exemptions.

(a) The requirements of §§ 98.3, 98.4, and 98.5 shall not apply to the following periods of operation:

- (1) Start-up and shut-down periods and periods of malfunction, not to exceed 36 consecutive hours;
- (2) Regularly scheduled maintenance activities.

#### Subpart B—Emissions of NO<sub>x</sub> From Cement Manufacturing

##### § 98.41 Applicability.

The requirements of this subpart apply only to kilns 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.

##### § 98.42 Definitions.

(a) *Clinker* means the product of a Portland cement kiln from which finished cement is manufactured by milling and grinding.

(b) *Long dry kiln* means 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.

(c) *Long wet kiln* means 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.

(d) *Low-NO<sub>x</sub> burners* means combustion equipment designed to reduce flame turbulence, delay fuel/air mixing, and establish fuel-rich zones for initial combustion.

(e) *Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(f) *Mid-kiln firing* means the secondary firing in kilns by injecting solid fuel at an intermediate point in the kiln using a specially designed feed injection mechanism for the purpose of decreasing NO<sub>x</sub> emissions through:

- (1) Burning part of the fuel at a lower temperature; and
- (2) Reducing conditions at the solid waste injection point that may destroy some of the NO<sub>x</sub> formed upstream in the kiln burning zone.

(g) *Portland cement* means 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.

(h) *Portland cement kiln* means 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.

(i) *Precalciner kiln* means 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.

(j) *Preheater kiln* means 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.

(k) *Shutdown* means the cessation of operation of a Portland cement kiln for any purpose.

(l) *Startup* means the setting in operation of a Portland cement kiln for any purpose.

##### § 98.43 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 kiln has installed and operates during May 1 to September 30 with low-NO<sub>x</sub> burners, mid-kiln firing,

or alternative control techniques, subject to EPA approval, that achieve at least the same emissions decreases as low-NO<sub>x</sub> burners or mid-kiln firing.

##### § 98.44 Reporting, monitoring and recordkeeping.

(a) *Reporting requirements.* Any owner or operator subject to the requirements of § 98.43 shall comply with the following requirements:

(1) By May 1, 2003, submit to the Administrator 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 NO<sub>x</sub> emissions from May 1 through September 30 of each year to the Administrator by October 31 of each year, beginning in 2003.

(b) *Monitoring requirements.* Any owner or operator of a unit subject to this subpart shall complete an initial performance test and subsequent annual testing consistent with the requirements of 40 CFR part 60, appendix A, Method 7, 7A, 7C, 7D, or 7E.

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

(1) The emissions, in pounds of NO<sub>x</sub> per ton of clinker produced from each affected Portland cement kiln.

(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 2 years and be made available to the EPA or State or local agency upon request.

##### § 98.45 Exemptions.

The requirements of §§ 98.43 and 98.44 shall not apply to the following periods of operation:

(a) Start-up and shut-down periods and periods of malfunction, not to exceed 36 consecutive hours;

(b) Regularly scheduled maintenance activities.

[FR Doc. 98-26431 Filed 10-20-98; 8:45 am]  
BILLING CODE 6660-01-P

**DEVELOPMENT OF EMISSION BUDGET INVENTORIES  
FOR REGIONAL TRANSPORT NO<sub>x</sub> SIP CALL**

*U.S. Environmental Protection Agency  
Office of Air Quality Planning and Standards  
May 1999*

The following rules were then used to determine if a unit's boiler capacity was considered greater than, equal to, or less than 250 MMBtu/hr. For each unit:

