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**Kathy Cooper**

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**From:** Teresa McGee [teresa@epga.org]  
**Sent:** Friday, August 25, 2006 2:12 PM  
**To:** IRRC  
**Subject:** EQB - Standards for Contaminants; Mercury Regulation ID #7-405 (#2547)

Attached please find comments which were submitted today by the Electric Power Generation Association to the EQB regarding your regulatory number #7-405 (#2547).

Thank you,

Douglas L. Biden  
President  
Electric Power Generation Association  
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COMMISSION

**Summary of Comments Submitted by the Electric Power Generation Association  
on Proposed Changes to Chapter 123 – Mercury Emissions Control  
August 25, 2006**

**\$1.7 Billion in Extra Costs Imposed:** A recent study shows the proposed rule would increase Pennsylvania's cost for compliance by \$1.7 billion, doubling the investments EGUs would have to make in advanced pollution control equipment over the CAIR/CAMR rule. DEP has done no detailed study of the cost impacts of this rule on electric generators or electric customers.

**14 Percent Reduction in PA Coal Use:** This same study shows there could be an annual loss of 9.4 million tons or about 14 percent of the coal mined annually in the state. DEP has done no study of the impact of this rule on the coal industry.

**PUC, PJM Concerned About Cost, Reliability Impacts:** Both the Chairman of the Public Utility Commission and the PJM Interconnection, operator of the regional electric grid, expressed concerns about the implications of DEP's rule saying the proposed rule has the potential to cause a reduction in electric generating capacity in the state which could have a negative effect on an already volatile energy market.

**No Additional Benefits:** No evidence was presented by any party showing the proposed rule will provide any additional environmental or health benefit to Pennsylvania beyond the EPA Clean Air Mercury Rule (CAMR). No credible evidence of mercury "hot spots" was presented by any party. In fact evidence was presented that there were no local mercury "hot spots."

DEP said it has no studies which show health impacts from mercury emissions from power plants or information that links specific power plant emissions with mercury deposited in the state. Pennsylvania power plants already reduced mercury emissions by 33 percent between 1999 and 2004, but DEP's Mercury Monitoring Network did not record this reduction, indicating mercury is coming from a variety of natural and manmade sources some hundreds, even thousands of miles away.

**No Cap-And-Trade, No Incentive for Over-Control:** The DEP's proposed rule lacks a market-driven cap-and-trade program, a proven tool to reduce air pollution, to promote early reductions of mercury emissions in a cost-effective way. The non-tradable credits included in the proposal in fact offer a disincentive for plants to over-control their emissions since they can be assigned to other plants, even competitors, by DEP. By requiring generators to meet a stringent EPA cap based on a national trading program, and at the same time preventing them from participating in that program, DEP is institutionalizing the very competitive disadvantage it says was one of the primary reasons Pennsylvania needed a state-specific mercury rule – the disparate treatment of western vs. eastern coal – and removing the only remedy that power plant owners have to redress this source of competitive disadvantage.

**Fails to Meet Minimum Federal Requirements:** The proposed rule fails to meet the minimum requirement in the federal Clean Air Mercury Rule that states meet the CAMR mercury budget because there is no certainty a pool of allowances will be created under this proposed rule to be available to owners of electric generating units (EGUs) without the economic incentives included in the CAMR cap-and-trade program.

**Coal-Fired Plants Could Close:** Smaller generating units are at risk of retirement because it may not be economically feasible to install maximum mercury controls at these facilities. This could have a significant impact on electric reliability and price volatility. Although smaller and not operated as frequently as larger plants, these units are vital to a reliable and affordable power supply, and are the same units that afford electric generators the ability to produce more electricity during periods of peak demand, like the recent heat wave.

August 25, 2006

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Kathleen A. McGinty  
Chairperson  
Environmental Quality Board  
PO Box 8477  
Harrisburg, PA 17105-8477  
Email: [RegComments@state.pa.us](mailto:RegComments@state.pa.us)

Dear Secretary McGinty:

Please find attached a copy of additional comments the Electric Power Generation Association (EPGA) is submitting for the record in response to proposed Chapter 123 revisions relating to reducing mercury emissions from coal-fired power plants (#7-405).

These comments are in addition to comments presented by EPGA during the July 26, 2006 public hearing by the Environmental Quality Board which are attached.

EPGA is a strong supporter of efforts to significantly reduce mercury emissions from power plants, but feels the justification provided by the Department for the approach taken in this proposed regulation is seriously flawed, incomplete and based on misinterpretations of information contained in a series of studies cited by the Department.

We also believe this proposed rule fails to meet the minimum requirement of the federal Clean Air Mercury Rule (CAMR) that states meet the CAMR mercury budget because there is no certainty a pool of allowances will be created under this proposed rule to be available to owners of electric generating units (EGUs) without the economic incentives included in the CAMR cap-and-trade program.

We look forward to your response to these comments and the linked documents we have submitted for the record, and remain available to work in good faith with the Department and other policymakers to pursue alternative approaches that ensure significant mercury emissions reductions, while protecting a reliable and affordable power supply, good union and family-sustaining jobs, and the use of Pennsylvania coal.

Sincerely,

*Douglas L. Biden*

Douglas L. Biden  
President  
Electric Power Generation Association

Enclosures

**Comments on the Justification and Questions Asked  
in the Preamble to the  
Proposed Chapter 123 Revisions Related to Mercury Emissions  
From Power Plants  
By the  
Electric Power Generation Association**

In the Preamble to the rulemaking proposing changes to Chapter 123, the Department of Environmental Protection provides a justification for developing a state-only mercury emissions reduction rule. EPGA finds this justification seriously flawed, incomplete and based on misinterpretations of information contained in a series of studies cited by the Department.

This section of EPGA's comments provides the Environmental Quality Board with additional information to address key points underlying DEP's justification for a state-only rule.

It also provides comments in answer to the seven specific questions asked by the Air Quality Technical Advisory Committee (AQTAC).

**Costs Imposed Beyond CAIR/CAMR**

EPGA is not aware of any detailed study done by DEP of the costs this proposed rule would impose on owners of electric generating units (EGUs) beyond the costs they would incur complying with the Clean Air Interstate Rule (CAIR).

DEP has only made available generalized numbers that estimate that the increase in cost to comply with Phase 1 of the proposed rule would be \$15.4 million per year. The annual incremental cost to comply with Phase 2 would be \$16.7 million per year.

EPGA would like to submit for the Board's consideration a copy of a detailed cost study done for the Center for Energy and Economic Development and the Pennsylvania Coal Association entitled, "Evaluation of the Compliance Implications to Pennsylvania Electric Generation of Meeting Governor Rendell's Proposed Mercury Rule" published in August 2006 by Marchetti, Cichanowicz and Hein.

This study shows the proposed state-only rule would increase Pennsylvania's cost for compliance by \$1.7 billion, doubling the investments Pennsylvania EGUs would have to make in advanced pollution control equipment over the CAIR/CAMR rule.

The report also shows that the cumulative annualized cost to comply with the PA rule over CAIR/CAMR is \$1.6 billion or \$161 million per year from 2009 to 2018 for a total of \$6.5 billion. For the CAIR/CAMR rule compliance costs alone it would be \$4.9 billion.

