

**Testimony  
of  
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President  
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before the  
Pennsylvania Senate  
Environmental Resources & Energy Committee  
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**Mercury Emissions From  
Coal-Fired Power Plants**

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## **Introduction**

Madam Chairman White, Chairman Musto, distinguished members of the Senate Environmental Resources and Energy Committee, good morning. My name is Doug Biden and I am President of the Electric Power Generation Association (EPGA). EPGA is a regional trade association of electric generating companies with headquarters in Harrisburg, Pennsylvania. Our member companies include:

Allegheny Energy Supply  
Cogentrix Energy, Inc.  
Edison Mission Group  
Exelon Generation  
FirstEnergy Corp  
Mirant Corporation  
PPL Generation Group  
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.

At the outset, EPGA would like to express its appreciation to Madam Chairman White and Chairman Musto and the entire Environmental Resources and Energy Committee for holding this hearing and for granting EPGA this opportunity to present its views on mercury emissions from coal-fired power plants in Pennsylvania.

As EPGA views the subject of today's hearings there are two policy questions before this Committee, one of substance and one of process. The substance question is essentially "Should Pennsylvania adopt a 'go-it-alone' approach to regulating mercury emissions from power plants or follow the requirements of the federal Clean Air Mercury Rule (CAMR)?" The process question involves whether this type of policy issue, with potentially significant economic consequences for the Commonwealth, should be addressed by the General Assembly.

Before I address those questions, I want to emphasize that the EPGA's members, along with our labor and business partners, support the common sense approach to reducing mercury emissions from power plants in the Senate and House legislation (SB 1201 and HB 2610) because it will not only reduce mercury emissions from Pennsylvania

power plants by 86 percent, but also gives power plants an incentive to over-control emissions in a cost-effective way that protects jobs and electric customers in the Commonwealth.

Meeting these requirements will be a significant challenge, given the current state of mercury-specific emission control technology, and the naturally occurring high mercury content of certain Pennsylvania coals. But as an industry we are committed to meeting it.

### Substance Issue

In considering whether Pennsylvania needs more stringent regulations, it's important to know what the federal environmental regulations require of power plant owners. The Clean Air Interstate Rule (CAIR) and Clean Air Mercury Rule (CAMR) work in tandem to achieve emission reductions more cost-effectively than in the past. CAIR requires a 70 percent reduction in sulfur dioxide (SO<sub>2</sub>) emissions, and more than 60 percent reduction in nitrogen oxide (NO<sub>x</sub>) emissions (from 2003 levels) in two phases, with phase 1 in 2010, and phase 2 in 2015. On a nation-wide basis, CAMR requires a 20 percent reduction in mercury emissions by 2010, and a 70 percent reduction by 2018 (from 1999 levels). However, because Pennsylvania coals have a higher mercury content than the national average, Pennsylvania has more stringent requirements than the national average. For Pennsylvania, CAMR requires a 64 percent reduction in mercury emissions by 2010, and an 86 percent reduction by 2018. This is in addition to mercury reductions already achieved prior to 1999 through implementation of particulate matter, SO<sub>2</sub> and NO<sub>x</sub> emission control technologies.

The Phase 2 compliance deadline for CAMR is intentionally later than CAIR. The emissions control equipment plants are using to comply with CAIR, e.g., SO<sub>2</sub> scrubbers and selective catalytic reduction (SCR) technology for NO<sub>x</sub>, also reduce mercury emissions, an effect referred to as "co-benefits." Power plant owners will have sufficient time to determine how much they can reduce their mercury emissions via co-benefits under CAIR before meeting their final emission reduction requirements under CAMR.

Achieving these emission reductions will be challenging, particularly for mercury, because they are steeper for Pennsylvania under CAMR than for any other state. Consequently, Pennsylvania's power plants face the highest marginal cost of compliance for mercury control under CAMR. As a result, Pennsylvania would be the greatest

beneficiary of an interstate trading program, and has the most to lose if interstate trading is not allowed.

The DEP is opposed to mercury emissions trading because of concern about “hot spots” around plants that choose to buy emission allowances rather than install control technology. This concern is misplaced, particularly in the case of Pennsylvania’s power plants.

