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INDEPENDENT REGULATORY  
REVIEW COMMISSION



121 Champion Way  
Canonsburg, PA 15317  
Writer's Number  
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June 29, 2007

Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477

**Re: Proposed Rulemaking, Environmental Quality Board  
[25 PA. CODE CHS. 121, 129 AND 145]  
Clean Air Interstate Rule  
[37 Pa.B. 2063]  
[Saturday, April 28, 2007]**

Dear Sirs and Madams:

Following are comments of Reliant Energy to the draft final rulemaking for 25 PA. Code CHS. 121, 129 and 145. Reliant Energy provides electricity and energy services to retail and wholesale customers in the U.S. The company has approximately 16,000 megawatts of power generation capacity in operation, under construction or under contract in the U.S. In Pennsylvania, the company owns and/or operates 18 power plants which produce approximately 8,800 net megawatts of generation capacity. Reliant Resources, Inc is based in Houston, Texas and the Eastern Regional Office is located in Canonsburg, PA.

**The Department's Proposed Rule is the Appropriate Action for the Commonwealth to Address the Transport of Ozone and Fine Particulate.**

In developing the Clean Air Interstate Rule (CAIR), EPA determined the level of emissions reductions needed to reduce the significant contribution to downwind non-attainment areas. It also determined that the level of emission reductions from Electric Generating Units (EGU) would be "highly cost effective." Additionally, its analysis of the availability of boilermaker labor needed to install flue gas desulfurization units and selective catalytic reduction units showed that the emission caps and associated schedules that it put forth could not be made materially more stringent and still allow for the timely installation of enough emission control equipment to meet the emission budgets. We agree with the EPA's assessment on this issue, and that the Department should implement the budgets put forth by EPA. In fact, there have already been significant cost increases announced by power generators associated with acute shortages of engineering resources, labor and materials for projects already in progress. Consequently, the

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Department should not go forward with additional or accelerated reductions such as those considered by the Ozone Transport Commission's "CAIR - Plus" proposal.

**NOx Allowance Allocation Method Response to Specific EOB Questions**

The board has asked for comments specific to the NOx allowance allocation method for both existing and new affected sources.

Reliant Energy supports either heat input or generation output based on gross generation, updating allowance allocation method. This distinction in the use of gross generation to determine output based allocation is to prevent adverse treatment of coal-fired boilers that have installed pollution control equipment which reduces their "net" generation. This occurs because the pollution control equipment requires additional station service to operate. Under PA Code, Title 25, Chapter 145 this updating allowance allocation presently occurs in five year blocks. This proposal is an offset yearly method which, in fact, accomplishes the same goal but introduces some additional variability through the yearly allocation procedure. So long as there are unconstrained free markets, this variability is manageable. Simply stated, this method is acceptable, but not a significant improvement over the current method contained in Chapter 145.

Relative to this proposed method for allocating future allowances for new units, this is an acceptable option; however it is not a significant improvement to the current method contained in Chapter 145. The current Chapter 145 method allows for a unit to become an existing unit with as little as one baseline year of operation. It also allows a new unit which has startup problems to continue to receive new unit allocations if that is more advantageous.

**§ 121.1**

**Issue:**

The definition of "*Vintage* or *Vintage* year."

**Recommendation:**

The definition should be clarified to recognize that allowances are not used to meet an emission limit. The cap and trade programs do not establish limits, but rather require that emissions be accounted for through the surrender of allowances. This definition should be changed as follows: "The calendar year assigned to an allowance by the issuing authority that designates the first year in which it is valid *to be applied against emissions.*"

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§145.101(b)(2)

**Issue:**

**New Non-Electric Generating Units should not be allocated NOx allowances from the Electric Generating Unit CAIR Budget.**

Under the NOx SIP call, sources were included that are not affected by EPA's CAIR rule. Under CAIR, EPA requires states to modify their existing State Implementation Plan (SIP) to require those non-CAIR affected sources currently participating in the NOx SIP Call budget trading program to either conform to the requirements of the CAIR ozone season NOx trading program with a trading budget that is the same or tighter than the budget in the currently approved SIP, or as proposed in Section 145.101 (b)(1), establish an Ozone Season NOx permit limit equal to the most recent Ozone Season NOx allowance allocation for existing Non-Electric generating units. Either of these options satisfies the EPA criteria for SIP approval. The Department has also proposed the option of allocating NOx emission allowances to new Non-Electric Generating Units to account for their emissions. However, the Department does not propose to expand the emission budgets to account for inclusion of this category of sources. Not expanding the budget to account for this category of sources would inappropriately reduce the emission budget that EPA has identified for the EGUs. Therefore, the Department should either withdraw Section 145.101(b)(2) or increase the NOx allowance budget to account for source categories that were not originally included in the EGU budget..