In addition, the study estimates the state-only rule could displace almost 85.1 million tons of Pennsylvania coal between 2010 and 2018, an annual loss of 9.4 million tons or about 14 percent of the coal mined annually in the state.

The study shows that under the proposed rule, 5,797 megawatts (MW) of generating capacity would be at risk of premature retirement-- 3,375 megawatts of pulverized coal-fired generation units are at risk of retirement, and, beginning in 2015, 2,422 MW of fluidized bed waste coal units would be unable to achieve their Phase II annual plant emission limitations even with deployment of aggressive mercury control technology.

This generating capacity could be unavailable because the proposed rule requires an annual cap on mercury emissions to meet the state's overall mercury budget without the benefit

of a cap-and-trade program. It ignores considerations like technical feasibility or cost with respect to meeting the annual cap limitation.

It is well documented that in order to achieve compliance with the state's mercury budget, most of the EGUs in Pennsylvania will have to achieve mercury reductions from coal in excess of 94 percent.

Although the proposed rule imposes a technology-based rule requirement that is presumed to achieve compliance, when coupled with the requirement to independently meet the state's mercury budget cap without trading, this presumptive technology provision becomes meaningless.

DEP has suggested that units will over comply with emission requirements and make surplus allowances available to the supplemental emission allowance pool. But, as noted elsewhere in EPGA's comments, DEP has not provided any credible evidence that these stringent emission reduction requirements can be met let alone be surpassed to the extent that surplus allowances are created. We ask that DEP provide this evidence.

We find that DEP's argument that this proposed state-only rule will not impose significantly more costs on the owners of EGUs than costs to comply with the federal CAIR has no factual basis and cannot be used to justify this rule, and ask that DEP provide the necessary justification.

*(As noted in earlier EPGA comments, we have requested a full economic impact study of this rule, including the cost of electricity to consumers, and have asked for a study documenting the health and environmental benefits over and above the federal CAMR.)*

### **Real Mercury Reductions in Pennsylvania**

DEP said in the Preamble that it cannot be assured that there will be real mercury reductions from Pennsylvania EGUs.

At the same time, DEP presented information to the Air Quality Technical Advisory Committee saying that 90 percent of the coal-fired generating capacity in the state will have scrubbers and advanced air pollution control equipment installed to meet the federal CAIR rule that will result in significant mercury emission reductions.

Owners of EGUs themselves have already announced nearly \$3 billion worth of projects to install air pollution control equipment to meet CAIR in Pennsylvania.

Scrubbers installed to meet CAIR, in conjunction with cold-side electrostatic precipitators (CS-ESP), reliably remove 90 percent of the oxidized mercury contained in power plant emissions. Consequently, there will undoubtedly be a significant reduction in mercury emissions from EGUs located in Pennsylvania.

As noted previously, power plants in Pennsylvania have already reduced mercury emissions by 33 percent from 1999 to 2004, based on the federal Toxics Release Inventory and the U.S. EPA mercury budget.

Given this information, we find this reason for imposing a state-only rule has no factual basis and cannot be used to justify this rule.

### **Response to Specific Questions Asked by the AQTAC**

Please find here comments in response to the specific questions asked by the AQTAC in the Preamble.

## **1. Advantages/Disadvantages of Supplemental Mercury Pool**

We believe this proposed rule fails to meet the minimum requirement of the federal CAMR rule that states meet the CAMR mercury budget because there is no certainty the pool of “non-tradable” allowances will be created under this rule to be available to owners of EGUs without the economic incentives included in the CAMR cap-and-trade program.

In addition, electric wholesale generators need to obtain financing from financial institutions to fund the advanced air pollution control equipment required by this rule, and they look for certainty in complying with the annual emission limitation because that means the unit can continue operating and sell its electricity in the market.

There is no certainty the allowances will be available, therefore necessary financing will be uncertain to install the needed emission control equipment.

Without the certainty of obtaining “non-tradable” allowances, owners of EGUs will be forced to include the use of out-of-state coal that is typically lower in mercury content than Pennsylvania coal, as part of their overall emissions control strategy to ensure compliance.

Allowing owners of EGUs to meet the annual emission budget through the CAMR cap-and-trade provisions provides the certainty necessary for financial institutions, for certifications under the federal Sarbanes Oxley law, and for the continued use of Pennsylvania coal and plant operations.

## **2. New Source Set Aside Provisions**

The unused “non-tradable” allowances in the new source set aside should not be retained in the supplemental pool. Those unused “non-tradable” allowances should be returned to the affected units. If there are unused “non-tradable” allowances available after they have been returned to the affected units, they will be taken and used in the supplemental pool, regardless. It is highly uncertain whether many generating units will be able to meet their annual emission limits under this rule. Returning unused allowances from the new source set aside to the affected units could mean the difference between compliance and non-compliance for some units.

EPGA believes the 5 percent set aside proposed for Phase I is much too large.

There have been no new coal-burning EGUs proposed for Pennsylvania, and it is uncertain when that will change. The forecast increase in electric use is estimated to be 2 percent annually, most of which will probably be provided by fuels other than coal.

Also, as a practical matter, a state which deliberately subjects its coal-fired generating plants to significant competitive disadvantages, as is the case with this proposed rule, must expect future coal-fired generation development to gravitate to other states – not to Pennsylvania. In a wholesale market as large and as intensely competitive as PJM, EPGA expects that most future coal-fired generation in PJM will be developed in more coal-friendly states such as Virginia, West Virginia, Kentucky, Ohio and Indiana, not in states where power plant investors perceive higher regulatory risks for coal-related investments. Not coincidentally, the aforementioned states are following the federal CAIR and CAMR proposals.

Based on these considerations, a new source set aside in Phase I, if established, should be no larger than 2 percent of Pennsylvania’s mercury allowance budget. In Phase II the set aside should be decreased to 1 percent. This will help reduce the number of existing generating units unable to meet their annual emission limits.

### **3. Coal Preparation as Part of Reducing Mercury**

Mercury removed in coal preparation should be credited toward meeting the percent reduction requirements of this proposed rule.

The U.S. EPA's mercury budget for Pennsylvania requires a 94 percent reduction in mercury in the coal from 1999 levels, which is unattainable by technology available today.

Taking into account mercury removed in coal preparation would make the percentage removal requirement more feasible.

### **4. Compression of Phase I & II Compliance Schedules**

The U.S. EPA has set a Phase II implementation date of 2018 based on its assessment of when the necessary control technology will be available. DEP has proposed to move that date up to 2015 without showing that technology will be available earlier.

The proposed rule attempts to address this concern in a provision which provides for the consideration of alternative schedules and technologies. This provision is commendable and is necessary to address concerns with units which cannot economically install presumptive technologies or other maximum controls to achieve the unit specific removal requirements or the annual emission limit. However, an unrestricted "cap and trade" program, as allowed under CAMR, best implements this type of provision. "Non-tradable" allowances are not certain to be available to allow for this provision to be implemented. This is because there is reliance on "over-control" by units without any economic incentive to "over-control" and any unused "non-tradable" allowances that are not used in a vintage year are not held for future use when there may be insufficient "non-tradable" allowances. This same supplemental pool will be used to provide "non-tradable" allowances to units that can't meet the unit/facility annual limit as well as to provide for alternative controls and schedules. Without any certainty relative to the availability of "non-tradable allowances" this provision isn't adequate to address the alternative technologies or timing concerns of the accelerated schedule.

