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Environmental Quality Board
PO Box 8477
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Re: Comments Concerning The Environmental Quality Board's proposal to amend Chapter 123 (relating to standards for contaminants) to read as set forth in Annex A with regard to PA Department of Environmental Protection (DEP)'s Mercury Emission Reduction Requirements for Electric Generating Units.

To the Environmental Quality Board Commonwealth of Pennsylvania:

Group Against Smog and Pollution wishes to endorse the Environmental Quality Board's mercury rulemaking proposal to amend Chapter 123 of the Pennsylvania Code, relating to standards for contaminants, with the purpose of reducing the levels of mercury emitted by coal-burning electric power generating facilities in the Commonwealth. Our organization would like to adopt the comments made by GASP Board Member David Fowler at the July 25, 2006 Public Hearing that was held by the Environmental Quality Board in Pittsburgh, Pennsylvania and make these additional comments.

There is little disagreement that mercury is a toxic substance that has detrimental health effects especially as related to neurotoxicity to the fetus and children. Both the Pennsylvania DEP Proposed Mercury Reduction Plan, and the federal Clean Air Mercury Rule (CAMR) recognize this health problem. Unfortunately both the Government Accountability Office (GAO) and EPA's own Inspector General documented widespread discounting of scientific and public health evidence as EPA developed and finalized the federal mercury rule. Additionally, research continues to accumulate indicating that our knowledge about the damaging effects of mercury may be underestimated. Consider the following:

Newer information

- Recent studies such as those done at the BioDiversity Research Institute found that, "Elevated mercury levels in Bicknell's thrush and other forest songbirds demonstrate that methylmercury can be produced in terrestrial ecosystems as well (as

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aquatic systems).”¹ The population of wood thrushes has declined 45 percent in recent decades. David C. Evers, Executive Director of the BioDiversity Research Institute suspects that mercury contamination might be a factor, along with the wide-ranging negative effects of acid rain on the forests. “With fewer songbirds to eat potentially harmful insects, the effects could reach further. Forests would be at greater risk for damage by gypsy moths and other pests with fewer songbirds to eat potentially harmful insects”, said Evers “Beyond that, mercury leaching into soil could find its way into the food chain in ways that are still unknown.”²

- Researchers from the University of Wisconsin-Madison worked on a team that found that methylmercury levels in the watershed of the Tahquamenon River were elevated during periods when most of the water was coming from groundwater, not surface runoff.³ This process would not be unique to the Upper Peninsula.

Pennsylvania has fish consumption advisories for mercury in 80 of its waterways and residents’ exposure to mercury is primarily through fish consumption. This newer information, shows that the effect of mercury contamination is more widespread with additional far reaching effects.

- Leaving the environmental issues aside, besides the solid research indicating mercury’s association with neurological problems, some recent studies have indicated an association between mercury concentrations and heart attacks in adults. In one of those studies, the authors reported a 69% greater risk of heart attack and a 93% greater risk of premature death in individuals with hair mercury concentrations of 2.0 ppm or more, compared with those with less than 2.0 ppm.⁴

Secretary McGinty said, “EPA data shows that oxidized mercury, which is the most prevalent form of mercury from bituminous coal, falls out locally. More than 70 percent of it rains down, if you will, in our backyard, creating hot spots obviously of toxic mercury pollution.”⁵ Pennsylvania electricity generators burn primarily bituminous coal. and the state ranks second in mercury emissions of all the states.

The excessive mercury falling in Pennsylvania and newer information about mercury in the environment adds to the importance of a strong prevention regulation for mercury. It is another reason to adopt a leadership position by adopting the DEP proposed mercury regulation because it gets more mercury out of the air sooner (2015) better protecting Pennsylvania citizen’s health and that of our environment.

Allowance Trading

For all of these health and environmental reasons, we believe that Pennsylvania should not adopt proposals similar to CAMR such as Pennsylvania Senate Bill 1201. These proposals allow mercury allowance trading which would delay mercury reductions in Pennsylvania. The Congressional Research Service predicts the CAMR 2018 requirement for 70% national mercury reductions would not be reached until 2030 due to banking and trading.

Here in Pennsylvania, George Ellis, President of the Pennsylvania Coal Association, in testimony before the Senate Environmental Resources and Energy

Committee on May 2, 2006, said Pennsylvania has 20% of its electricity supply coming from smaller plants which he indicated would want trading in order to continue to operate. He added, "And without a trading program, as I said, the utilities have repeatedly said they're not going to be able to keep those smaller plants open." "The power plants that are most at risk for shutdowns are less than 250 megawatts in size and over 40 years in service."

Whether these plants remain open is speculative but it would appear that they would engage in buying allowances if they had that option. It would then seem at a minimum that Pennsylvania would have 20% of the state's mercury emissions continuing at a higher level. The money used to purchase credits helps other plants, possibly out of state and upwind to modernize but to this state's competitive disadvantage while Pennsylvania citizens receive extra pollution. Should nearby upwind generators purchase allowances from Pennsylvania, we simply get a percentage of those emissions back. At some point older plants should be required to clean up.

DEP Secretary McGinty cites former experience with sulfur dioxide trading. "For example, total current sulfur dioxide allowances to address acid rain equal 540,000 tons. Pennsylvania facilities emit 1 million tons of sulfur dioxide per year, meaning the commonwealth "imports" about 460,000 sulfur dioxide allowances annually from reductions in other states. EPA forecasts that mercury trading under CAMR will mimic sulfur dioxide trading."⁶

Regulations that include trading of a toxic substance is not a plan for the health of the people of Pennsylvania but for the economics of the power industry. The PA DEP plan properly disallows trading of mercury, a toxic substance.

