

The Next Arsenic

ENVIRONMENTALISTS ARE FURIOUS THAT BUSH'S EPA WANTS TO GIVE COAL-FIRED POWER PLANTS, WHICH BELCH TOXIC MERCURY, UNTIL 2018 TO MAKE SERIOUS CUTBACKS.

BY MARGARET KRIZ ■

BETTMAN/CORBIS



MERCURY MADNESS:

Using a mercury compound to shape wool hats crazed many haters, including Lewis Carroll's tea-party host.

In December, Mike Leavitt, the newly sworn-in administrator of the Environmental Protection Agency, signed a controversial proposal to begin controlling the mercury that goes up the smokestacks of the nation's more than 1,100 coal-fired power plants. To delay the economic impact of the proposed restrictions, Leavitt suggested scrapping a Clinton administration effort that was on track to cut emissions beginning in 2007. Instead, Leavitt's plan

would give industry until 2010 to begin complying and until 2018 to make major reductions.

The mercury proposal is being compared to the Bush administration's failed 2001 attempt to relax the arsenic-in-drinking-water standards that had been proposed at the end of the Clinton era. That Bush administration effort was

shouted down by furious environmentalists. Now, with the public given one year to comment on the proposed mercury rules, Leavitt's plan to postpone actually restricting smokestack emissions of mercury has sparked a similar outcry.

Mercury, which can cause severe neurological damage, poses its biggest threat to fetuses and young children. Airborne mercury from coal-fired power plants poses a danger to human health chiefly when it falls into waterways. Once in the water, mercury reacts with bacteria

to form methylmercury, which contaminates fish. People ingest the mercury by eating the poisoned fish. EPA data released this month indicate that 16 percent of U.S. women of childbearing age (16 to 49) have enough mercury in their bloodstream to endanger a fetus. That percentage is double the government's previous estimate.

Hoping to turn the proposed lag time for the mercury rules into such a political liability that the Bush administration will back down—as it did on arsenic—the Sierra Club timed a blitz of newspaper and television attack ads in 11 major media markets to coincide with President Bush's State of the Union address on January 20. The president made no mention of his environmental policies in his speech.

The Democratic presidential candidates are also taking aim at the Bush administration's approach to mercury regulation, accusing the EPA of siding with the coal and electricity industries at the expense of human health. Front-running Sen. John Kerry of Massachusetts points out that mercury contamination has become so widespread that 45 states advise pregnant women and small children not to eat fish from rivers or lakes.



SUSHI, ANYONE?

The FDA is being pushed to make its mercury advisory more specific about the dangers of raw tuna.

AP/CHITOSE SUZUKI

Meanwhile, frustrated by years of federal inaction, Connecticut, Massachusetts, and New Hampshire have adopted tough limits on mercury emissions from power plants within their borders. And New Jersey is expected to put the final touches on rules requiring its 10 coal-fired plants to cut mercury emissions by 90 percent by 2007. Pennsylvania Gov. Ed Rendell recently called for a state fee on industry emissions of mercury. And on February 4, a group of Midwestern state legislators announced a new regional effort to reduce mercury pollution from power plants in Illinois, Iowa, Michigan, Minnesota, Ohio, and Wisconsin. The lawmakers, members of the National Caucus of Environmental Legislators, said they were launching the initiative "because of the failure of the federal government to take effective action against the toxin."

Moderate Republicans in Congress are also sounding the alarm. In January, 10 GOP lawmakers wrote Bush, charging that the EPA proposal fails to protect communities from the mercury emitted by nearby power plants. And 11 New England senators, including Republicans, Democrats, and inde-

pendent James Jeffords of Vermont, have written the EPA to demand stricter, more-immediate controls.

In recent months, the White House has worked to improve its environmental image. Bush's appointment of Leavitt, a popular Utah governor, to head the embattled EPA was part of that effort. But the mercury proposal is growing into a public-relations problem for Bush.

"There is a case to be made that mercury is the new arsenic," said David McIntosh, a lawyer with the Natural Resources Defense Council. In 2001, public outrage—fanned by environmental groups—over the EPA's effort to scale back proposed controls on arsenic severely damaged Bush's public standing on environmental issues.

The arsenic saga began in March 2001, when then-EPA Administrator Christie Whitman shelved a Clinton administration proposal to impose strict new limits on arsenic in drinking water. She recommended controls that were more stringent than the existing arsenic standards but not as tough as the Clinton plan. The backlash among environmentalists was immediate and furious. By October, the EPA had retreated and accepted the Clinton-era controls.

Now, some political and environmental analysts are predicting that the mercury dispute could play a role in this fall's presidential contest, particularly in battleground states with serious contamination problems. The voters most directly affected by mercury regulation are women of childbearing age, noted John Stanton, who was the EPA's legislative counsel under President Clinton and now is vice president of the National Environmental Trust. "That's not a small demographic during the election, particularly if

you're [White House senior adviser] Karl Rove and you're looking for a way to close the gender gap."

HUMAN COSTS

The grave human consequences of mercury poisoning first came to light in the 1950s, when fishing families in Minamata, Japan, began suffering a debilitating nervous condition from eating fish contaminated by mercury that a chemical factory had dumped into Minamata Bay. Thousands of people were sickened; hundreds died.

Best known as the silvery liquid in old-fashioned glass thermometers, mercury is widely used in the production of medicines and chemicals, such as chlorine and caustic soda. Before its environmental hazards were well understood and government restrictions were imposed, the metal was also used in making paint and batteries.