We request that DEP provide a detailed assessment of the availability, reliability, market conditions and cost associated with mercury removal technology as applied to burning Pennsylvania coal by the 2015 compliance date.

### **5. Start-Up Provisions, Cost Sharing Between Sources**

Given the incompatible structures of CAMR and Pennsylvania's proposed mercury rule, it is not clear how start-up provisions can be included in the rule.

### **6. Expansion of Daily Sampling of Coal from Feeders to "As Received"**

We recommend the rule be revised to allow a variety of existing sampling programs to be used to demonstrate mercury removal from the coal being burned.

It is not necessary to demonstrate removal on a daily basis if the required demonstration is an annual period. Implementation of an "as fired" sampling system would be very expensive and will not provide the information necessary for the success of the mercury emissions reduction program.

Samples of “as received” coal, used by generators to assure compliance with coal purchase contracts, should be adequate to determine compliance with the Pennsylvania mercury rule. However, use of “as mined” coal samples should be allowed to take into account mercury removed by coal preparation.

Our detailed comments on Sections 123.205 and 123.214 provide suggested language.

## **7. Encouragement of Over-Compliance**

We believe this proposed rule fails to meet the minimum requirement of the federal CAMR rule that states meet the CAMR mercury budget because there is no certainty the pool of allowances created under this rule will be available to owners of EGUs without the economic incentives to over-control mercury emissions included in the CAMR cap-and-trade program.

Under the proposed rule, plant owners have no opportunity to recoup their investment in air pollution controls because DEP, not plant owners, assigns any extra allowances to others, in most cases a competitor in the wholesale power market that cannot comply.

This creates the untenable situation where one generator that has made the significant investment in mercury emission reductions could be subsidizing a competing facility.

As a result there is no incentive to over-control mercury emissions.

*(See the comments EPGA at the EQB hearing for more on economic incentives for over-control of mercury emissions.)*

## **8. Validity of Steubenville Study**

DEP cites what it calls the April 2005 “Steubenville Study” as evidence that power plants cause “hot spots” and as a justification for not adopting a cap-and-trade program.

This study has not been peer reviewed or published in any scientific literature, nor have any written reports been made available by the principle investigators regarding the data, methods, analysis or findings of the study.

From what is known about the study, its findings regarding the source of wet deposition are essentially consistent with Electric Power Research Institute modeling results, illustrating that approximately 64 percent of the deposition in the vicinity of Steubenville is attributable to U. S. utility sources.

The study, however, uses both local and regional sources as contributors to the wet deposition estimates, defining “local” contributors to include sources that are located at least 150 miles away and up to 400 miles away.

This distance is about five times the distance or 25 times the coverage area that is typically used in the definition of “local”.

By using this “local/regional” inclusion of contributing sources, the study is actually indicating that all U. S. utilities together appear to contribute 65 to 70 percent of the wet deposition of mercury in the Steubenville area.

This finding does not support any concept of “hot spots” or the assertion that wet deposition is occurring immediately downwind of power plants.

The study also appears to confirm that wet deposition in a region is closely related to precipitation and that a few large rainfall events appear to contribute significantly to wet deposition totals for the year.



This observation has also been made in other U. S. regions that are subject to either frontal uplift storms or convective storms with intervening dry periods. Significant washout of divalent mercury can occur in the initial periods of a rain event or in the first series of closely spaced rain events, when reactive gaseous mercury is absorbed by the precipitation.

Given this more complete information about the Steubenville Study, it cannot be used as a justification for not adopting a cap-and-trade program.

#### **Comments On: Study By T.M. Sullivan, Brookhaven National Laboratories**

The study conducted by T. M. Sullivan of Brookhaven National Laboratories in 2003-04 is cited in the Preamble as an example of the presence of “hot spots” around coal fired power plants and as a justification for not adopting the federal CAMR cap-and-trade program.

DEP’s description of the study said if plant emissions of mercury are doubled, the concentration of mercury in fish would also double and identifies the area around the Bruce Mansfield Plant as a mercury “hot spot” in Pennsylvania.

This study actually found minimal amounts of deposition in the vicinity of EGU’s and no evidence of “hot spots,” despite its use of conservative assumptions regarding the availability of mercury, the amount of local fish consumption, and exposure risks.

In fact, the study concludes that the implementation of a “cap-and-trade” program for mercury is ‘acceptable from a risk standpoint.’ Dr. Sullivan confirmed these conclusions in testimony that he presented to the House Environmental Resources and Energy Committee February 23, 2006.

DEP cannot use the Sullivan study at Brookhaven as a justification for adopting a state-only mercury rule.

#### **Comments On: Study Conducted by Dr. Trasande**

DEP cites a study by Dr. Leonardo Trasande, et al., regarding the economic impact of methylmercury toxicity, to illustrate the economic benefits of reducing mercury levels below those required by the federal CAMR rule.

According to the study, Dr. Tresande estimates that the resulting loss of intelligence and diminished economic activity amounted to \$8.7 billion annually, with \$1.3 billion each year being directly attributable to mercury emissions from power plants.

The results of this study has been critically reviewed by the U. S. EPA and other scientists and has been called flawed and not appropriate as an input to policy decisions.

According to the U. S. EPA, this study relied on a logarithmic model (that was developed on data from a single study) to define the dose-response relationship and erroneously overstated some results by a factor of 10.

The study also used consumption data based on fish caught (landings data) rather than on fish consumed and assumed a much higher rate of deposition from U. S. sources than the rate that was modeled by the U. S. EPA (60 percent versus 16 percent).

Finally, the study entirely disregards the impact that ecosystem response time has on the degree of methylation and the overall mercury loading to a water body.

In response to the U. S. EPA review, Dr. Tresande corrected a few of his assumptions and revised the cost estimates slightly downwards to \$7 billion.

Despite these revisions, the U. S. EPA believes that Dr. Trasande's study continues to rely on erroneous assumptions. With the use of more accurate assumptions, the U. S. EPA believes that the estimated monetized impact of anthropogenic emissions predicted by the Tresande model would decrease by 81 percent and the estimated impact of U. S. power plant emissions would decrease by 97 percent.

Even without these necessary adjustments, Dr. Trasande's analysis sheds no light on the relative merits of the federal vs. a state-specific approach to mercury emissions control. In any event, DEP cannot continue to use the Trasande study as a basis for estimating the economic benefits of the proposed state-only rule without significant changes.

### **Comments On: Rae and Graham Report**

EPGA questions the relevance and accuracy of the Rae and Graham report entitled: "Benefits of Reducing Mercury in Saltwater Ecosystems" that is cited in the discussion on the cost and benefits of the proposed rulemaking by DEP.

The unpublished, non-peer reviewed report addresses mercury in the coastal and marine environments of the Southeastern U. S.