As previously stated, Pennsylvania faces an 86 percent mercury emission reduction requirement (from estimated 1999 mercury emission levels). According to calculations by CONSOL, this equates to a 94 percent reduction from the mercury content in the coal we burn in Pennsylvania. The DEP and other opponents of trading assert that Pennsylvania generators will simply buy emission allowances from generators in other states, and take no direct action to control mercury emissions. We respectfully but ardently disagree and would like to explain why this will not occur. Because the required levels of reduction are so great, no affected plant in Pennsylvania will be able to comply simply by purchasing allowances from others. In fact, the DEP itself has stated that it expects 90 percent of the coal-fired generating capacity in Pennsylvania will install scrubbers and/or SCR’s simply to achieve the emissions reductions required by EPA’s CAIR (a rule that allows trading for SO<sub>2</sub> and NO<sub>x</sub>). Sources in Pennsylvania have already begun installing controls to meet CAIR requirements and a number of additional sources are planning to install controls. These scrubbers and SCR’s will also achieve substantial mercury reductions in Pennsylvania.

Additionally, EPGA members are undertaking large-scale mercury control testing this year using Pennsylvania coal and real-life boiler operating conditions. These tests are being conducted specifically to help develop technology that will be required to meet CAMR mercury emission reduction requirements and to allow technology providers to be able to provide mercury removal equipment performance guarantees that power generators will require.

Knowing the Department’s oft-stated concern about “hot spots” being fundamental to its opposition to permit trading for mercury emissions, EPGA wrote to DEP last November (letter attached) requesting answers to questions related to this issue. The questions included the following:

- How does the DEP define a “hot spot”?
- What are “background” levels of mercury in Pennsylvania, how has the DEP determined that background, and what variation from that background is sufficient to constitute a “hot spot”?
- What information does the DEP have about whether there are hot spots located in Pennsylvania? And if so, where are they located?
- What information does the DEP have that links mercury emissions from U.S. power plants, as well as power plants in Pennsylvania, to any such hot spots?

We believe these are legitimate questions that should be answered before ruling out a cost-effective and environmentally-sound emissions trading program. We are aware of no information to support the contention that there are “hot spots” in the Commonwealth. The EPA studies concerning hot spots have not identified any in Pennsylvania. Moreover, as you can see from the Department’s response to our letter (also attached to this testimony), we have not received responses to the questions we posed to the Department. Rather, DEP points to data presented in a Brookhaven National Lab study, and EPA’s Technical Support Document, and DEP asserts that this data “shows that a large portion of Pennsylvania EGU mercury emissions are deposited in the Commonwealth, regardless of whether definitive hotspots can be proven to exist.” It should be noted that the authors of the Brookhaven National Lab report cited in the DEP letter, and EPA, as well as other organizations such as the Electric Power Research Institute, have concluded that the “hot spot” issue is not a concern, and certainly not a sufficient reason to rule out a market-based approach to controlling mercury emissions. I refer the Committee, in particular, to testimony by Dr. Terry Sullivan of the Brookhaven Lab on the subject of hot spots, which was presented to the PA House Environmental Resources and Energy Committee.

In her written response to the legislative members of the EQB, to EPGA, the Pennsylvania Coal Association (PCA), the United Mine Workers of America (UMWA), and the International Brotherhood of Electric Workers (IBEW), Secretary McGinty has pointed to CAMR’s favorable treatment of western sub-bituminous vs. eastern bituminous coal (in the form of generous emission allowance allocations to states whose generators burn western coal) as a source of competitive disadvantage for Pennsylvania and a reason why

we need a Pennsylvania rule. She has also mentioned on several occasions that we need a state rule to protect Pennsylvania coal related jobs.

If Pennsylvania coal is better off with the DEP's proposed rule, why are the Pennsylvania Coal Association, the United Mine Workers of America and the International Brotherhood of Electrical Workers part of the coalition opposed to the DEP rule?

EPGA does not believe that the DEP-proposed mercury rule provides any protection for Pennsylvania coal supplies. In fact, because of the higher mercury content of many Pennsylvania coals, it is expected that the DEP-proposed mercury regulation will result in significant volumes of Pennsylvania coal being displaced at Pennsylvania generating facilities by coal with lower mercury content from other states. Even with some of the most effective emission controls in place, some plants will not be able to meet the unit specific annual emission limitation imposed by the proposed regulation and remain economically viable. This situation, as well as many other compliance uncertainties, could be remedied by reliance on a flexible emissions trading program, such as that afforded under CAMR, and by SB1201 and HB2610.