**§129.204**

**Issue:**

Emissions accountability.

**Recommendation:**

Reliant Energy supports the concept of using NOx allowances to account for NOx emissions from non-budget sources to achieve overall NOx reductions. This is a solution that utilizes the power of the market based regulations in a fashion which helps sustain the economy of Pennsylvania by allowing companies to either comply with regulatory limitations or to pay another source to make those emission reductions for them through the purchase and surrender of NOx allowances. This helps preserve Pennsylvania industry and jobs because it provides a lower cost compliance option to some sources without shifting the burden of an emission reduction cost to another competitive industry, the electric wholesale generators which operate the EGUs in Pennsylvania.

Reliant Energy also supports the expansion of this type of program to account for High Electric Demand Days (HEDD) NOx emissions. This proposal would require all electric generating sources which are not affected by the Clean Air Interstate Rule (CAIR) to surrender current vintage NOx allowances to account for their NOx emissions using allowances rather than install

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extremely expensive NOx controls. This solution allows real, quantifiable, contemporaneous emissions reductions to occur at lower cost while accounting for emissions from sources which generally only operate on HEDD. This proposal is self adjusting because if more operations of these units occur, the allowance surrender requirements increase. This is especially important considering the Demand Response programs being implemented by the PJM, which encourage the operation of electric generating sources which are not affected by the CAIR regulations and emissions budgets. The Demand Response program actually serves to shift load from CAIR affected EGUs to these electric generating sources which are not affected by CAIR. The consequence of that unaccounted generation is emissions increases which will more than negate the emission reductions achieved by the EGUs.

This HEDD proposal, by virtue of addressing these emissions which occur during HEDD periods, helps provide for attainment of the 8-hour ozone standard in most areas in PA and the remainder of the Ozone Transport Region (OTR). Addressing non-attainment on these days provides the ozone attainment solution which obviates the need for the "CAIR-Plus" proposal at this time.

#### **§145.113**

**Issue:**

Emissions accountability.

**Recommendation:**

Reliant Energy supports the concept of using NOx allowances to account for NOx emissions from non-budget sources to achieve overall NOx reductions. This is a solution that utilizes the power of the market based regulations in a fashion which helps sustain the economy of Pennsylvania by allowing companies to either comply with regulatory limitations or to pay another source to make those emission reductions for them through the purchase and surrender of NOx allowances. This helps preserve Pennsylvania industry and jobs because it provides a lower cost compliance option to some sources without shifting the burden of an emission reduction cost to another competitive industry, the electric wholesale generators which operate the EGUs in Pennsylvania.

Reliant Energy also supports the expansion of this type of program to account for High Electric Demand Days (HEDD) NOx emissions. This proposal would require all electric generating sources which are not affected by the Clean Air Interstate Rule (CAIR) to surrender current vintage NOx allowances to account for their NOx emissions using allowances rather than install extremely expensive NOx controls. This solution allows real, quantifiable, contemporaneous emissions reductions to occur in a lesser cost fashion while accounting for emissions from sources which generally only operate on HEDD. This proposal is self adjusting because if more operations of these units occur, the allowance surrender requirements increase. This is especially important considering the Demand Response programs being implemented by the PJM, which encourage the operation of electric generating sources which are not affected by the CAIR regulations and emissions budgets. The Demand Response program actually serves to shift load

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from CAIR affected EGUs to these electric generating sources which are not affected by CAIR. The consequence of that unaccounted generation is emissions increases which will more than negate the emission reductions achieved by the EGUs

This HEDD proposal, by virtue of addressing these emissions which occur during HEDD periods, helps provide for attainment of the 8-hour ozone standard in most areas in PA and the remainder of the Ozone Transport Region (OTR). Addressing non-attainment on these days in fact provides the attainment solution which obviates the need for the "CAIR-Plus" proposal at this time.

### **§ 145.202. Definitions**

#### **Issue:**

The definition of "Demand side management" provides for NOx emitting activities.

#### **Recommendation:**

The definition of "Demand side management" includes, under (ii), load shifting. This activity does not eliminate electric energy consumption. It simply shifts the time when that electric energy is consumed. This action may have no effect on the formation of ozone on a subsequent day, and should be excluded from the definition in this regulation because "Demand side management" activities can receive NOx allowance allocations. The Independent System Operator (PJM) is already offering programs which adequately compensate this load shifting activity. Because the environmental benefit of this load shifting activity is questionable, it should be clear that it does not qualify for allowance allocations by removal from the definition or specifically disallowing the activity.

