

Senate Democratic Policy Committee Hearing

“An Oversight Hearing on the Administration's Mercury Emissions Proposal”

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Introduction

Thank you for the opportunity to comment on the January 30, 2004 proposal and March 16, 2004 supplemental proposal by the United States Environmental Protection Agency (EPA) to regulate hazardous air pollutant emissions from power plants.

I believe that the EPA's proposals are flawed and are contrary both to science and the law. The proposals would lead to far smaller emission reductions than what is now feasible and delay those reductions by 10 to 20 years beyond what the Clean Air Act requires. Either of the alternatives that the EPA proposes to control emissions would achieve virtually no additional mercury reductions beyond what is expected by partial control of some, but not all, power plants for two other air pollutants.

It troubles me even more when taking the mercury proposals as just the latest component of the current federal approach to regulating air pollution from power plants. That approach protects coal-fired power plants as much as possible from having to install modern air pollution control technology, while leaving the health of residents of New Jersey and much of the eastern United States without protection from the emissions from those power plants.

Recent Federal Air Pollution Regulation

Mercury, a potent neurotoxin, is just one of the important air pollutants that power plants emit in enormous quantities. Others include:

- Oxides of nitrogen (NO_x), a precursor to ground-level ozone, acid rain, fine particulate matter, and haze – power plants are responsible for about 25 percent of the NO_x emitted nationwide;
- Sulfur dioxide (SO₂), a precursor to acid rain, fine particulate matter, and regional haze – power plants are responsible for at least 60 percent of the SO₂ emitted nationwide; and
- Carbon dioxide (CO₂), a greenhouse gas that is contributing to global warming – power plants are responsible for about 40 percent of the CO₂ emitted nationwide.

Just a few years ago, a series of air pollution initiatives had already begun to drive power plants to control emissions of all four of these pollutants as well as a number of other toxic pollutants.

The U.S. Supreme Court upheld in 2001 the strict health standards that the EPA established for ozone and fine particulates in 1997, with the expectation that those standards would drive major reductions in power plant emissions of NO_x and SO₂. The 1999 regional haze rules were expected to yield pollution control upgrades to reduce NO_x and SO₂ emissions at virtually every coal-fired power plant built since 1962. Better understanding of global warming, and of how CO₂ emissions from power plants is contributing to it, was spurring the construction of much more efficient power plants and the development of much cleaner and more efficient technologies to generate electricity from coal. Enforcement of the Clean Air Act's New Source Review (NSR) requirements had led to agreements for power plants to reduce their NO_x, SO₂ and mercury emissions by 90 percent or more.

Finally, the EPA's commitment in 2000 to develop a Maximum Achievable Control Technology (MACT) standard for power plant emissions of mercury and other toxics was expected to yield 90-percent reductions of emissions of mercury, because that is what the technology used today by the best-performing coal-fired power plants is achieving. That same technology would also have cut SO₂ emissions by 90 percent or more and substantially cut emissions of particulates and other toxics.

One by one, however, we have seen all of these air pollution initiatives undermined:

- The EPA's recent rule changes virtually eliminated NSR for existing power plants, foregoing the opportunity to reduce NO_x, SO₂ and mercury emissions by 90 percent or more when plants expanded or upgraded;
- In its proposed Interstate Air Quality Rule (IAQR), the EPA has proposed to cap power plant NO_x emissions at a level no more strict than what it established in the 1998 NO_x SIP Call, leaving much of the Northeast unable to attain the health standards for ozone;
- The IAQR would allow power plants to continue emitting at least five times as much SO₂ as either full enforcement of NSR or true application of a power plant MACT would allow, making it difficult or impossible for New Jersey and other states to attain the health standards for fine particulates;
- The EPA has also proposed to eliminate the requirements for any action under the regional haze rules through the end of the next decade, and substitute the IAQR for those requirements; and
- The EPA has reversed its prior position that CO₂ is a pollutant that can be regulated under the Clean Air Act.

As a result of these rollbacks, the EPA is no longer even attempting to reduce emissions of the four major pollutants emitted by coal-fired power plants substantially. Instead, it now seeks only to reduce emissions of one pollutant, SO₂, to some extent. At the same time, it has expressly written off CO₂ and more or less preserved the status quo for NO_x.

It has also written off any effort to reduce emissions of hazardous air pollutants aside from mercury such as arsenic, chromium, cadmium, hydrogen chloride, and hydrogen fluoride.

Reducing Mercury Levels

Now, the [EPA](#) has proposed two alternatives to regulate power plant emissions of mercury (and none of the other toxics emitted by coal-fired power plants): a cap-and-trade system that flatly contradicts what the Clean Air Act requires, and a weak set of plant-by-plant emission standards that does not begin to approach what would be considered MACT. Those emission standards also allow plants fueled by sub-bituminous coal, mined in Wyoming and other areas of the Powder River Basin, to emit three times as much mercury as plants fueled by bituminous coal mined from the Appalachian region and elsewhere.