The physical and chemical attributes and aquatic species associated with these environments are very different from those found in Pennsylvania watersheds.

The amount of methylation, bioaccumulation and biomagnification is also known to vary between water bodies and between freshwater and marine ecosystems because of the different physical and chemical conditions within the ecosystem.

The report incorrectly assumes that a simple linear relationship exists between the decrease in deposition rate and a decrease in the concentration of mercury in fish tissue. Several studies have been conducted that define the complex relationship that exists between the rate and type of deposition, the rate of methylation and the level of bioaccumulation and biomagnification that occur in aquatic organisms.

This report also assumes that beneficial changes will occur in a water body over a few years as a result of a reduction in the deposition rate.

Again, studies have shown that the fate and transport of mercury within the aquatic environment involves the water and the sediment, as well as the plants and organisms present in those environments and that an ecosystem is typically slow to respond to changes in mercury loading rates, often taking decades to accomplish.

DEP cannot use the Rae and Graham report as a justification for adopting a state-only mercury reduction rule.

**Additional Section By Section Comments**  
**Proposed Chapter 123 Revisions Related to Mercury Emissions**  
**from Power Plants**

**Key:** Underlined words are additions to the proposed rule, [ ] brackets indicate deletions.

**§ 123.202. Definitions.**

The definition of “EGU – Electric Generating Unit” should be revised to include Integrated Gasification Combined Cycle units and simple cycle units which burn synthetic gas derived from coal as affected units. The suggested revision—

(i) Except as provided in subparagraph (ii), a stationary coal-fired boiler or stationary combustion turbine or steam generating unit that burns a synthetic gas derived from coal.

The definition of “IGCC – Integrated Gasification Combined Cycle Unit” should be revised to clarify these units do not burn coal, they burn synthetic gas derived from coal. The suggested revision—

An electric utility steam generating unit that burns synthetic gas derived from coal in a combined-cycle gas turbine. No coal is directly burned in the unit during operation.

The definition of “SCR – Selective Catalytic Reduction” should be revised to add the term “molecular” nitrogen to properly describe this process. The suggested revision—

SCR--Selective catalytic reduction--A process where a gaseous or liquid reductant (most commonly ammonia or urea) is added to the flue gas stream in the presence of a catalyst. The reductant reacts with nitrogen oxides in the flue gas to form molecular nitrogen.

**§ 123.205. Emission standards for coal-fired EGUs.**

Sections (a)(2)(i) and (ii) should be revised to include a reference to solid fuel to account for the use of fuel oil or natural gas in the start up of facilities. The suggested revision—

- (i) CFB EGUs burning 100% waste coal as the only solid fuel shall comply with the mercury emission standard for new units as established under 40 CFR Part 60, Subpart D (relating to standards of performance for fossil-fuel-fired steam generators for which construction is commenced after August 17, 1971), which is adopted and incorporated by reference in § 122.3 (relating to adoption of standards).
- (ii) CFB EGUs burning 100% bituminous coal as the only solid fuel shall comply with either:

Section (a)(2)(ii)(B), (a)(3) and (c) should be revised to allow a variety of existing sampling programs to be used to demonstrate mercury removal from the coal being burned. It is not necessary to demonstrate removal on a daily basis if the required demonstration is an annual period. Implementation of an “as fired” sampling system would be very expensive and will not provide the information necessary for the success of the mercury emissions reduction program. The suggested revision—

(B) A minimum 90% control of total mercury as measured from the mercury content in the coal as purchased, as received, as fired or pre-processing.

Similar changes should be made in these sections —

(a)(3)(e)(ii) A minimum 95% control of total mercury as measured from the mercury content in the coal as purchased, as received or processed.

(c)(1)(i)(B) A minimum 80% control of total mercury as measured from the mercury content in the coal as purchased, as received, as fired or pre-processing.

(c)(1)(ii)(B) A minimum 95% control of total mercury as measured from the mercury content in the coal as purchased, as received, as fired or pre-processing.

(c)(2)(i)(B) A minimum 90% control of total mercury as measured from the mercury content in the coal as purchased, as received, as fired or pre-processing.

(c)(2)(ii)(B) A minimum 95% control of total mercury as measured from the mercury content in the coal as purchased, as received, as fired or pre-processing.

#### **§ 123.206. Compliance requirements for the emission standards for coal-fired EGUs.**

Section (b) should be revised to account for the use of fuel oil or natural gas for start up and flame stabilization. The suggested revision-

(b) The owner or operator of an existing EGU combusting 100% bituminous coal as the only solid fuel which is controlled by an air pollution control device configuration of:

Section (b) should be revised to add activated carbon injection to the list of presumed compliance technologies for phase 1 of the Pa mercury rule. The following language should be incorporated:

Section 123.206 (b)

(4) A cold side ESP or FF and activated carbon injection will be presumed to be in compliance with the emission standards requirements of S 125.205 (c) (1) without any additional compliance demonstrations.

Section (c) The proposed rule attempts to address this concern in this provision which provides for the consideration of alternative schedules and technologies. This provision is commendable and is necessary to address concerns with units which cannot economically install presumptive technologies or other maximum controls to achieve the unit specific removal requirements or the annual emission limit. However, an unrestricted “cap and trade” program, as allowed under CAMR, best implements this type of provision. “Non-tradable” allowances are not certain to be available to allow for this provision to be implemented. This is because there is reliance on “over-control” by units without any economic incentive to “over-control” and any unused “non-tradable” allowances that are not used in a vintage year are not held for future use when there may be insufficient “non-tradable” allowances. This same supplemental pool will be used to provide “non-tradable” allowances to units that can’t meet the unit/facility annual limit as well as to provide for alternative controls and schedules. Without any certainty relative to the availability of “non-tradable allowances” this provision isn’t adequate to address the alternative technologies or timing concerns of the accelerated schedule.

### **§ 123.207. Annual emission limitations for coal-fired EGUs.**

**General:** This annual emission limit, which is based on the Clean Air Mercury Rule (CAMR) allocations, on a unit or even facility basis will force many Pennsylvania high-mercury coals out of the market for the generation of electricity.

Information presented to the DEP Mercury Work Group demonstrates that Pennsylvania coal has some of the highest mercury content of any eastern bituminous coals.

Some smaller generating units cannot employ the maximum control technologies that would be necessary to achieve the levels specified in this section and remain competitive in the wholesale power market. This places those units in jeopardy of retirement because they cannot comply with this rule.

While the Department has represented that very low cost control technologies for unit specific controls are available, these sorbent injection technologies are only recently being tested on units burning eastern bituminous coal. Therefore, expected mercury removal performance is highly uncertain and potentially subject to great variability.

Based on this uncertainty, it is inappropriate to impose this annual cap in addition to the unit specific limitations of Sections 123.205 and 123.206.

Recognizing the need to achieve the emission budgets specified by the federal CAMR, it would be appropriate and we recommend allowing the CAMR cap-and-trade program to meet CAMR budget requirements. This can be accomplished by separately adopting the federal CAMR trading program to meet the annual budget requirements.

The imposition of a Pennsylvania-specific mercury regulation revised as we suggest would limit any trading under CAMR to a very few, but very important mercury allowances. This very small amount of trading would be the difference that would allow the continued use of Pennsylvania coal and avoid the premature retirements of electric generating units.

