



U.S. Environmental Protection Agency  
Office of Inspector General

2005-P-00003  
February 3, 2005

# At a Glance

EXHIBIT 14  
DATE 2-4-05  
HB 455

*Catalyst for Improving the Environment*

## **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<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) 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<sub>x</sub> and SO<sub>2</sub> 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 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.

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## EPA Inspector Finds Mercury Proposal Tainted

Agency Staff Was Told to Set Limits Backing Bush's 'Clear Skies' Initiative, Report Says

By Shankar Vedantam  
Washington Post Staff Writer  
Friday, February 4, 2005; Page A04

The Environmental Protection Agency ignored scientific evidence and agency protocols in order to set limits on mercury pollution that would line up with the Bush administration's free-market approaches to power plant pollution, according to a report released yesterday by the agency's inspector general.

Staff at the EPA were instructed by administrators to set modest limits on mercury pollution, and then had to work backward from the predetermined goal to justify the proposal, according to a report by Inspector General Nikki Tinsley.

Mercury is a toxic metal released as a byproduct by coal-burning power plants and other industries, and it is known to have a range of harmful health effects, especially on young children and pregnant women.

The proposal in contention was issued by the agency in December 2003 to clamp down on pollution by mercury, which also occurs naturally in the environment. Tinsley called for an "unbiased" restructuring of the plan, even if it meant delaying the rule beyond next month, which was when it was to be finalized.

Agency officials said yesterday that Tinsley did not understand the science and limitations of mercury control, disputing her charges that the proposal was politically biased or scientifically unsound. Agency spokeswoman Cynthia Bergman said she expects the final mercury rule to be released next month on schedule.

Although industry scientists said Tinsley had exceeded both her mandate and her expertise, two staff members at the agency involved in the rule-making said the report accurately described the pressures placed on staff by political appointees.

"I don't think anyone has ever seen as much political influence in the development of a rule as we saw in this rule," said one EPA staff member, who attended meetings between administrators and staff. "Everything about this rule was decided at a political level. . . . The political level made the decisions, and the staff did what they were told."

This staff member and another, both of whom asked for anonymity because they feared the consequences of being identified, said that instead of considering a range of possibilities, staff members were told they had only one.

"Maybe we would have come to the same conclusion [anyway], but we didn't necessarily look at the other options," the second staff member said. "We were driven by one option."

The agency's plan made clear that the EPA preferred to regulate mercury in a manner similar to the proposals in President Bush's "Clear Skies" legislative initiative, which has been bogged down in Congress. This cap-and-trade approach calls for a system whereby polluters must meet collective pollution-control targets but can trade credits so that not all plants must meet the same standard. It aims for overall reductions in mercury of about 29 percent by 2010, and a total reduction of 70 percent by 2018.

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Industry welcomed the proposal, which involved lower costs and less burdensome regulations.

The only alternative to the plan was the more conventional approach to pollutants -- a cap on the pollution emitted at every plant. This proposal called on power plants to reduce mercury emissions from about 48 tons a year to 34 tons by 2008 -- a reduction of about 25 percent.

The IG's report criticized both ideas. It said the free-market approach did not fully account for "hot spots" -- areas that could end up with higher levels of pollutants under the cap-and-trade system -- and several specific health concerns, including the impact on Native American tribes.

The 25 percent target in the other option was smaller than it should have been, the report said, and was obtained only after scientists were given the number and told to find ways to justify it.

Tinsley's report said EPA staff discussed various scenarios to justify the "predetermined target."

"They didn't want to outperform their Clear Skies legislation," said John Walke, clean-air director for the Natural Resources Defense Council, an environmental advocacy group. He argued that the flat reduction approach was deliberately designed to look worse than the cap-and-trade solution. If the flat reduction seemed "better than Clear Skies, the public would see it was being shortchanged by a decade."

In a back-and-forth rebuttal at the end of the report, the EPA's assistant administrator for air and radiation, Jeffrey R. Holmstead, disagreed sharply with Tinsley's conclusions, and described her report as inaccurate and flawed.

"The report characterizes the process as incomplete before it is even finished," said Bergman, the spokeswoman.

Bergman did not dispute that administrators settled early on the 34-ton mercury limit, but she said the target had been chosen after considerable work had been expended by the agency in developing the Clear Skies initiative.

"It's not biased," Bergman said. "It factors in the status of mercury control technologies, what works for specific coal types, and we don't want to trigger massive fuel switching. The Clean Air Act allows us to consider those things."