However, the DEP Plan is flexible in that it will assist facilities that may find mercury control to be economically or technically infeasible. On this last point, it is not clear that generating facilities with compliance difficulties requesting an alternative mercury standard at part 123.206 (c) would have to also have an "expeditious" compliance plan but GASP recommends this be a requirement.

Would losing some of these 20% of generators cause a shortage of power generation? Pennsylvania has in recent years been a net exporter of power and there are a number of new power generating facilities in development. In a recent news article, 8/21/06 ⁷, Lester Lave co-director of Carnegie Mellon University Electricity Industry Center, said, "There's tremendous excess capacity here (Pittsburgh area) and throughout the Ohio Valley."

The larger component of allowance trading, is the opportunity for small and larger generating facilities to delay installing effective controls. Pennsylvania, ranking second in mercury emissions, needs to give its citizens certainty that mercury from our state's power plants will actually be reduced 90% by 2015 not 2018 and not with the percentage reduction uncertainty that trading will allow.

Comments on questions relating to the DEP Mercury Reduction Proposal put forward by AQTAC

1) What are the advantages and disadvantages regarding the supplement pool under § 123.208 (relating to annual emission limit supplement pool)?

The disadvantage is that there will be additional mercury emissions that might not be there if each plant was able to control its emission levels in a stringent manner, not needing or requesting supplemental pool allowances. As the goal of this proposal is to reduce mercury in an expeditious manner, the supplemental pool in 123.208 should be donated to the state and retired or at least retired in the next few years.

(2) What are the advantages and disadvantages related to the new source set-aside provisions under § 123.207 (relating to annual emission limitations for coal-fired EGUs);

If the 3 percent of set aside allowances are consumed, then another 3 percent of allowances are put in place, would this be a tightening on emissions for the original plants assuming no closures? If this is the process, it could make emissions control tighter for all sources which could be somewhat challenging but it could also be a force for better technological controls. With this in mind facilities should be making efforts to do somewhat better than required.

(3) Should the precleaning of coal be taken into consideration as part of the percent reduction in meeting the minimum mercury control percentage under § 123.205?

According to the Electric Power Research Institute, EPRI, one third to one-half of the eastern bituminous coal burned in power plants is cleaned before it is shipped to the plant, and this process removes, on average, 25%-35% of the mercury in coal.⁸ It seems in general, coal washing would be a relatively simple way to reduce mercury emissions and should be required. However since there is such differing levels of mercury in coal to start with, a 90% reduction will leave dissimilar amounts. This apparently satisfies section 123.207 a (i) 2 for example but the actual remaining mercury levels will be different for different coals. Final mercury emissions, as a backstop presumably, will be judged by the monitoring system and the implications for set aside allowances for each facility. The emission standard per gigawatt hour might be a better method of keeping emissions at a lower consistent level.

As monitoring is vital to this process, will the required monitoring accurately depict the oxidized, elemental and particulate bound mercury for mercury emissions accountability? Monitoring should do this.

(4) Whether Phases 1 and 2 should be compressed to encourage early compliance;

Mercury control should be achieved as quickly as possible and with certainty. However with respect to compliance requirements for the emission standards for coal-fired electric generating units § 123.206 b (1) (2) (3) allowing presumed compliance due to certain control devices operating on a generating plant, this should not be used as an incentive without further requirements. For example, with respect to SCR 123.206 (b) 2

includes as stated, "if the design space velocity of the SCR catalyst is no more than 3000 hr⁻¹", would this not require some monitoring?

Additionally, this is not the only problem with SCRs, the catalyst can get less effective with age or the area can get clogged.

(5) Should providing longer "start-up" and "break-in" test periods, cost-sharing by owner-operators and technology vendors, and providing extended permit life for new, improved and more reliable technology be offered to encourage newer and more reliable demonstrated technology on a voluntary basis?

Extending permit life, longer "start-up" and "break-in" periods where a toxic is emitted is not desirable. Manufacturers should provide a good indication of what to expect when using their technology. Technology is forced by understood compliance times.

(7) How should the Department encourage over compliance and cost sharing between sources?

Each source should gain compliance on its own merits. This option suggests a bubble concept. For example, there should not be emission averaging between sources in different geographic locations with the same owner. Mercury is a toxic and each facility should be in compliance with the emission standards of this proposed regulation for the safety of the surrounding region.

(8) Should the Department consider the results of the EPA's Steubenville Study on regulatory requirements?

Yes, if the study has been validated as accurate and proper conclusions drawn. This should provide background to decisions made by the DEP in the development of this and other regulations. This study could be especially important as the EPA Inspector General noted that the 2005 computer model used by EPA to determine transport and deposition of mercury from local sources had significant uncertainties and that the model should be refined to better estimate mercury deposition.

In a Pennsylvania Poll of 506 Pennsylvanians released June 5, 2006 by PennFuture with a margin of error of 4.4 percent, it was shown that four out of five Pennsylvanians prefer stronger and faster state regulations to control mercury from power plants instead of the slower federal rule. This polling information provides a picture of the strong feelings Pennsylvanians have about reducing toxic mercury and protecting the health of our residents, especially our most vulnerable citizens, children and the unborn. Our citizen's health and well being must be the primary consideration in adopting mercury control in Pennsylvania.

GASP supports the DEP mercury reduction proposal as presented to the Environmental Quality Board because it will get mercury out of the Pennsylvania air and environment sooner and with more certainty.

Thank you for the opportunity to submit comments,

Sue Seppi (Project Manager-Group Against Smog and Pollution)

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