Section (a) would require the agency to take non-tradable allowances created by the owners of EGUs that pay to achieve emission reductions at levels less than those specified in Section 123.207 and reassign them to other EGUs.

Because the assignment of these allowances is not under the control of the owner of the EGU that created them, this Section removes any economic incentive to enhance or optimize mercury emission reductions to create these allowances.

If these allowances are not available in the supplemental pool created in Section 123.208, the Department cannot assure this proposed rule is in compliance with the minimum requirement in the federal CAMR rule that states must meet the mercury budget.

Section (c)(2) The unused “non-tradable” allowances in the new source set aside should not be retained in the supplemental pool. Those unused “non-tradable” allowances should be returned to the affected units. If there are unused “non-tradable” allowances available after they have been returned to the affected units, they will be taken and used in the supplemental pool, regardless. It is highly uncertain whether many generating units will be able to meet their annual emission limits under this rule. Returning unused allowances from the new source set aside to the affected units could mean the difference between compliance and non-compliance for some units.

*(See further comments and recommendation to include a cap-and-trade program in EPGA’s testimony to the EOQ.)*

Section (j) (2) A state-run allowance program without economic incentives to those that over control their mercury emissions will likely have very few allowances available for the agency to assign under the state-managed averaging/trading program. This is especially true for the second phase of this proposed regulation.

Clearly, this type of program can be better operated and managed under the CAMR cap-and-trade program and the individual actions of companies that would pay for the mercury emission reduction controls.

Section (j) (3) Any unused emission allowances should be added to any other supplemental pool of allowances to compensate for year-to-year variability in emissions. Given the cumulative and global nature of mercury deposition, this provision represents an unnecessary limit to economic growth.

Section (j) (5) Managing the emissions budget under a CAMR cap-and-trade program, rather than a state-run closed allowance system, will likely prevent any facility from having to address any violations of the CAMR allowance allocation system because they will meet the state’s mercury budget.

Section (k) An owner of a standby unit cannot rely on the potential for allowances to be made available to assure they are in compliance with this proposed regulation. An owner must be certain a standby unit can come back into service and be in compliance, or there will be no choice but to prematurely retire that unit. *(See EPGA’s testimony before the EOQ for further comments and recommendations on this issue.)*

### **§ 123.208. Annual emission limit supplement pool.**

We believe this proposed rule fails to meet the minimum requirement of the federal CAMR rule that states meet the CAMR mercury budget because there is no certainty the pool of allowances will be created under this Section to be available to owners of EGUs without the economic incentives included in the CAMR cap-and-trade program.

In addition, electric wholesale generators need to obtain financing from financial institutions to fund the advanced air pollution control equipment required by this rule and such institutions look for certainty in complying with the annual emission limitation because that means the unit can continue operating and sell its electricity in the market. There is no certainty the allowances will be available, therefore financing is uncertain to install the needed emission control equipment.

Without the certainty of obtaining allowances, owners of EGUs would also be forced to consider burning out-of-state coal that is typically lower in mercury content than Pennsylvania coal as an added safety margin to ensure compliance.

Allowing owners of EGUs to meet the annual emission budget through the CAMR cap-and-trade provisions provides the certainty necessary for financial institutions, for certifications under the federal Sarbanes Oxley law, for the continued use of Pennsylvania coal and plant operations.

### **§ 123.209. Petition process.**

We believe the petition process included in this proposed rule fails to meet the minimum requirement of the federal CAMR rule that requires states to meet the CAMR mercury budget because there is no guarantee that the pool of allowances created under this Section will be available to owners of EGUs without the economic incentives included in the CAMR cap-and-trade program.

This process assumes that there will be unused mercury “non-tradable” allowances to be assigned by the agency to meet the overall CAMR annual mercury budget. For the reasons stated earlier, i.e. the lack of any economic incentive to over control mercury emissions, we believe this is a false assumption.

This petition process cannot provide the certainty needed by financial institutions, certifications under Sarbanes Oxley, or to continue to burn some Pennsylvania coals.

The federal Sarbanes Oxley rule requires companies to disclose materially significant issues that have a value of \$100,000 or more. Because the rule creates significant unknowns and uncertainty, companies would have to identify the compliance issue related to this rule at the extreme end of the compliance spectrum that will have a negative effect on the willingness of the investment community to be shareholders and lenders to these companies.

In addition, the order of preference for units receiving allowances from the agency leaves those units which would be most likely to need a substantial number of allowances as the most likely not to receive any “non-tradable allowances.”

The way to meet the CAMR annual mercury budget with certainty is through the adoption of a CAMR “cap-and-trade” program.

Sections (g) (3 thru 6) should be revised to include a reference to solid fuel to account for the use of fuel oil or natural gas in the start up of waste coal facilities. The suggested revisions—

- (3) Each owner or operator of an existing affected EGU combusting 100% bituminous coal as the only solid fuel, that is controlled by an air pollution control device configuration of SCR, CS-ESP or FF, WFGD and mercury-specific control technology.
- (4) Each owner or operator of an existing affected EGU combusting 100% bituminous coal as the only solid fuel, that is controlled by an air pollution control device configuration of SCR, CS-ESP or FF and WFGD.

- (5) Each owner or operator of an existing affected EGU combusting 100% bituminous coal as the only solid fuel, that is controlled by an air pollution control device configuration of WFGD and mercury-specific control technology.
- (6) Each owner or operator of an existing affected EGU combusting 100% bituminous coal as the only solid fuel, that is controlled by an air pollution control device configuration of CS-ESP or FF and WFGD.

**§ 123.214. Coal sampling and analysis for input mercury levels.**

This section should be revised to allow a variety of existing sampling programs to be used to demonstrate mercury removal from the coal being burned. It is not necessary to demonstrate removal on a daily basis if the required demonstration is an annual period. Implementation of an “as fired” sampling system would be very expensive and will not provide the information necessary for the success of the mercury emissions reduction program. Any concerns with misrepresentation of daily emissions are not meaningful, as the annual reporting will eliminate any random errors associated with other sampling protocols.

**Submitted By:**

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## **Comments by the Electric Power Generation Association on Changes to Chapter 123 – Regulating Mercury Emissions from Power Plants**

By  
Douglas L. Biden  
President  
Electric Power Generation Association  
Before the Environmental Quality Board  
July 26, 2006  
Harrisburg, PA

*(Items in Italics are for the Record Only, Not Oral Testimony)*

My name is Doug Biden and I am President of the Electric Power Generation Association (EPGA) and I want to thank you for the opportunity to be here today to offer comments on proposed changes to Chapter 123 that would put in place a program to reduce mercury emissions from coal-fired power plants.

