

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

By
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President
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Before the Environmental Quality Board
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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*

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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*)¹

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*)²

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*)³

¹ *June 6, 2006 Hearing Transcript*. Senate Environmental Resources and Energy Committee

² *October 14, 2005 Meeting Transcript*. Department of Environmental Protection Mercury Work Group.

³ *June 6, 2006 Hearing Transcript*. Senate Environmental Resources and Energy Committee

A special 2004 Bureau of National Affairs (BNA) Environment Reporter study⁴ 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*⁵, 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.*⁶, 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*⁷, 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)

*The U.S. Centers for Disease Control*⁸ 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 Laboratory⁹ to DEP’s Mercury Work Group outlining how a study Brookhaven conducted found no evidence of mercury “hot

⁴ Environment Reporter. Air Pollution Emissions Trading BNA, Inc. May 7, 2004.

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

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

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

⁸ “Third National Report on Human Exposure to Environmental Chemicals.” U.S. Centers for Disease Control. 2005.

spots.” *Dr. Sullivan’s testimony before the House*¹⁰ *Environmental Resources and Energy Committee on February 23, 2006 is also provided.*

*In November, EPGA wrote to DEP*¹¹ *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*¹² *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 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.”

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

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

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

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

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 inhaled¹³, 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 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

¹³ U.S. Environmental Protection Agency Air Toxics Lead Hazard Summary. January, 2000.

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 9¹⁴ on May 24, 2006*)

Electric generators met the record demand for electricity caused by the heat wave last week, but that may not be the case in the future if this proposed rule is not changed to prevent the premature shut-down of power plants needed to meet that demand. Pennsylvania has more than 30 smaller generating units that are at risk of premature retirement because it may not be economically feasible to install maximum mercury controls at these facilities. These plants represent approximately 20 percent of Pennsylvania’s coal-fired generating capacity and are the same plants that afford electric generators the ability to produce more electricity during periods of peak demand, like the heat wave last week.

Without this capacity, there is considerable doubt whether we could have met the record peak demand experienced during the heat wave without emergency load curtailments which impose unacceptable costs on consumers. Because it can take five years or more to replace coal-fired generation, these are serious reliability and public safety issues that have not yet been addressed by DEP.

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.*)

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

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

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 Energy¹⁵, 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
- 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 Workers¹⁶ 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 Association¹⁷ 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.

¹⁵ 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.

¹⁶ 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.

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

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;
- 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

Cited References

June 6, 2006 Hearing Transcript. Senate Environmental Resources and Energy Committee

October 14, 2005 Meeting Transcript. Department of Environmental Protection Mercury Work Group.

Environment Reporter. Air Pollution Emissions Trading BNA, Inc. May 7, 2004.

Testimony of Dr. Jack Snyder Before the Senate Environmental Resources and Energy Committee, May 2, 2006.

Presentation of Dr. Donald J. McGraw, M.D., Before the DEP Mercury Work Group, October 28, 2005.

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

"Third National Report on Human Exposure to Environmental Chemicals." U.S. Centers for Disease Control. 2005.

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

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

Letter dated January 3, 2006 from Thomas K. Fidler, DEP Deputy for Air, Recycling and Radiation Protection.

Letter dated May 11, 2006 to Members of the Environmental Quality Board from the labor, business and coal industry coalition supporting Senate Bill 1201 and House Bill 2610.

U.S. Environmental Protection Agency Air Toxics Lead Hazard Summary. January, 2000.

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

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.

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