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Testimony for the Pennsylvania Environmental Quality Board Regarding Pennsylvania's State-Specific Mercury Reduction Rule

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Thank you for the opportunity to testify on the important issue of reducing mercury emissions from coal-fired power plants and Pennsylvania's state-specific mercury reduction rule. As you may know, PennEnvironment is a statewide non-profit, non-partisan environmental advocacy organization with more than 18,000 citizen members across the state.

Summary: Given the public health and environmental threats posed by mercury pollution from Pennsylvania's coal-fired power plants, the Bush administration's weakening of the Clean Air Act's federal mercury pollution reduction requirements, and the availability of mercury pollution control technologies, PennEnvironment supports DEP's state-level proposal to cut mercury pollution from Pennsylvania's coal-fired power plants by 90 percent by 2015. We urge the state to move forward in implementing this much-needed proposal, without allowing for mercury pollution "credit" trading.

My testimony will focus on the following aspects of the mercury pollution issue: the public health impacts of mercury, the Bush administration's so-called "Clean Air Mercury Rule", the issue of mercury "hot spots."

The Public Health Impacts of Mercury Pollution: Mercury is a bioaccumulative toxin that builds up in body tissue, and the primary way that people in the U.S. are exposed to methylmercury is by eating contaminated fish.[1] Pennsylvania currently has a statewide fish consumption advisory due to methylmercury, which warns people—especially children and women of child-bearing age—to limit their consumption of fish from all Pennsylvania waterways.[2] Mercury can also pass through the human placenta to developing fetuses and through breast milk to nursing infants.[3]

A potent neurotoxin, mercury poses significant human health hazards. Mercury can affect multiple organ systems, including the nervous, cardiovascular, and immune systems, throughout an individual's lifetime. In 2000, the National Academy of Sciences found that "Chronic, low-dose prenatal [methylmercury] exposure from maternal consumption of fish has been associated with more subtle end points of neurotoxicity in children," including "poor performance on neurobehavioral tests, particularly on tests of attention, fine-motor function, language, visual-spatial abilities, and verbal memory." The panel concluded, "the risk to

[1] EPA, *Mercury Study Report to Congress*, December 1997.
[2] U.S. PIRG Education Fund, *Fishing for Trouble*, June 2003.
[3] EPA, *Mercury Study Report to Congress*, December 1997.

[children of women who consumed large amounts of fish during pregnancy] is likely to be sufficient to result in an increase in the number of children who have to struggle to keep up in school and who might require remedial classes or special education."[4] EPA scientists estimate that one in six women of childbearing age has enough mercury in her body to put her child at risk, should she become pregnant. This figure is a doubling of previous estimates based on increasing evidence that methylmercury concentrates in the umbilical cord, exposing the developing fetus to higher levels of mercury than previously understood.[5]

The Bush Administration's So-Called "Clean Air Mercury Rule": Reducing mercury from power plants is critical to reducing toxic mercury in the environment and in fish, and thus protecting public health. Unfortunately, the Bush administration has promulgated regulations—the so-called "Clean Air Mercury Rule"—that give power plants until at least 2018 before having to make even modest mercury reductions and—even then—allow these plants to buy mercury credits rather than install controls to reduce their mercury emissions.

The Clean Air Mercury Rule sets a national cap on mercury emissions from power plants of 15 tons—touted as a 70% reduction—in 2018. The EPA's own analysis, however, projects less than a 50% actual reduction as late as 2020.[6] Moreover, the Congressional Research Service has concluded that "full compliance with the 70% reduction might be delayed until 2030"—or beyond—due to the rule's banking provisions.[7]

In addition to its weak and delayed national caps, the rule permits power plants to buy and trade mercury pollution credits rather than requiring every plant to make emissions reductions. Trading mercury credits is "very risky," according to prominent scientists, and would likely contribute to mercury "hot spots," areas with high levels of mercury deposition that I will discuss later on in my testimony.[8]

Lastly, and perhaps most importantly, there have been many claims made by representatives from the utility industry and others that Pennsylvania power plants will be required under the Clean Air Mercury Rule to achieve an 86 percent reduction in mercury emissions.[9] This is simply not true. Because Pennsylvania power plants will have the ability to avoid reducing their mercury emissions by purchasing mercury credits from power plants in other states, it is impossible to guarantee how much—or how quickly—Pennsylvania's plants will or will not reduce their mercury emissions under the Clean Air Mercury Rule.

And if Pennsylvania's utilities' actions in similar trading programs for other pollutants is any indication, Pennsylvania's power plants will be the plants buying credits from other states—

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[4] National Academy of Sciences, National Research Council, *Toxicological Effects of Methylmercury* (Washington D.C.: National Academy Press, 2000); EPA, *Mercury Study Report to Congress*, December 1997.

[5] Kathryn Mahaffey, Robert P. Cliffner, and Catherine Bodurow, "Blood Organic Mercury and Dietary Mercury Intake: National Health and Nutrition Examination Survey, 1999 and 2000," *Environmental Health Perspectives*, 112(5) 562-570, April 2004; Kathryn R. Mahaffey, U.S. EPA, "Methylmercury Epidemiology Update," Slide #9 of presentation given at the National Forum on Contaminants in Fish, San Diego, January 2004, available at http://www.epa.gov/waterscience/fish/forum/2004/presentations/monday/mahaffey.pdf.

[6] EPA, Office of Air Quality Planning and Standards, *Regulatory Impact Analysis of the Clean Air Mercury Rule*, March 2005, Table 7-3, p. 7-5, available at http://www.epa.gov/ttn/atw/utility/ria_final.pdf.