EPGA is a regional trade association of electric generating companies with headquarters in Harrisburg, Pennsylvania. *Our member companies include:*

*AES Beaver Valley, LLC  
Allegheny Energy Supply  
Cogentrix Energy, Inc.  
Edison Mission Group  
Exelon Generation  
FirstEnergy Corp  
Mirant Corporation  
PPL Generation, LLC  
Reliant Energy and  
UGI Development Company*

*These companies own and operate more than 122,000 megawatts (MW) of electric generating capacity in the United States. Approximately half of this capacity is located in Pennsylvania and surrounding states. Our comments today represent the views of EPGA as an association of generating companies, not necessarily the views of any particular member company with respect to any specific issue.*

EPGA supports mercury emission reductions from coal-fired power plants. The focus of this debate is not WHETHER to reduce mercury emissions, but HOW.

With that in mind, power generators along with organized labor, energy consumers and others have proposed and supported measures that will:

1. Result in real and significant mercury emission reductions in Pennsylvania and billions of dollars in environmental investments at Pennsylvania power plants.
2. Give power plant owners the economic incentives to make these investments.

3. Increase the level of protection for mothers and children in the Commonwealth, even in the absence of demonstrated health concerns related to mercury exposure.
4. Preserve hundreds of jobs in our coal and power generation industries, sparing families and children from the real dangers of unemployment and poverty.

Good public policy demands that as we protect the environment and public health, we also protect jobs, consumers and Pennsylvania's economic future. Unless major changes are made in the proposed Chapter 123 regulation, we believe it will result in the premature retirement of smaller electric generating plants in Pennsylvania, a reduction in output at other plants, a switch by many of the remaining power plant owners to lower mercury coals (predominantly from out of state), an unwarranted increase in electricity prices, and an export of jobs to other states.

### **Lack of Evidence that the Proposed Rule will Provide an Environmental Benefit to Pennsylvania Beyond the EPA Clean Air Mercury Rule**

*On May 11, 2006 a coalition of labor, business and the coal industry provided the Environmental Quality Board with extensive comments on the proposed rule.*

The most significant flaw in the proposal is the lack of market-based incentives for power plant owners that would cap mercury emissions and allow generators to buy and sell allowances to help meet emission reduction requirements in a cost-effective way.

The Department of Environmental Protection (DEP) said in the Preamble to this rulemaking that the primary scientific reason for not supporting a cap-and-trade program was the potential for "hot spots" of local mercury exposure.

The written and oral testimony provided by DEP before the Senate and House and comments presented to DEP's Mercury Work Group, clearly show there is no factual basis or credible evidence to support this position.

DEP told the Senate Environmental Resources and Energy Committee the agency does not have any data that shows a correlation between where mercury is being emitted from power plants and where it is deposited. (*Hearing Transcript Page 10*)<sup>1</sup>

In fact, Dr. James Lynch, the Penn State Professor who oversees DEP's Mercury Monitoring Network, told the DEP Mercury Work Group that he recommended DEP do a "source/receptor" study in order to pinpoint the source of mercury emissions, but DEP did not act on this recommendation. (*DEP Work Group October 14, 2005 Meeting Transcript Page 52*)<sup>2</sup>

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<sup>1</sup> June 6, 2006 Hearing Transcript. Senate Environmental Resources and Energy Committee

<sup>2</sup> October 14, 2005 Meeting Transcript. Department of Environmental Protection Mercury Work Group.

DEP also told the Senate Committee that it had no studies linking mercury emissions from power plants to health impacts on communities. June 6, 2006 Hearing Transcript Page 42-43)<sup>3</sup>

A special 2004 Bureau of National Affairs (BNA) Environment Reporter study<sup>4</sup> of the cap-and-trade programs used to control acid rain and ground-level ozone concluded –

“Although trading programs do not guarantee reductions at each source, the above data show that they have achieved consistent results between regions, and have also led to proportionately greater reductions at higher-emitting plants. These findings indicate that cap-and-trade programs similar to those evaluated would not be expected to lead to emissions concentrations or hot spots.”

For the record I would also like to submit these additional references and testimony —

Dr. Jack Snyder<sup>5</sup>, a physician and former staff toxicologist at Thomas Jefferson Medical College in Philadelphia, in Senate testimony said the Committee has “not been provided credible evidence supporting speculation that any women, children, or fetuses have been harmed, or have been placed at increased risk of harm, as a result of eating fish obtained from bodies of water in Pennsylvania or other parts of the United States.” (May 2, 2006)

Dr. Donald J. McGraw, M.D.<sup>6</sup>, an expert in occupational and environmental medicine who served on the faculty of the University of Pittsburgh and John Hopkins University, told DEP’s Mercury Rule Work Group-- “Studies of people eating lots of fish in other cultures do not show adverse health consequences. There is a huge benefit to eating fish and it would be an unfortunate tradeoff to reduce the consumption of fish for health effects (from mercury) we haven’t seen.” (emphasis added) (October 28, 2005)

Dr. Gail Charnley<sup>7</sup>, a toxicologist with Health Risk Strategies and former director of the Toxicology and Risk Assessment Program at the National Academy of Sciences/National Research Council, told the Senate Environmental Resources and Energy Committee that, “Any claims that Pennsylvania’s state-specific proposed rule will protect high consumers of Pennsylvania fish any better than will the federal rule are not scientifically supportable.” (June 6, 2006)

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<sup>3</sup> June 6, 2006 Hearing Transcript. Senate Environmental Resources and Energy Committee

<sup>4</sup> Environment Reporter. Air Pollution Emissions Trading BNA, Inc. May 7, 2004.

<sup>5</sup> Testimony of Dr. Jack Snyder Before the Senate Environmental Resources and Energy Committee, May 2, 2006.

<sup>6</sup> Presentation of Dr. Donald J. McGraw, M.D., Before the DEP Mercury Work Group, October 28, 2005.

<sup>7</sup> Testimony of Dr. Gail Charnley Toxicologist with Health Risk Strategies Before the Senate Environmental Resources and Energy Committee, June 6, 2006.

*The U.S. Centers for Disease Control<sup>8</sup> conducted a nationwide study of women of childbearing age, infants and young children and found not a single case where mercury levels approached the level that might cause adverse health effects. (2005)*

*A presentation done by Dr. Terry M. Sullivan of the Brookhaven National Laboratory<sup>9</sup> to DEP's Mercury Work Group outlining how a study Brookhaven conducted found no evidence of mercury "hot spots." Dr. Sullivan's testimony before the House<sup>10</sup> Environmental Resources and Energy Committee on February 23, 2006 is also provided.*

*In November, EPGA wrote to DEP<sup>11</sup> asking specific questions about how DEP defined a "hot spot," what the background levels of mercury in Pennsylvania are, whether DEP has any information identifying hot spots and other specific questions. The reply from DEP<sup>12</sup> did not contain any useful responses to our questions.*

*For example, the Brookhaven study DEP pointed to in the response to support its case actually showed the opposite as we noted for the record above. An unpublished report cited by DEP of mercury levels around Steubenville, Ohio as justification for "hot spots" actually shows that mercury emissions travel 400 miles or more, a distance longer than the width of Pennsylvania. If that represents a "hot spot," then all of Pennsylvania and beyond is a "hot spot." (We ask that DEP produce all of the supporting data and conclusions in its possession related to the unpublished Steubenville report so it can be reviewed before any final regulation is presented to the Environmental Quality Board for action.)*

I'd like to point out there has already been a 33 percent reduction of mercury emissions from Pennsylvania power plants between 1999 and 2004 (*based on Toxics Release Inventory reports and EPA's mercury inventory*), however, that reduction has not even registered on DEP's Mercury Monitoring Network.