Although I am deeply concerned about the role of the mercury proposals as the latest in a larger trend of rollbacks or delays that protect coal-fired power plants from having to upgrade their air pollution controls, I must emphasize how harmful the mercury proposals are on their own.

Mercury poses a serious threat to public health. It can cause permanent brain damage to the fetus, infant, and young child. It can hurt the ability of children to pay attention, remember, talk, draw, run, see, and play. Even exposure to low levels can permanently damage the brain and nervous system and cause behavior changes. In New Jersey alone, we estimate that more than 5,000 newborns every year are exposed to dangerous mercury levels *in utero*. At least one in 10 pregnant women in New Jersey have concentrations of mercury in their hair samples that exceed safe levels.

The primary method of exposure to mercury is through consumption of mercury-tainted fish. This problem is exacerbated by mercury's persistence in natural ecosystems and its ability to bioaccumulate in food chains, even when initially present in low levels. As a result, air deposition of mercury from power plants and other sources is a significant factor in contaminating fish.

This problem is apparent in New Jersey, as 100 percent of the state's lakes, streams and reservoirs – more than 4,100 water bodies – are under some form of mercury advisory. Mercury has been found in every fish species tested in the state, leading to statewide, regional and waterbody-specific mercury fish consumption advisories.

These advisories even affect the Pinelands region of the state, a relatively undeveloped area with no localized industry. Even in remote waterways in the Pinelands, we have detected significantly high levels of mercury in fish. This underscores the need for comprehensive protections on the national level that address mercury (and other hazardous air pollutants) that can drift beyond localized areas to affect downwind states.

Nationally, states are seeing local, regional and long-range impacts of mercury deposition: 45 states have mercury fish consumption advisories; 19 states have statewide mercury advisories for freshwater and 11 states have coastal mercury advisories. With the stakes in public health so high, it is especially important that mercury regulations be based on sound science and strict compliance with the law.

Clean Air Act Requirements

The Clean Air Act requires the EPA to set a mercury emission standard that is based on the emissions of the best-performing facilities. The EPA's proposals fall far short of that mark. The best-performing facilities are already using well-established technology to control power plant mercury emissions today. Two coal-fired units in New Jersey, using pollution control technology about a decade old, have reduced their mercury emissions by over 90 percent compared with uncontrolled levels. Three more coal-fired units in New Jersey have committed to install pollution controls expected to yield about a 90-percent reduction in their mercury emissions. A host of municipal solid waste incinerators have reduced their mercury emissions by 90 to 99 percent for the past ten years, burning fuel that is far more variable than coal.

A legally sustainable MACT standard would reflect that many coal-fired facilities are already achieving better than 90-percent reductions in mercury emissions, and would require similar reductions by the December 2007 deadline that the EPA acknowledges in its proposals. In contrast, the EPA proposes only a 30-percent reduction within the next decade, delivers not much more than that by 2018, and even a decade after that delivers at best no more than 70 percent.

State Leadership

More protective regulations than those proposed by EPA are clearly necessary and attainable by industry. Several states are leading the way after determining that the EPA's national rule will not be protective enough. In New Jersey, we have proposed regulations that would give the 10 coal-fired boilers in the state four years to begin keeping 90 percent of the mercury in coal from being emitted into the air or to meet a strict regulatory limit that achieves comparable reductions. Every plant will have to reduce emissions without emissions trading. A company that commits to reducing substantially air pollution that causes smog, soot, and acid rain as well as mercury, will earn an additional five years to comply, if mercury emission reductions are phased in with reductions of particulates, sulfur dioxide, and nitrogen oxides.

We estimate that if New Jersey's regulations were applied nationally, mercury emissions from coal-fired power plants would decline from approximately 48 tons to about five tons annually.

We did not originally plan to propose a New Jersey-only rule for power plant mercury emissions. It was only after it became apparent that EPA would be proposing a weak rule with an extended timeframe that New Jersey and other states were put in a position of having to do their own rules. So far Massachusetts, Connecticut, and Wisconsin have also developed either new legislation or rule actions to reduce mercury emissions from coal fired power plants. Other states are sure to follow. However, states should not need to expend valuable resources on a problem that is best addressed consistently nationwide.

State Coalition Fighting the Rule Proposal

Just as other states are joining New Jersey in introducing state-level mercury controls, they also share our deep concerns about the EPA's mercury rule proposal and its disregard of the views that stakeholders expressed during a lengthy advisory process. On April 20, 2004, the bipartisan Environmental Council of the States (ECOS) resolved that:

- ECOS expresses its disappointment that EPA has not represented the views of its working group stakeholders in the rule consultation process.
- ECOS is concerned that neither of EPA's proposed approaches is adequate to protect the public health of sensitive populations from the dangers posed by mercury in the environment, nor are they consistent with requirements of the Act nor do they fully take into account the current status of available technology to control mercury emissions from power plants.

New Jersey has reached out to and set up a bipartisan coalition with ten other states – California, Connecticut, Maine, Massachusetts, New Hampshire, New Mexico, New York, Pennsylvania, Vermont and Wisconsin – in submitting to the EPA formal comments objecting to the proposed mercury rules. The comments raise all legal and technical issues with “reasonable specificity” in order to preserve the issues for appeal before the DC Circuit Court of Appeals, should the proposed mercury rule be adopted.

