



At a Glance

Catalyst for Improving the Environment

Why We Did This Review

Members of the Senate Environment and Public Works Committee requested that we review EPA's development of its proposed rule for controlling mercury emissions from coal-fired electric utilities.

Background

Coal-fired electric utilities represent the largest source of airborne mercury emissions in the United States. Once airborne, mercury can be deposited into water, where it bio-accumulates in fish and animals at the top of the food chain. Human consumption of fish is the primary method of exposure to mercury, which has been shown to cause neurological and fetal developmental problems.

On January 30, 2004, EPA proposed rules for regulating mercury emissions from coal-fired steam generating electric utility units. EPA proposed two options for controlling mercury emissions, one a control technology standard with emission limits and the other a performance based cap-and-trade approach.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2005/20050203-2005-P-00003.pdf

Additional Analyses of Mercury Emissions Needed Before EPA Finalizes Rules for Coal-Fired Electric Utilities

What We Found

Evidence indicates that EPA senior management instructed EPA staff to develop a Maximum Achievable Control Technology (MACT) standard for mercury that would result in national emissions of 34 tons annually, instead of basing the standard on an unbiased determination of what the top performing units were achieving in practice. The 34-tons-per-year target was based on the amount of mercury reductions expected to be achieved from implementation of nitrogen oxide (NO_x) and sulfur dioxide (SO₂) controls under a separately proposed, but related, air rule. According to EPA officials, 34 tons represents the most realistic and achievable standard for utilities. However, because the results of the MACT standard were prescribed and prior estimates were lower than what was proposed, the standard likely understates the average amount of mercury emissions reductions achieved by the top performing 12 percent of utilities, the minimum level for a MACT standard required by the Clean Air Act. Further, this MACT standard, as proposed, does not provide a reasonable basis for determining whether the MACT or cap-and-trade approach provides the better cost benefit.

The Agency's cap-and-trade proposal can be strengthened to better ensure that anticipated emission reductions would be achieved. For example, utilities would not need to install mercury-specific controls to achieve the interim cap, but could meet the cap by implementing NO_x and SO₂ controls associated with another proposed trading program. Also, the proposal does not adequately address the potential for hot spots. Further, provisions for units emitting small amounts of mercury could be improved.

We also found that EPA's rule development process did not comply with certain Agency and Executive Order requirements, including not fully analyzing the cost-benefit of regulatory alternatives and not fully assessing the rule's impact on children's health.

What We Recommend

We recommend that EPA re-analyze mercury emissions data collected for the top performing 12 percent of units to develop a MACT floor. The Agency should also conduct a revised cost-benefit analysis for the updated MACT that takes into account the impact of mercury co-benefits achieved through the proposed Clean Air Interstate Rule. The results of the cost-benefit review should be compared to the cost-benefit of the proposed cap-and-trade option to determine the most cost beneficial option for controlling mercury emissions. We also recommend that EPA strengthen its cap-and-trade proposal by more fully addressing the potential for hot spots; revising the safety valve proposal so that it is used only as intended during periods of unanticipated market volatility; and revising the proposed exemption for small emitters. Further, we recommend that the Agency conduct more in-depth analyses of the regulatory alternatives and children's health impacts as required by Executive Orders. The Agency's response to the draft report did not specifically address our recommendations, but raised concerns about certain aspects of the report.