The definition of "Demand side management" includes, under (iii), the use of industrial byproducts to produce electricity. This activity does not eliminate electric energy consumption or emissions. Further, it is generated by sources which likely do not have a requirement to surrender allowances to account for NOx emissions. Consequently, emissions from those sources may negate the emission reductions achieved by the regulated CAIR affected sources which are being relied upon to achieve and maintain ozone attainment. Providing allowances to these sources results in the unintended consequence of shifting the generation of electricity away from sources which are operating under an emission budget to those with emissions outside of the budget. This rewards them for an activity which is fundamentally contrary to the goals of the HEDD effort. Simply stated, emissions from these sources are unaccounted for on those days which need NOx emissions accounted for the most. The Independent System Operator (PJM) is already offering programs which adequately compensate this activity. Because the environmental benefit of this activity is questionable, it should be clear that it does not qualify for allowance allocations by removal from the definition or specifically disallowing the activity.

**Issue:**

The definition of "*Renewable energy* (ii)" is confusing.

**Recommendation:**

The definition of "*Renewable energy*" should be clarified to state "*Renewable energy—electric energy generated.*" If the intent of this definition is to exclude electric energy generated from certain fuels from the definition of "*Renewable energy*" then the wording should be changed to ensure clarity. Our suggested change is "*(ii) electric energy generated from nuclear fuel, biomass, landfill gas, fuel cells that employ a fuel processor that emits NOx and hydro using pumped storage is not renewable energy.*"

**§ 145.205. Emission reduction credit provisions.**

**Issue:**

This section requires that any affected source providing emission reduction credits (ERC) to a non-affected source requires the Department to permanently reduce the Commonwealth's CAIR NOx budgets.

**Recommendation:**

It is unnecessary to link the ERC and the allowance program. The provision requiring the surrender of NOx allowances will make those ERCs too expensive for a non-affected source to procure. While the intent of this requirement is to prevent "double emissions," the real consequence is that non-affected industries will have a more difficult time if there is some future economic development of primary industries in the Commonwealth. As we provide for more industries to use these allowances as an alternative to installing emission controls it becomes more unnecessary. This provision should be eliminated.

**§145.211**

**The Department Should Change the Timing of its NOx Allocation to Meet EPA's Requirement that Allocations must be made for the fourth year after the year of the allocation.**

In the preamble, the Department acknowledges the EPA requirement that to be approvable a SIP must provide allowance allocations four years in advance. However, the Department proposes to provide some allocations every second year that are only three years in advance. Providing the allocation only three years in advance would appear to risk EPA disapproval. In 2008, The Department should provide allocations for 2012 and if it wants to continue to provide allocations in two year blocks also for 2013. That the Department is proposing to allocate in 2008 for 2010 and 2011, would also seem to place the SIP at risk of disapproval, although the EPA had specified that the 2009 allocations be provided three years in advance, i.e. in 2006. Changing the timing of the allocations would require a conforming change in the baseline year for each year's allocation.

**§145.212 (f)(1)**

**Issue:**

This provision provides for the allocation of annual CAIR NOx allowances to a tier I renewable energy qualifying resource or tier II demand side management qualifying resource.

**Recommendation:**

This section provides for the unlimited allocation of annual CAIR NOx allowances to certain qualifying resources. Reliant Energy recognizes that allowance allocation can be a means to encourage desirable activities. However, with the extra-market compensation already being provided through the mandated percentages required by Act 213 of 2004, numerous federal and state tax incentives, and demand response programs, there should be some practical limit to the number of allowances allocated to these non-emitting resources. Unlimited allocation to those qualifying resources as a means to encourage increased construction and utilization serves to unnecessarily increase the cost of compliance to CAIR affected sources which must surrender these allowances. That is counter to the current PUC initiatives to mitigate future price increases when retail electricity price caps expire in Pennsylvania. Therefore, it is recommended that the total number of allowances issued to those non-emitting qualifying resources be limited to a total of 3% of the annual CAIR budget. This is the maximum percentage estimate that was provided by the Department to the Air Quality Technical Advisory Committee (AQTAC) at the January 4, 2007 meeting when the Department presented this regulation prior to submission to the Environmental Quality Board (EQB). If the request for CAIR NOx allowances exceeds 3%, those resources should receive a prorated allocation.

**§145.212 (f)(2)**

**Issue:**

This provision provides for the allocation of additional annual CAIR NOx allowances to the owner or operator of a CAIR SO2 unit which did not receive an SO2 allowance allocation under the federal Acid Rain regulations.