Scott H. Segal, a spokesman at the Electric Reliability Coordinating Council, said that more ambitious targets would have prompted power plants to switch from coal to natural gas, "which is pretty hard on the elderly and those living on fixed incomes."

"This report from the IG is another in a long line of reports that office has done that go well beyond the expertise of the office in either legal or policymaking areas," he said.

Environmentalists, EPA officials and industry scientists agreed that in the short run, the best way for Americans to protect their health is to follow safety guidelines issued last year that call for reduced consumption of fish known to have high mercury levels. Women of childbearing age in particular should avoid shark, swordfish, king mackerel and tilefish, as well as larger tuna species such as albacore, health authorities said.

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**Impaired and Threatened Waterbodies in Montana  
Requiring Water Quality Restoration Due to Mercury Contamination, 2004**

<b>Waterbody Name</b>	<b>Type</b>	<b>Size</b>	<b>Units</b>	<b>County</b>
Bighorn River	River	38.4	Miles	Big Horn County
Milk River	River	270.4	Miles	Blaine County
Canyon Ferry Reservoir	Freshwater Lake	35,180	Acres	Broadwater County
East Fork Indian Creek	River	4.7	Miles	Broadwater County
Hellgate Gulch	River	11.5	Miles	Broadwater County
Indian Creek	River	7.9	Miles	Broadwater County
Wilson Creek	River	3.3	Miles	Broadwater County
Carpenter Creek	River	6	Miles	Cascade County
Missouri River	River	7.6	Miles	Cascade County
Armells Creek	River	13.4	Miles	Fergus County
Missouri River	River	103.9	Miles	Fergus County
Whitefish Lake	Freshwater Lake	3,350	Acres	Flathead County
Fort Peck Reservoir	Freshwater Lake	245,000	Acres	Garfield County
Boulder Creek	River	13.8	Miles	Granite County
Fred Burr Creek	River	10.1	Miles	Granite County
South Fork Lower Willow Creek	River	12.5	Miles	Granite County
West Fork Rock Creek	River	23.9	Miles	Granite County
Big Sandy Creek	River	37.1	Miles	Hill County
Basin Creek	River	15.5	Miles	Jefferson County
Big Limber Gulch	River	2.4	Miles	Jefferson County
Boulder River	River	22.2	Miles	Jefferson County
Cataract Creek	River	12.2	Miles	Jefferson County
Clancy Creek	River	11.6	Miles	Jefferson County
High Ore Creek	River	6.6	Miles	Jefferson County
Lump Gulch	River	14.5	Miles	Jefferson County
Middle Fork Warm Springs Creek	River	2.7	Miles	Jefferson County
Flathead Lake	Freshwater Lake	126,007	Acres	Lake County
Falls Gulch	River	3.3	Miles	Lewis and Clark County
Hauser Lake	Freshwater Lake	3,800	Acres	Lewis and Clark County
Holter Lake	Freshwater Lake	5,500	Acres	Lewis and Clark County
Tenmile Creek	River	6	Miles	Lewis and Clark County
Tenmile Creek	River	15.9	Miles	Lewis and Clark County
Alder Gulch	River	18.8	Miles	Madison County
North Willow Creek	River	10.8	Miles	Madison County
Rochester Creek	River	15.7	Miles	Madison County
South Boulder River	River	21.8	Miles	Madison County
Sheep Creek	River	36.9	Miles	Meagher County
Flatwillow Creek	River	83.9	Miles	Petroleum County
Alder Gulch	River	3	Miles	Phillips County
Lodge Pole Creek	River	4.2	Miles	Phillips County
Mill Gulch	River	3	Miles	Phillips County
Rock Creek	River	37.6	Miles	Phillips County
Ruby Creek	River	4.2	Miles	Phillips County
Ruby Gulch	River	2.8	Miles	Phillips County
Telegraph Creek	River	2.4	Miles	Powell County
Skalkaho Creek	River	25.1	Miles	Ravalli County
Big Muddy Creek	River	114	Miles	Sheridan County
Milk River	River	38.2	Miles	Valley County
Milk River	River	135.9	Miles	Valley County
<b>Total Lake Acres</b>		<b>418,837</b>	<b>Acres</b>	
<b>Total River Miles</b>		<b>1235.7</b>	<b>Miles</b>	

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1. All waterbodies in this table are classified as Water Quality Category 5: "One or more uses are impaired and a TMDL is required"

Source: 2004 Montana Integrated Water Quality Report, Montana's Water Quality Assessment Database  
Available at: <http://nris.state.mt.us/wis/environet/2004Home.html>