- a. If boiler capacity data were provided for the unit, size determination was made based on those data.
- b. If both the mean and median boiler capacity in the file were greater than 300 MMBtu/hr, it was assumed that the unit's boiler capacity was greater than 250 MMBtu/hr.
- c. If either the mean or median boiler capacity was between 200 and 300 MMBtu/hr, then the daily NO<sub>x</sub> emissions were used to determine the boiler size. If the daily NO<sub>x</sub> emissions were greater than the average daily NO<sub>x</sub> emissions in the default boiler capacity file, it was assumed that the boiler capacity was greater than 250 MMBtu/hr. If the daily NO<sub>x</sub> emissions were less than the average daily NO<sub>x</sub> emissions in the default boiler capacity file, it was assumed that the boiler capacity was less than 250 MMBtu/hr.
- d. If both the mean and median boiler capacity in the file were less than 200 MMBtu/hr, it was assumed that the boiler capacity was less than 250 MMBtu/hr.
- e. If the boiler could not be matched to the default boiler capacity file, it was assumed that the boiler capacity was less than 250 MMBtu/hr.

Units for which the boiler capacity was estimated to be greater than 250 MMBtu/hr were categorized as large sources.

## 2. Cement Manufacturing Plants and Internal Combustion Engines

For cement manufacturing plants and internal combustion engines, boiler capacity was not used to determine source size. Instead 1995 typical ozone season daily emissions were used as a determinant. If the 1995 point-level emissions were more than 1 ton/day, the unit was categorized as a large source. Otherwise the unit was categorized as a small source.

## 3. Calculation of Reductions

Emissions reductions for the budgets were calculated only for large sources in the specific source categories listed in Table III-3. Sources not meeting the large source requirements from these affected categories were considered small and not subject to additional budget control. Emissions from sources smaller than the heat input capacity cutoff level, and that emit less than 1 ton of NO<sub>x</sub> per typical ozone season day are included in the budget inventory at their 2007 base case level. Additionally, those sources without adequate information to determine potentially applicable control techniques are included in the budget at 2007 base case levels.

**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<sub>x</sub>, for units emitting 1 ton/day or more. Technical information in the Alternative Control Techniques (ACT) document for NO<sub>x</sub> Emissions From Stationary Internal Combustion Engines was used to determine appropriate control levels based on this criteria.<sup>1</sup> 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<sub>x</sub> at 15% O<sub>2</sub> for engines that are 2400 brake horsepower (hp) or larger. This represents non-selective catalytic reduction (NSCR) control. NSCR provides the greatest NO<sub>x</sub> reduction of all technologies considered in the ACT document and is capable of providing a 90 to 98 percent reduction in NO<sub>x</sub> emissions.<sup>1</sup> This emission limitation represents the upper end of the range of "Expected controlled NO<sub>x</sub> emission levels" (NSCR) from Table 2-2 of the ACT document. The range of controlled NO<sub>x</sub> is reported to be 0.3 to 1.6 g/hp-hr, or 20 to 110 ppmv (at 15% O<sub>2</sub>) 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<sub>x</sub> emission factor reported in the ACT. Engines that are 2400 hp or larger have the potential to emit 1 ton of NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> at 15% O<sub>2</sub>. This represents selective catalytic reduction (SCR) control. SCR provides the greatest NO<sub>x</sub> reduction of all technologies considered in the ACT document for lean-burn engines and is capable of providing a 90 percent reduction in NO<sub>x</sub> emissions. This emission limitation corresponds to the "Expected controlled NO<sub>x</sub> 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<sub>x</sub> emission factor reported in the ACT. Engines that are 2400 hp or larger have the potential to emit 1 ton of NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> at 15% O<sub>2</sub>. This represents selective catalytic reduction (SCR) control. SCR provides the greatest NO<sub>x</sub> reduction of all technologies considered in the ACT document for diesel engines and is capable of providing a 90 percent reduction in NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> emission factor reported in the ACT. Therefore, engines that are 3100 hp or larger have the potential

to emit 1 ton of NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> at 15% O<sub>2</sub>. This represents selective catalytic reduction (SCR) control which provides the greatest NO<sub>x</sub> reduction of all technologies considered in the ACT document for dual fuel engines. SCR is capable of providing a 90 percent reduction in NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> reduction.

### REFERENCES

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