[7] *CRS Report*, p.7 & n.24.

[8] Hubbard Brook Research Foundation, Mercury Science Briefing (presentation to the EPA), 23 June 2004.

[9] Douglas L. Biden, Electric Power Generating Association; Edward D. Yankovich, United Mine Workers of America; Donald Siegel, International Brotherhood of Electrical Workers; George Ellis, Pennsylvania Coal Association; Eugene Barr, Pennsylvania Chamber of Business & Industry; Al Neri, Envoi Communications; "Business, labor, coal industry coalition supports bipartisan move to cut mercury emissions from power plants by 86%" (press release). April 18, 2006.

not the plants reducing their emissions. Specifically, DEP's finding that Pennsylvania facilities are using the credit trading program for sulfur dioxide to emit roughly 460,000 tons of sulfur dioxide above what the state is allotted[10] offers little hope that Pennsylvania's power plants will be the plants exceeding the minimum requirements for mercury reductions under the Clean Air Mercury Rule.

Mercury Hot Spots: Data released this spring by the EPA revealed that Pennsylvania's coal-fired power plants emitted roughly 6,700 pounds of mercury in 2004. This ranked Pennsylvania second among states nationally for the highest power plant mercury emissions.[11] In 2003, Armstrong and Indiana County ranked first and fourth, respectively, out of all counties nationwide for the highest power plant mercury emissions. Four other Pennsylvania counties made the top 100 list nationally.[12]

These statistics provide the appropriate backdrop for the discussion of mercury "hot spots," and emphasize why it is imperative that we consider hot spots in our discussion of the need to cut mercury pollution in Pennsylvania. Mercury hot spots are those areas with mercury deposition higher than in surrounding areas, and there is both significant evidence that hot spots exist and that coal-fired power plants create hot spots in nearby communities. It follows that the communities near or in a mercury hot spot will face an increased public health threat due to increased mercury levels.

Countering the claim by some that global deposition accounts for most of our mercury pollution problem, many studies suggest that in places where there are large local sources of mercury pollution, such sources account for 50 to 80 percent of mercury deposition. A 2003 study by Environmental Defense that examined EPA modeling data found that over 50 percent of the mercury deposition in Pennsylvania hot spots was due to local sources.[13]

Perhaps most significantly, initial results from an ongoing EPA study show that 67 percent of the mercury in rain collected at a monitoring site in Steubenville, Ohio originated from coal-burning power plants within 400 miles of the site.[14]

Studies have also shown that when mercury emissions are reduced from a source, the surrounding environment shows lowered mercury levels. Specifically, a 2003 study found that the levels of mercury found in largemouth bass and other wildlife in the Everglades have declined about 80 percent since state and federal agencies required municipal and medical waste incinerators to cut their mercury emissions.[15] More recently, mercury levels in Massachusetts fish from lakes near a cluster of incinerators were found to have dropped by over 30 percent since Massachusetts enacted strict mercury pollution standards seven years ago for the nearby incinerators.[16]

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[10] Pennsylvania Department of Environmental Protection (DEP), "86% Mercury Reduction Claim for Pennsylvania Under Federal Rule is Overstated" (press release). April 14, 2006.
[11] EPA, *TRI Explorer, Data Source: Release Year 2004 data set frozen on November 18, 2005 and released to the public April 12, 2006*, accessed via the internet on April 23, 2006.
[12] Supryia Ray, PennEnvironment Research & Policy Center, *Made in the U.S.A.: Power Plants and Mercury Pollution Across the Country*, September, 2005; p. 13, 22.
[13] Michael Shore, Environmental Defense, *Out of Control and Close to Home: Mercury Pollution from Power Plants*, 2003; p. 5.
[14] Darren Samuelson, "EPA study links fallout in Ohio to nearby coal-burning plants," *Greenwire* February 16, 2006. Available at: http://www.eenews.net/Greenwire/2006/02/15/#1. Accessed February 20, 2006.
[15] Florida Department of Environmental Protection, *Integrating Atmospheric Mercury Deposition with Aquatic Cycling in South Florida: An Approach for Conducting Total Maximum Daily Load Analysis for an Atmospherically Derived Pollutant*, November 2003.
[16] Beth Daley, "Mercury down 32% in fish near Mass. Incinerators; Progress tied to emissions laws," *The Boston Globe*, April 3, 2006.

The threat of hot spots means that the communities surrounding Pennsylvania's coal-fired power plants—and even those up to 400 miles away from a power plant—are at an increased risk of high mercury levels in their environment. For this reason, the environmental and public health communities have strongly opposed the mercury trading program put forth by the Bush administration in their so-called Clean Air Mercury Rule. In this trading program, power plants can avoid reducing their mercury emissions by buying credits from other plants in different locations.

It is largely because of the Bush administration's mercury policy allowing for mercury trading that PennEnvironment supports DEP's proposed mercury reduction rule, as it is a state-level mercury rule for Pennsylvania's coal-fired power plants that does not allow for mercury trading.

Conclusion: Given the serious environmental and public health threat posed by mercury pollution in Pennsylvania, the availability of pollution control technologies to significantly reduce this mercury pollution, and the Bush administration's weakening of mercury protections at the federal level, PennEnvironment is supportive of DEP's state-specific mercury reduction rule to require 90 percent mercury reductions from Pennsylvania's coal-fired power plants by 2015, without mercury trading. Thank you again for the opportunity to testify on this issue.