**Recommendation:**

We understand the Department's desire to provide those generators relief from the additional costs associated with the surrender of SO2 allowances. Requiring those generators that were not allocated SO2 allowances under the Clean Air Act to purchase those allowances when not being in a position to recover those costs through the bidding process in the PJM interconnection could result in the loss of some of the environmental benefits afforded by those facilities. The process to address the lack of SO2 allocation that the Department has proposed has struck a reasonable balance between the interests of all electric generating units. The Department should retain the cap of 1.3 % of the annual CAIR NOx budget. In addition, the requirement to exclude from the allocation calculation the difference between a unit's CAIR NOx allocation and its actual emissions correctly incorporates the economic benefit of the NOx allocation method for these sources. Significantly, the NOx allocation benefit is incorporated in both the ozone season and annual CAIR NOx programs. Finally, limiting that NOx allocation to 1 NOx allowance for

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every 8 tons of SO<sub>2</sub> emitted provides a justified adjustment for the potential difference between the price of NO<sub>x</sub> allowances and the price of SO<sub>2</sub> allowances when the projected cost of 2010-2015 SO<sub>2</sub> allowances and annual NO<sub>x</sub> allowances are considered.

Reliant Energy supports an alternative solution which has been proposed by Governor Rendell and DEP Secretary McGinty. They have proposed that these sources receive an exemption from CAIR SO<sub>2</sub> allowance surrender requirements as long as they are exempted from SO<sub>2</sub> allowance surrender requirements under the federal Acid Rain regulations. We believe that is the most appropriate means to deal with this issue. If that measure is adopted, then there is no longer a need for this section and it should be deleted from these regulations.

**§145.222(I)**

**Issue:**

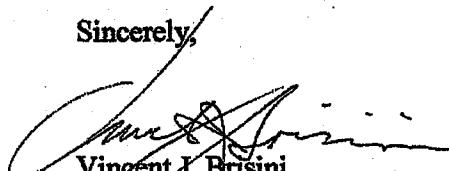
This provision provides for the allocation of ozone season CAIR NO<sub>x</sub> allowances to a tier I renewable energy qualifying resource or tier II demand side management qualifying resource.

**Recommendation:**

This section provides for the unlimited allocation of ozone season CAIR NO<sub>x</sub> allowances to certain qualifying resources. Reliant Energy recognizes that allowance allocation can be a means to encourage desirable activities. However, with the extra-market compensation already being provided through the mandated percentages required by Act 213 of 2004, numerous federal and state tax incentives, and demand response programs, there should be some practical limit to the number of allowances allocated to these non-emitting resources. Unlimited allocation to those qualifying resources as a means to encourage increased construction and utilization serves to unnecessarily increase the cost of compliance to CAIR affected sources which must surrender these allowances. That is counter to the current PUC initiatives to mitigate future price increases when retail electricity price caps expire in Pennsylvania. Therefore, it is recommended that the total number of allowances issued to those non-emitting qualifying resources be limited to a total of 3% of the ozone season CAIR NO<sub>x</sub> budget. This is the maximum percentage estimate that was provided to the Air Quality Technical Advisory Committee (AQTAC) at the January 4, 2007 meeting when the Department presented this regulation prior to submission to the Environmental Quality Board (EQB). If the request for CAIR NO<sub>x</sub> allowances exceeds 3%, those resources should receive a prorated allocation.

Reliant Energy appreciates the opportunity to submit these comments. If you have any questions or wish to discuss our comments in greater detail, please contact me at (814) 659-3764.

Sincerely,



Vincent J. Brisini  
CEMS Program Manager





Reliant Energy  
Summary of Comments to Proposed Rulemaking  
Environmental Quality Board [25 PA. CODE CHS. 121, 129 AND 145]  
Clean Air Interstate Rule [37 Pa.B. 2063] [Saturday, April 28, 2007]