EPGA remains opposed to the DEP rule, as currently drafted, because we believe it will only compound the competitive disadvantages for Pennsylvania. Given that any state rule can be no less stringent than a federal rule, the only way Pennsylvania can redress the disparities between western vs. eastern coal is to allow generators to participate in the federal emissions trading program. The ability to trade allowances gives generators an opportunity to reduce emissions sooner than required and to remove more mercury than required by affording them an economic incentive to do so. The federal rule and the two bills would allow generators to comply by reducing emissions and/or purchasing emissions allowances from others.

In addition to the competitive disadvantages Pennsylvania sources face due to the differences between western versus eastern coal resulting in the highest mercury emission reduction requirements in the nation imposed on Pennsylvania by CAMR, Pennsylvania plants must compete in the wholesale electricity market against generators located in other states that do not have more stringent regulations than the federal rule. Thus, Pennsylvania generators would be placed at a further competitive disadvantage in the marketplace by the proposed DEP rule. Also, public utility commissions in states where generation is still a regulated monopoly allow generators to pass the costs of their

investments in emission control equipment on to their captive ratepayers. Generators in electric choice states like Pennsylvania do not have a regulatory-endorsed recovery method for these investments because they compete in the competitive market. Thus generators in choice states like Pennsylvania face higher risks of non-recovery and higher risk premiums on these capital investment costs. Some states in regulated jurisdictions are going as far as to “securitize” their utility generators’ investments in emissions control equipment, much like our state did with utility “stranded costs” following Pennsylvania’s electric restructuring. The point is that while some other states appear to be taking steps to help their generators maintain or even lower their compliance costs and therefore be more competitive in the wholesale power market, the DEP’s proposed rule would work in the opposite direction to the detriment of Pennsylvania’s generators. Our plants will be placed at a competitive disadvantage compared to the vast majority of our competitors that are fortunate to be located in other states in the region.

By forbidding emissions trading, the DEP would be deliberately introducing yet another and, in our view, more damaging source of competitive disadvantage. This prohibition – which would take away an option provided to our competitors in other states under the federal rule - would prevent Pennsylvania sources from minimizing their already high marginal costs of compliance, and compound the negative impact on power plant output, jobs and local energy costs.

#### Process Issue and the DEP Rule

Regarding the process question, this issue originated in a petition filed by PennFuture and others to the Pennsylvania Environmental Quality Board (EQB). DEP formed a Working Group in which EPGA and three of its member companies participated. We respect that Secretary McGinty has convened these meetings before submitting a proposed rule, that she has permitted industry to present expert analysis, and that she has reviewed and replied to letters submitted by EPGA and others expressing our strong opposition to a Pennsylvania-specific mercury rule. That said, we submit that throughout this process, we have heard no compelling evidence why the Commonwealth should adopt its own mercury rule different from CAMR.

In fact, neither DEP nor any other group has presented any information to demonstrate that DEP’s proposed rule will result in any measurable, additional benefits

over those resulting from the federal regulations. On the contrary, EPA analysis has shown that if you eliminate all mercury emissions from all U.S. power plants and compare the result with the requirements in the federal rules, there is very little difference.

If a stringent state-specific mercury rule - with such profound impact on the Commonwealth's economy – is to be considered, we strongly recommend that it be addressed through the legislative process to allow for careful and thorough scrutiny. We believe, and submit to this Committee, that there is not a good case to be made for a piecemeal, balkanized, state-by state approach to regulation of mercury emissions.

We now know a great deal more about the DEP rule scheduled to be sent to the EQB for proposed rulemaking in May. While purporting to be flexible and protective of Pennsylvania bituminous coal, the draft rule will achieve neither of these goals. The DEP regulations, as currently drafted, include very stringent “command and control” plant-by-plant emission caps. We believe these caps will force some sources to switch to lower mercury coals, many from non-Pennsylvania sources, rather than rely on a state-controlled pool of “emission allowances” created by over-control of other sources' emissions.