This empirical data, along with the uncontested facts that mercury emissions from U.S. power plants make up only 1 percent of global mercury emissions, and EPA modeling that shows zeroing out ALL mercury emissions from ALL U.S. power plants would not measurably change

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<sup>8</sup> "Third National Report on Human Exposure to Environmental Chemicals." U.S. Centers for Disease Control. 2005.

<sup>9</sup> Presentation by Dr. Terry M. Sullivan of the Brookhaven National Laboratory Before DEP Mercury Work Group, October 28, 2005.

<sup>10</sup> Testimony by Dr. Terry M. Sullivan of the Brookhaven National Laboratory Before the House Environmental Resources and Energy Committee. February 23, 2006.

<sup>11</sup> Letter dated n November 16, 2005 from the Electric Power Generation Association to Thomas K. Fidler, DEP Deputy for Air, Recycling and Radiation Protection.

<sup>12</sup> Letter dated January 3, 2006 from Thomas K. Fidler, DEP Deputy for Air, Recycling and Radiation Protection.

mercury deposition relative to that expected from implementation of the federal rules, show that mercury is a regional, national and global problem and should be addressed that way.

Speculation by DEP that reducing mercury from one source in one state will have a measurable impact on the environment or reduce the need for fish advisories across the state simply is not supported by the facts. EPA analysis suggests there would be no change in the number of fish advisories if the DEP regulation is adopted rather than the federal approach because there would be no change in expected deposition in the state.

Scientific and medical experts, even DEP itself, have clearly shown there is no factual basis or that the information simply does not exist to support DEP's primary reason for opposing a cap-and-trade program— "hot spots."

*In the Record of Decision Document the Environmental Quality Board is requiring DEP to assemble for this rulemaking and in the Comment/Response Document, EPGA requests that DEP evaluate and respond to each of the studies and testimony we have referenced above in detail along with the scientific and technical basis for their response and again ask for the scientific basis for its position on "hot spots."*

### **Advantages of Cap-and-Trade/Disadvantages of DEP's Proposed Rule**

For Pennsylvania, a cap-and-trade program has many environmental and economic benefits, but the proposed DEP mercury rule without cap-and-trade has many significant disadvantages for Pennsylvania workers, the coal industry and all electricity consumers within the Commonwealth.

The federal Clean Air Mercury Rule (CAMR) imposes steeper mercury emission reduction requirements on Pennsylvania than any other state (86 percent vs. the national average of 70 percent), due primarily to the higher mercury content of the coals that we mine in the Commonwealth. Consequently, Pennsylvania would be the greatest beneficiary of an interstate emissions trading program, and has the most to lose if interstate trading is not allowed.

Some, including DEP, have said it is misleading to say that Pennsylvania will achieve an 86 percent reduction in mercury emissions if we allow interstate trading. The only ways that Pennsylvania sources can achieve less than an 86 percent reduction in emissions (by 2018) with trading is if they over-control their emissions sooner than required by CAMR, or if they purchase emission allowances from other sources that have over-controlled their emissions relative to their regulatory requirements.

If sources control their emissions sooner than required by regulation, most policymakers would agree that is a positive feature of a cap-and-trade approach to environmental regulation.

If Pennsylvania sources purchase allowances from other sources in those instances where plants cannot economically or physically meet their emission caps under CAMR, plant owners would be partially redressing, at their own expense, the very competitive disadvantage for

Pennsylvania that Secretary McGinty has repeatedly called attention to in her criticism of CAMR – the disparate treatment of western vs. eastern coal and the extra emission allowances allocated to states whose power plants burn western coal. Indeed, the Secretary has cited this disadvantage as a primary reason for needing a Pennsylvania-specific rule.

By requiring Pennsylvania generators to meet a stringent EPA cap based on a national trading program and at the same time preventing them from participating in that program, DEP is institutionalizing the very competitive disadvantage the Secretary is concerned about, removing the only remedy that power plant owners have to redress this source of competitive disadvantage, and adding a more significant source of competitive disadvantage of the state's own making.

Moreover, if Pennsylvania sources purchase allowances from out-of-state sources who have over-controlled their emissions, in virtually all instances the selling sources would be located to the west and southwest of the Commonwealth. Since the prevailing winds are generally west to east, and mercury emissions are known to travel hundreds and even thousands of miles, Pennsylvania's environment could benefit as much or more from upwind mercury emissions reductions as it could from in-state reductions.

Cap-and-trade systems have worked effectively to significantly reduce sulfur dioxide, nitrogen oxide and volatile organic compounds in a way that benefits the environment and are a cost-effective way for electric generators and electricity consumers to fulfill these mandates. (*see: 2004 BNA Environment Reporter study*)

Even the toxic metal lead is controlled using a trading system in Pennsylvania. Lead presents health risks when inhaled<sup>13</sup>, unlike mercury emissions from power plants. (*We ask how lead emissions are different from mercury emissions in terms of their threat to public health in this context?*)

A cap-and-trade program offers significant incentives for the early and over-control of mercury emissions from power plants, because plant operators get to keep or sell any extra credits to others.

Under DEP's proposed rule, plant owners have no opportunity to recoup their investment in air pollution controls because DEP, not plant owners, assigns any extra allowances to others, in most cases a competitor in the wholesale power market that cannot comply. This creates the untenable situation where one generator that has made the significant investment in mercury emission reductions could be subsidizing a competing facility.

### **Lack of True Cost-Benefit Analysis Taking into Account Technology Availability, Reliability and Consumer Costs**

With no incentive for over-control in DEP's proposed rule, it would be impossible to financially justify the pollution controls needed to generate extra "non-tradable allowances" that

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<sup>13</sup> U.S. Environmental Protection Agency Air Toxics Lead Hazard Summary. January, 2000.

DEP says it needs as a “safety valve” to allocate under its program. *(We ask DEP to evaluate how the unavailability of allowances it can allocate under its rule would affect how its program is implemented, electric reliability and the cost of electricity.)*

Some individual generating units will not be able to justify the capital to install expensive scrubbers, and some plants face unique site-specific emission control equipment retrofit challenges. Mercury specific technologies have not been adequately tested to the point that power plant owners have confidence or assurances that they can achieve sufficient mercury reductions to meet their emission caps. Some of these situations will require the purchase of emission allowances to survive in the competitive market. But that is what a cap-and-trade program is for. It encourages those sources that face lower marginal costs (the largest sources of emissions) to over-control their emissions, so that smaller sources (with lower emissions) that face higher marginal costs can pursue lower-cost options and buy allowances from the larger sources to make up for shortfalls.

Faced with an 86 percent reduction requirement under CAMR, EPGA firmly believes that every affected plant in Pennsylvania will have to install some level of mercury removal technology or be retired. But not every plant will be able to install identical levels of emission controls. DEP’s command and control approach is unnecessarily punitive to small plants that cannot afford the most expensive controls.