The position of the 11-state coalition is that the proposal to control hazardous air pollutants (HAPs), and namely mercury, emitted from power plants is illegal and inconsistent with the requirements of the Clean Air Act (CAA). The coalition has called for the EPA to withdraw the current proposal and to promulgate expeditiously an appropriate MACT standard that complies with Section 112(d) of the CAA.

The coalition has commented that EPA's proposed emissions trading program, which is EPA's preferred alternative, is not legally authorized under either Section 111(d) or Section 112(n) of the CAA, especially since EPA did not follow the statutory delisting criteria in Section 112(c). Moreover, the proposed cap-and-trade program, which is not a performance standard in accordance with Section 111, will not address “hot spots” of mercury pollution in areas near power plants.

The coalition's comments also point out that the EPA is legally required to set stringent plant-specific emission standards based on the “maximum achievable control

technology” for mercury and other HAPs emitted from this source category, as a result of its threshold finding in December 2000 that it is “appropriate and necessary” to regulate coal and oil-fired power plants under Section 112 of the CAA. However, instead of establishing an appropriate MACT standard, EPA proposed an extremely weak standard that was based on an unlawful scheme to subcategorize coal by rank, numerous statistical errors, and an improper variability analysis. The MACT standard, as proposed, would not require most power plants to install additional controls, nor would it result in substantial reductions of mercury emissions.

Manipulating the Data

One of my strongest concerns about the current proposed mercury regulations, explained in detail in a white paper prepared by and available from my agency and echoed in the state coalition’s comments on the rules, is the statistical manipulation that was used by the EPA to justify a more lenient MACT standard than required by the CAA.

The standard procedure for adopting a MACT rule is to calculate the average (mean) emissions from the best performing 12 percent of facilities. This level would then become the MACT standard for all facilities. This method should also have been employed for the mercury MACT rule. It was not.

Instead, the EPA attempted to compare the amount of mercury in coal used by facilities and the amount of mercury coming out in emissions to create a supposed average of “mercury removed” prior to air emissions leaving smokestacks. This calculation in and of itself was illogically premised and flawed. The EPA also modified these calculations based on the ratio of chlorine to mercury in the coal – even though studies have shown little correlation between chlorine content in coal and the emissions of mercury from burning that coal. As a result, the calculations introduced greater uncertainty (and thus greater leniency) in the ultimate MACT standard proposed.

Next, the EPA used this calculation approach to develop “distributions” of estimated emissions for each of the best-performing plants and selected the 97.5th percentile values of these distributions as the values upon which to base compliance. While such a selection might be appropriate if facilities were measuring mercury emissions once or twice a year (and thus the standard would have to account for day-to-day variability of emissions), it is inappropriate for a system in which mercury emissions are continuously monitored and thus variations in emissions are already accounted for in the average. The effect of this redefinition (again statistically illogical for this type of calculation) was to greatly increase the level of mercury emissions permissible under the proposed MACT standard.

Finally, the EPA used inappropriate statistical methods to determine a 97.5th confidence level upper limit of the average value of these percentile values and used this extreme upper limit in setting the standard. Again, the ultimate effect was to diminish the protectiveness of the proposed MACT standard.

Rather than develop standards based on the straightforward requirements of the Clean Air Act, the EPA has manipulated statistics to support far more lax standards. Building on industry concerns that power plant mercury emissions can vary, the EPA has based the proposed standards on worst case emissions. As a result, the EPA proposed to allow mercury emissions for bituminous coal 17 times higher, and for sub-bituminous coal eight times higher, than what would be allowed under a straightforward application of the law.

At the same time, the EPA ignores how municipal solid waste incinerators have demonstrated over several years that they can deliver consistent 90 to 99 percent reductions in mercury emissions, even though mercury emissions from burning trash vary far more than mercury emissions from burning coal.

Conclusion

The EPA has justified its approach to mercury regulation by claiming that the court-approved December 2007 MACT deadline is too tight to accommodate the necessary installation of pollution controls. Based on this claim, the EPA weakens the legally required emissions standard; it then proceeds to extend unilaterally the 2007 deadline that was the basis for the weaker standard.

Yet the leadership of individual facilities and states around the country has proved that the technology is available to meet the legally required standard today and that power plants can comply with a MACT standard for mercury that protects public health significantly more than the current EPA proposal. The proposed emissions standard set cannot be a function of ability or (supposed) inability to meet the December 2007 deadline. The standard must instead conform to the legal requirements.

Legally, the EPA must enforce a more stringent MACT standard than proposed. For the sake of the health of our children and communities, the EPA must implement a more protective standard that limits exposure to this hazardous air pollutant as soon as possible. Beyond these arguments, however, implementing the real maximum achievable protections is simply the only moral and ethical choice the EPA can make. As public officials, we have been entrusted with the sacred responsibility of protecting the nation's environment and health for this generation and for future generations. The EPA owes it to them to insist on nothing less.