- The Department's Proposed Rule is the Appropriate Action for the Commonwealth to Address the Transport of Ozone and Fine Particulate. EPA determined the level of emissions reductions needed to reduce the significant contribution to downwind non-attainment areas. It also determined that the level of emission reductions from Electric Generating Units (EGU) would be "highly cost effective." The Department should implement the emission budgets put forth by EPA.
- Reliant Energy supports either heat input or generation output based on gross generation, updating allowance allocation method. This distinction in the use of gross generation to determine output based allocation is to prevent adverse treatment of coal-fired boilers that have installed pollution control equipment which reduces their "net" generation. Relative to the proposed method for allocating future allowances for new units, this is an acceptable option; however it is not a significant improvement to the current method contained in Chapter 145.
- The definition of "Vintage or Vintage year" should be clarified to recognize that allowances are not used to meet an emission limit. This definition should be changed as follows: "The calendar year assigned to an allowance by the issuing authority that designates the first year in which it is valid to be applied against emissions."
- New Non-Electric Generating Units should not be allocated NOx allowances from the Electric Generating Unit CAIR Budget. The Department does not propose to expand the emission budgets to account for inclusion of this category of sources. Not expanding the budget to account for this category of sources would inappropriately reduce the emission budget that EPA has identified for the EGUs. The Department should either withdraw Section 145.101(b)(2) or increase the NOx allowance budget to account for source categories that were not originally included in the EGU budget.
- Reliant Energy supports the concept of using NOx allowances to account for NOx emissions from non-budget sources to achieve overall NOx reductions. This is a solution that utilizes the power of the market based regulations in a fashion which helps sustain the economy of Pennsylvania by allowing companies to either comply with regulatory limitations or to pay another source to make those emission reductions for them through the purchase and surrender of NOx allowances. Reliant Energy also supports the expansion of this type of program to account for High Electric Demand Days (HEDD) NOx emissions. This HEDD proposal, by virtue of addressing these emissions which occur during HEDD periods, helps provide for attainment of the 8-hour ozone standard in most areas in PA and the remainder of the Ozone Transport Region (OTR). Addressing non-attainment on these days in fact provides the attainment solution which obviates the need for the "CAIR-Plus" proposal at this time.
- The definition of "Demand side management" includes, under (ii), load shifting. This activity does not eliminate electric energy consumption. It simply shifts the time when that electric energy is consumed. This action may have no effect on the formation of ozone on a subsequent day, and should be excluded from the definition in this regulation.
- The definition of "Demand side management" includes, under (iii), the use of industrial byproducts to produce electricity. This activity does not eliminate electric energy consumption or emissions. Because the environmental benefit of this activity is questionable, it should be clear that it does not qualify for allowance allocations by removal from the definition or specifically disallowing the activity.
- The definition of "Renewable energy" should be clarified to state "Renewable energy—electric energy generated." If the intent of this definition is to exclude electric energy generated from certain fuels from the definition of "Renewable energy" then the wording should be changed to ensure clarity. Our suggested change is "(ii) electric energy generated from nuclear fuel, biomass, landfill gas, fuel cells that employ a fuel processor that emits NOx and hydro using pumped storage is not renewable energy."
- It is unnecessary to link the ERC and the allowance program. The provision requiring the surrender of NOx allowances will make those ERCs too expensive for a non-affected source to procure. While the intent of this requirement is to prevent "double emissions," the real consequence is that non-affected industries will have a more difficult time if there is some future economic development of primary industries in the Commonwealth.
- The Department Should Change the Timing of its NOx Allocation to Meet EPA's requirement that allocations must be made for the fourth year after the year of the allocation. In the preamble, the Department acknowledges the EPA requirement that to be approvable a SIP must provide allowance allocations four years in advance. However, the Department proposes to provide some allocations every second year that are only three years in advance. This seems to place the SIP at risk of disapproval
- It is recommended that the total number of allowances issued to non-emitting qualifying renewable resources be limited to a total of 3% of the annual CAIR budget. This is the maximum percentage estimate that was provided by the Department to the Air Quality Technical Advisory Committee (AQTAC) at the January 4, 2007 meeting when the Department presented this regulation prior to submission to the Environmental Quality Board (EQB). If the request for CAIR NOx allowances exceeds 3%, those resources should receive a prorated allocation.
- The process to address the lack of SO2 allocation that the Department has proposed for waste coal qualifying facilities has struck a reasonable balance between the interests of all electric generating units. The Department should retain the cap of 1.3 % of the annual CAIR NOx budget. However, Reliant Energy supports an alternative solution which has been proposed by Governor Rendell and DEP Secretary McGinty. They have proposed that these sources receive an exemption from CAIR SO2 allowance surrender requirements as long as they are exempted from SO2 allowance surrender requirements under the federal Acid Rain regulations. We believe that is the most appropriate means to deal with this issue. If that measure is adopted, then there is no longer a need for this section and it should be deleted from these regulations.

THE UNIVERSITY OF CHICAGO  
DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF CHEMISTRY

REPORT OF THE COMMITTEE ON THE ORGANIZATION OF THE  
DEPARTMENT OF CHEMISTRY

FOR THE YEAR 1960-1961

CHICAGO, ILLINOIS

1961

BY THE COMMITTEE ON THE ORGANIZATION OF THE  
DEPARTMENT OF CHEMISTRY

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