Reality Check
Regulating Mercury Emissions In Pennsylvania

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DEP's Own Data Shows "Hotspots" Caused by Local Power Plants Don't Exist

In a recent press release the Department of Environmental Protection used monitoring results from two monitoring sites in its Mercury Monitoring Network in an attempt to show that mercury "hotspots" caused by electric generating units exist in Pennsylvania.

The Reality Is…

The Data DEP Cited Can't Be Used to Identify Sources of Mercury Emissions, According to Penn State Professor: Dr. James A. Lynch, the Penn State Professor who maintains the Mercury Monitoring Network for DEP, says the information used in the press release by DEP cannot be used to identify the sources causing mercury deposition. He told the DEP Mercury Work Group back in October that DEP needed to do what's called a "source/receptor" study in order to pinpoint the source of mercury emissions causing deposition in Pennsylvania and that his information alone cannot do that. *(See page 52 of Dr. Lynch's comments.)*

DEP Secretary Kathleen McGinty acknowledged in comments before the Senate Environmental Resources and Energy Committee on June 6 that her agency did not have a causality study that would determine where mercury emissions were coming from that have an impact on Pennsylvania.

A 47 Percent Reduction in Mercury Emissions Upwind from the Cresson Monitoring Site Resulted in No Change, Therefore There's No "Hotspot" Caused by Local Power Plants: DEP pointed to the Cresson monitoring site in Cambria County as detecting higher levels of mercury from local sources because it is close to several major Pennsylvania power plants, including: Seward, Homer City, Keystone and Conemaugh.

The Reality Is… that three of those plants – Seward, Homer City and Keystone—all installed advanced air pollution control equipment between 2000 and 2005 and achieved a 47 percent reduction in their mercury emissions, according to U.S. EPA and Toxic Release Inventory reports. *(Controls were installed at the Conemaugh plant in 1994 and 1995 before DEP began monitoring in 1997.)*

If these plants directly influenced the Cresson monitoring site as DEP claims, it should have resulted in a similar significant reduction in mercury deposition at the monitoring site. DEP's own information shows it did not, in fact it shows no discernable decrease. This calls into question DEP's contention that "hotspots" of mercury are caused by local power plants.

In fact, DEP's data supports the opposite view—that mercury must be coming from somewhere else, like hundreds of miles further west and from natural and global

sources. It also conforms Dr. Lynch's observation that mercury deposition changes significantly from season to season and year to year based on precipitation patterns.

There is no "hotspot" at Cresson caused by local power plants.

A 33 Percent Reduction in Mercury Emissions Statewide Did Not Change Monitoring Results Either: Statewide, Pennsylvania has already seen a 33 percent reduction in mercury emissions between 1999 and 2004 from 9,958 pounds to 6,640 pounds, according to U.S. EPA and Toxic Release Inventory numbers.

However, that sharp decline did not result in any discernable decrease in the amount of mercury monitored by DEP like one would expect if most of the mercury was really being deposited locally around power plants.

Again, the better interpretation of the data is that the mercury must be coming from somewhere else.

Mercury Reductions Upwind of Cresson Monitoring Station And Statewide*

(in pounds of mercury)

	Start	Most Recent	Difference	Reduction
Seward ('01-'04)	175	3	172	98%
Homer City ('00-'04)	1,369	658	711	53%
Keystone ('01-'04)	1,300	832	468	36%
Conemaugh**				
Total Reduction 3 Plants	2,844	1,493	1,351	47%
Total State EGUs ('99-'04)	9,958	6,640	3,318	33%

* Based on U.S. EPA and Toxic Release Inventory numbers.

** Wet scrubbers were installed in 1994 and 1995 before the DEP Mercury Monitoring Network was established so it would not have recorded mercury reductions before the scrubbers went online.

Three Conditions, Not One, Needed for a Utility-Attributable "Hotspot:" Experts agree the health threat from mercury is indirect. It comes not from breathing in mercury in the ambient air, but eating fish which contain mercury.

Three conditions are needed to have a utility-attributable mercury "hotspot" that threatens public health—1) power plant emissions with sufficient concentrations of mercury; 2) a large body of water where those emissions can be deposited and ingested by fish in the aquatic food chain; and 3) having individuals eat a sufficient quantity of fish from that body of water to cause health effects.

Mercury Deposition Highly Variable: Dr. Lynch also told the DEP Mercury Work Group that mercury deposition follows precipitation patterns and is highly variable from year to year and season to season and that he did not have enough data from his system to

make any conclusions about typical patterns of deposition, unlike his results for other pollutants like sulfur dioxide. *(See page 53 of Dr. Lynch's comments.)*

Other Studies Agree – Don't Show Alleged "Hotspots"

Studies by the Brookhaven National Laboratory to specifically look for alleged "hotspots" around existing power plants found there was no evidence they exist.

A presentation of wet deposition data on mercury from a study by U.S. EPA of the area around Steubenville, Ohio which DEP has been using in support of its position actually confirms EPA's modeling and does not provide evidence that any particular power plant is causing mercury levels in any particular water bodies to exceed any defined background level.

The study also found that mercury emissions travel 400 or more miles from power plants, greater than the width of the entire state of Pennsylvania. Under anyone's common sense definition this cannot be described as a local "hotspot."

The U.S. Centers for Disease Control did a nationwide study of women of childbearing age, infants and young children and found not a single case where mercury levels approach those required to cause adverse health effects.

Bottom Line

Since DEP's own monitoring results in Pennsylvania show that mercury deposition in the Commonwealth has no apparent connection to mercury reductions in the Commonwealth, it is very appropriate to use the cap and trade system adopted in the Senate/House mercury reduction proposal and the federal Clean Air Mercury Rule to reduce mercury emissions.

This same cap and trade system has been used very effectively to reduce air pollutants that cause acid rain and ozone pollution which come from regional and local sources, just like mercury.

Support a Balanced Approach for Significant Mercury Reductions

Senate Bill 1201 and House Bill 2610 would require an 86 percent reduction in mercury emissions from Pennsylvania coal-fired power plants without negatively impacting the economic well-being of the Commonwealth. These bills are supported by a coalition of labor, business and the coal industry that believe we can reduce mercury emissions through plant controls and trading while protecting Pennsylvania jobs and the environment.

The coalition supporting this approach includes the:

- United Mine Workers of America
- International Brotherhood of Electrical Workers
- Electric Power Generation Association
- Pennsylvania Coal Association

- Pennsylvania Chamber of Business & Industry
- Pennsylvania Chemical Industry Council
- Pennsylvania Manufacturers Association
- Associated Petroleum Industries of Pennsylvania

For more information visit the www.PaEnergyNews.com website.

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