The problem with DEP's proposal is those sources which can over-control and be a potential source of emission allowances to those sources that cannot meet their emission cap have absolutely no incentive to do so. That is because under the proposed regulation, DEP would take control of those emission allowances with no compensation to the companies that over-control. Under the proposed regulation DEP would acquire these “allowances” resulting from excess reductions, and DEP would allocate them to other companies who are the competitors of the over-complying companies. Thus, there is no incentive to over-control emissions and no confidence that there will be adequate “allowances” available for those sources that are uncertain that the emission technology they are installing will enable them to meet their unit specific cap. In fact, it is highly unlikely that there would be many allowances available in the state to be given to units that need them to meet their caps because the level of reduction required under Pennsylvania's rule is so high.

Simply stated, we can trade emission allowances or we can trade coal. In the face of overwhelming evidence that a market-based system for mercury control will have as much benefit on mercury exposure as a more stringent “command and control” emission cap approach, we support the market-based approach of CAMR and SB 1201.

In closing, we would like to summarize by stating that we see no reason for a state-specific rule that is more stringent than the federal rule. The United States is the first and, to date, only country in the world that has enacted mercury reduction rules for power plants. Under the federal rule, Pennsylvania generators will make very significant mercury reductions. In fact, the federal rule already calls for greater reductions from Pennsylvania sources than any other state. A more stringent state-specific rule would only place Pennsylvania interests at a further competitive disadvantage relative to states that have chosen to follow and implement the federal rule. A state-specific rule presents downside risks to the Commonwealth and its economy without a corresponding benefit.

While some have criticized the legislature's involvement in this critical issue, we commend this Committee for its interest and we welcome the introduction of SB1201. It is not only appropriate but necessary for the legislature to be closely involved in the resolution of an issue that has such broad ramifications for Pennsylvania. If Pennsylvania is to adopt its own mercury rule, there should be hearings like this one so that the relative merits of a state-specific rule vs. the federal rule can be fully explored before a rule is promulgated. This matter involves complex and important energy, environmental and economic policy issues which should be carefully weighed with thoughtful input from the General Assembly up front, not just at the back end of the regulatory review process.

Thank you.

For additional Committee and staff review we are appending to EPGA's testimony responses to certain claims that have appeared in news releases and public statements related to the mercury issue and the recently introduced legislation.

**Claim:** Mercury is causing unacceptable health impacts.

**Response:** Mercury, in certain circumstances, can cause health impacts, and we support federally-mandated mercury reductions in the United States and Pennsylvania. We firmly believe that an 86% reduction in Pennsylvania's mercury emissions is an appropriate risk mitigation strategy for Pennsylvania citizens. However, we object to using incomplete or unsubstantiated information as the basis for a costly and overly-proscriptive environmental control program in Pennsylvania. We are aware of no medical or scientific evidence to support the claim by some that thousands of babies are born each year in the United States with increased risk of brain development issues and other health problems or that a single child in Pennsylvania has been or will be harmed by mercury emissions from Pennsylvania power plants. These parties are irresponsibly and grossly extrapolating impacts observed in a study of a North Atlantic island population (the Faroe Islands study) whose diet contains large amounts of pilot whale blubber with high mercury content as well as high levels of polychlorinated biphenyls (PCBs).

In fact, the national Centers for Disease Control and Prevention have recently found that the blood of 100 percent of the women and children studied had mercury levels significantly below the threshold for any known risk.

To date, neither DEP nor any other group has presented information to demonstrate that DEP's proposed rule will result in any measurable, additional benefits over those resulting from the Senate and House legislation. On the contrary, EPA's Regulatory Impact Analysis demonstrates that if you eliminate all mercury emissions from all U.S. power plants, the expected reduction in mercury deposition in the U.S. and in Pennsylvania is approximately equal to the expected reduction in deposition due to the "co-benefits" of emission reductions from the CAIR.

For more information on health impacts, we have attached a copy of a report from the American Council on Science and Health entitled "Regulating Mercury Emissions From Power Plants: Will it Protect Our Health?" We believe even a quick review of this report's

executive summary, conclusions and brief discussion of the cap and trade issue will convince you that, at a minimum, this environmental issue does not rise to the level of crisis that warrants more draconian measures than those already called for in SB1201.

**Claim:** CAMR is illegal.

**Response:** Some states, including Pennsylvania, have sued EPA because CAMR does not impose plant-by-plant maximum achievable control technology (MACT) requirements and it allows emissions trading. This is now a matter for the federal courts to decide.