PUC Chairman Wendell F. Holland has expressed concerns about the cost implications of DEP’s rule saying the proposed rule has the potential to cause a reduction in electric generating capacity in the state which could have a negative effect on an already volatile energy market. (EQB meeting, May 16, 2006)

PJM, the operator of the regional electricity grid, came to a similar conclusion when it noted that “new limits on mercury emissions from coal-fired power plants now under consideration ... may be an important factor in potential future retirements.” *(PUC Hearing Testimony, Page 9<sup>14</sup> on May 24, 2006)*

We have already seen increases in electricity rates of 60 – 70 percent or more in other states as rate caps expire and utilities purchase electricity on the open market. Why does DEP want to lead Pennsylvania in the same direction by adopting a mercury plan that raises costs without any increase in health or environmental benefits?

Encouraging plant operators to install advanced air pollution controls through a cap-and-trade system also allows for the continued use of Pennsylvania coal which has a mercury content as much as twice as high as coal from West Virginia, Kentucky, Wyoming and other states. *(We ask DEP to provide any studies it conducted on the mercury content of coal and the potential for switching fuels under its proposed rule.)*

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<sup>14</sup> Remarks Before the Public Utility Commission Summer Electric Reliability Assessment Meeting by the Electric Power Generation Association. May 24, 2006.

DEP's rule, without a cap-and-trade system, requires plant-by-plant reductions of mercury of 90 percent. EPGA believes the unit specific cap requirement of the DEP proposed rule will force many Pennsylvania high-mercury coals out of the market, resulting in the loss of jobs in the Pennsylvania mining industry. Even with scrubbers installed some coals won't be able to achieve compliance with the annual cap. For smaller plants that cannot afford to install scrubbers and that opt for lower capital cost options like activated carbon injection, here the proposed rule presents intolerable uncertainty without access to a market-based trading system. A source choosing this technology option, which in most tests to date has yielded mercury reductions in the range of 50-70 percent with eastern bituminous coals and 70-90 percent with western sub-bituminous coals, would appear to have a powerful incentive to switch to western sub-bituminous coal.

Even if this technology improves its performance dramatically with eastern bituminous coals, a source utilizing this option would be last in line in the DEP's order of preference for receiving non-tradable allowances, if it cannot meet its unit-specific cap. Under those circumstances, EPGA believes that lenders would not finance this investment in pollution control equipment because there would be no assurance that the plant would be able to operate a sufficient number of hours to recoup the investment in the highly competitive PJM market. And EPGA believes the pool of allowances that such a source would be dependent upon to make up any shortfalls is likely to be "under funded" because there are no incentives in this proposed rule to over-control emissions, and the CAMR cap for Pennsylvania is the most stringent of all the affected states. *(We ask how DEP would propose to prevent the premature closing of power plants that install the technologies DEP requires, but cannot meet the cap due to the unavailability of mercury allowances available to DEP under its rule?)*

The other uncertainty created by the plant-by-plant reductions is over the availability of proven mercury control technology. According to the U.S. Department of Energy<sup>15</sup>, there is no reliable mercury-specific control technology available today that works on Pennsylvania coal to reduce mercury to the levels the DEP rule requires.

EPGA member companies, DOE and others continue to invest in research in this area and there has been some success, but we are far from a commercial application of the technology within the deadlines and at the consistent removal rates established in this proposed rule. *(We ask DEP to provide any studies of the cost and removal efficiencies for mercury removal technologies using Pennsylvania coal in full-scale commercial applications at the levels required by the proposed rule.)*

If the technologies are not proven that can meet DEP's required reductions at the deadline stipulated by the proposed rule, power plant operators will have few options – none of them in Pennsylvania's best interests:

- Invest in unproven control technology and absorb the inevitable forced outage costs
- Curtail output

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<sup>15</sup> U.S. Department of Energy, National Energy Technology Laboratory. Clarification of the U.S. Department of Energy's Perspective on the Status of Mercury Control Technologies for Coal-Fired Power Plants. April 25, 2006.



- Change fuels to lower mercury coals or to natural gas
- Shut down

Simply put, we can trade allowances or we can trade jobs to other states. DEP's rule would trade jobs to other states. A cap-and-trade program will help keep jobs here. *(We ask if DEP has done an economic impact analysis on this regulation that includes job loss and gain, impact on electricity markets and the cost to electricity customers and to make copies of these studies available.)*

*For the record, the United Mine Workers of America, International Brotherhood of Electrical Workers<sup>16</sup> and the PA Conference of the Teamsters are opposed to the DEP rule as written because of the concern about the loss of jobs. The Pennsylvania Coal Association<sup>17</sup> is opposed to the rule because it encourages the use of out-of-state coal. Several statewide business organizations are also opposing the rule due to concerns over jobs and impacts on electricity prices.*

The ability of electric generators to recover their investments in advanced air pollution controls by selling their excess credits to others is critical in Pennsylvania's competitive market for electricity and to the price of electricity, because, unlike operators in many other states, Pennsylvania generators cannot recover their investments in air pollution controls through captive ratepayers.

Because Pennsylvania generators would face the uncertainty of not being able to recover their capital investments, the lending community would be extremely reluctant to take the substantial risk to provide the funds needed to install the air pollution controls on any but the largest most competitive plants, leading to still more premature retirements of generating capacity. *(We ask how plant operators will fund the installation of mercury controls under DEP's rule if funds are not available from the financial markets for this purpose or if the financial markets impose premiums to cover their risk? We further ask DEP to explain how Pennsylvania electric generators will remain competitive in the PJM market, and retain power plant and support jobs, when DEP deliberately and unnecessarily imposes emission reduction requirements that are more stringent than those of our most important competitor states, and then prevents plant owners' ability to redress this competitive disadvantage, or even recover their costs, by disallowing participation in the federal cap-and-trade program.)*

It is very clear that DEP's proposed rule, without major, fundamental revisions, will—

- Cause the loss of family-sustaining jobs in Pennsylvania;
- Provide no incentives for early and over-control of mercury emissions;

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<sup>16</sup> Testimony by Eugene M. Trisko on Behalf of the United Mine Workers of America, International Brotherhood of Electrical Workers Before the Senate Environmental Resources and Energy Committee on May 2, 2006.

<sup>17</sup> Testimony of George Ellis, President of the Pennsylvania Coal Association Before the Senate Environmental Resources and Energy Committee on May 2, 2006.

- Force the premature retirement of small, older coal-fired power plants;
- Encourage electric generators to switch to burning coal from other states;
- Increase the cost of compliance and financial uncertainty for electric generators;
- Impose unjustified higher costs on Pennsylvania electric consumers; and
- Provide no additional health benefits over those provided by the federal Clean Air Mercury Rule.

We urge the Environmental Quality Board to adopt the federal Clean Air Mercury rule as Pennsylvania's mercury reduction program, because it will reduce mercury emissions from Pennsylvania power plants by 86 percent using the incentives in a cap-and-trade program without the economic dislocation caused by DEP's rule.

Thank you for this opportunity to testify before the Environmental Quality Board.

EPGA reserves the right to provide additional comments beyond this testimony for the record.

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**For more information on reducing mercury emissions from power plants, visit [www.PaEnergyNews.com](http://www.PaEnergyNews.com)**

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