While EPGA believes the CAMR is an appropriate approach for accomplishing further mercury emission reductions in the U.S., if it is overturned and some other form of regulation is promulgated, the electric power industry will comply. What is critically important to EPGA members is that whatever regulatory approach is ultimately implemented, it is competitively neutral to all coal-fired generation. A state-only approach such as that proposed by DEP significantly disadvantages coal-fired generation in Pennsylvania.

If the legal challenges to EPA's CAMR are successful, it is possible that DEP's rule could be stricken down along with EPA's because it is not a MACT rule and it includes a form of emission allowance trading, albeit a state-controlled trading regime with no incentive for sources to over-control their emissions. For example, if a large power plant on the Ohio-Pennsylvania border over-controls its mercury emissions, under the DEP-proposed rule that source would have to surrender the extra "allowances" it creates to the Department (without any compensation to the creating source). DEP could then make those "allowances" available for use by a competitor more than 300 miles away in eastern Pennsylvania. Arguably, this is, in effect, an emissions trading regime controlled by the state. We question whether a court that strikes down the EPA rule due to its trading provisions would allow this "trading" provision to stand.

**Claim:** Cap and trade means no mercury emission reductions in Pennsylvania.

**Response:** This claim directly contradicts DEP's assertion that a pool of extra allowances is expected to be created to help some sources comply with their unit-specific emission caps included in its proposed rule. According to DEP, this pool of extra allowances will be created by the over-control of mercury emissions by Pennsylvania power plants pursuant

to their investments in pollution control equipment to comply with CAIR. This assertion and the above claim are mutually exclusive possibilities.

Clearly, there will be dramatic reductions in mercury emissions in Pennsylvania under the federal rules. Several EPGA member companies have either publicly announced scrubber projects or are in advanced planning stages for scrubber and other emission control projects that will reduce emissions even if CAMR or a state mercury rule did not exist. One of our members recently briefed DEP staff on a large scrubber project planned for a generating station near Pittsburgh. During the meeting DEP staff remarked that this project was the third such presentation they had heard just that week. Numerous scrubber projects will come on line in Pennsylvania between 2009 and 2014 to comply with CAIR requirements, and these projects will result in significant mercury emission reductions.

Additionally, EPGA members are undertaking large-scale mercury control testing this year using Pennsylvania coal and real-life boiler operating conditions. These tests are being conducted to help develop technology that will be required to meet CAMR mercury emission reduction requirements.

**Claim:** Because of cap and trade provisions in CAMR it is misleading to say that Pennsylvania will achieve an 86% reduction in mercury emissions by 2018.

**Response:** CAMR requires Pennsylvania to reduce its 1999 estimated 5 tons of mercury emissions from electric generating units to 1.7 tons by 2010, and to 0.7 tons (about 1400 pounds) by 2018. This calculates to a 64% reduction in mercury emissions by 2010 and an 86% reduction by 2018. The only ways that Pennsylvania sources can achieve less than an 86% reduction in emissions by 2018 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, we believe most policymakers would agree that is a positive feature of a cap & trade approach to environmental regulation.

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

Pennsylvania that Secretary McGinty has called attention to in her criticism of CAMR, and helping to minimize the impact of CAMR compliance on electricity costs in the Commonwealth. If Pennsylvania generators were still regulated by the Public Utility Commission and failed to take advantage of such cost-minimizing opportunities we would be subject to public criticism and denial of regulatory cost recovery. 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 or south of the Commonwealth. Since the prevailing winds are generally west to east and southwest to northeast, 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 emission reductions as it could from in-state reductions.

We freely admit that some smaller plants cannot raise the capital to install expensive scrubbers, and some plants face unique site-specific emission control equipment retrofit challenges. And some emerging technologies have not been adequately tested to the point that power plant owners have confidence that they can achieve sufficient mercury reductions to meet their emission caps while still burning locally available coals. 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 (in almost all cases the largest sources of emissions) to over-control their emissions, so that smaller sources 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% reduction requirement under CAMR, we firmly believe that every affected plant in Pennsylvania will have to install some level of mercury removal technology by 2018 or be retired. But not every plant will be able to install identical levels of emission controls.

For all of these reasons, we believe the above claim amounts to a generalized attack on the cap and trade approach to regulating emissions – an approach that has proven exceptionally successful in the reduction of sulfur dioxide under the acid rain program, ground level ozone (smog), and lead from gasoline.