Concerns about mercury date from the 19th century, when many hat makers became crazed, much like the Mad Hatter in *Alice's Adventures in Wonderland*, after long using a mercuric compound to shape wool felt hats.

VIEW TO THE PAST:

Mercury, once well known as the silvery liquid inside thermometers, has had its uses sharply curtailed.



GETTY/THOMAS D. MCANOV/TIME-LIFE PICTURES

The Food and Drug Administration warns pregnant women, women of childbearing age, and children to limit their consumption of fish to 12 ounces per week and to avoid eating any shark, swordfish, king mackerel, or tilefish. (According to a recent EPA analysis, 630,000 of the 4 million babies expected to be born in the United States this year could have mercury blood levels at or above the agency's safety limit.)

Fetuses and small children may not be the only ones in this country suffering harm to their health from mercury-contaminated fish. In a 2001 study published by the National Institutes of Health, San Francisco physician Jane M. Hightower found that 82 of 89 patients who ate a lot of fish had high levels of mercury in their blood. Some had symptoms of mercury poisoning, such as hair loss and memory problems. Hightower's study found that patients who reduced the fish in their diet lowered their mercury levels.

The FDA is revising its mercury advisory to warn that some types of fish, particularly canned albacore tuna, tend to be dangerously contaminated with mercury. The agency's Food Advisory Committee argues that even the proposed new advisory would not provide consumers enough information about mercury contamination in raw tuna and in other types of canned tuna. (For more on the scientific understanding of mercury contamination, see p. 461.)

Over the years, concern about mercury's effects on human health caused federal regulators to restrict all major industrial sources of mercury pollution—except for coal-fired power plants. That exception is huge; the power plants emit 48 tons of mercury a year, making them the chief artificial source of mercury pollution.

Environmental advocates and health care groups charge that the federal government has avoided clamping down on mercury emissions from power plants because of the political clout of the \$250 billion electric industry. During the 2000 campaign cycle, the electric power industry donated \$19 million to congressional and presidential campaigns,

according to the Center for Responsive Politics. Two-thirds of that amount went to Republicans.

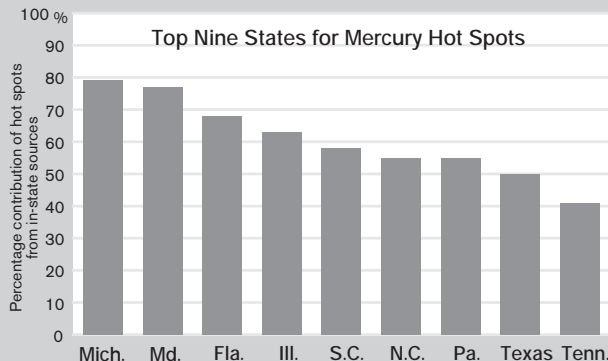
The proposal that EPA Administrator Leavitt unveiled in December represents the first federal effort to limit mercury emissions from coal-fired power plants, which produce half of the nation's electricity. The proposal calls for creation of a mercury "cap-and-trade" program, which would allow electric companies to buy and sell pollution "credits." Rather than mandate that every power plant cut mercury emissions to a certain level, the swapping program would give credits to plants that cut mercury emissions to less than a prescribed level; those plants could then sell the credits to companies willing to pay to avoid making reductions of their own.

The EPA regulations would give the electric-power industry until 2018 to cut its total annual mercury emissions to 15 tons—a 69 percent reduction. The industry would have to meet an interim limit of 34 tons—a 29 percent reduction—by 2010. Agency officials say that the industry would automatically meet the 34-ton target if power companies installed pollution-control equipment that would be needed to comply with the Bush administration's proposed limits on emissions of sulfur dioxide and nitrogen oxides.

The EPA's critics point out that the emissions-trading plan would allow the worst polluters to buy credits rather than reduce their mercury discharges. And the rule potentially could worsen "hot spots," geographical areas with dangerously high concentrations of mercury in their waterways. Opponents call the administration's approach inadequate and note that the EPA's previous analyses had indicated that the power industry could meet much stricter standards with technology that is already available. And both environmentalists and industry lobbyists agree that the agency's plans to apply a never-before-used part of the Clean Air Act to establish the emissions-trading program is likely to trigger years of legal challenges.

DANGEROUSLY HOT SPOTS

Mercury emissions are so concentrated in some parts of the country that the waterways there are dangerously contaminated. According to a 2003 draft EPA report obtained by Environmental Defense, in-state emissions were the source of more than 40 percent of the mercury in the hot spots in the nine states with the worst problems.



SAFEGUARDING THE FOOD CHAIN

The battle over the Environmental Protection Agency's approach to regulating the mercury emitted by coal-fired power plants is awash in competing scientific claims over just how much the federal government should do to safeguard the nation's food chain from mercury pollution.

Critics of the EPA's proposal cite a recent Florida study indicating that substantial reductions in the amount of mercury pumped into the state's air resulted in dramatic improvements in the environment. That study began in 1989, when Florida state scientists discovered alarmingly high levels of mercury in wide-mouth bass in the Everglades. Further studies proved that the fish were being contaminated by mercury falling into the waterways from nearby incinerators. Worried state officials cracked down on the incinerators. By late 2003, the state reported that mercury levels in its fish had plunged by as much as 75 percent.

"It's remarkable. It's much faster than we would have thought," said Tom Atkeson, coordinator of Florida's mercury-control program.

The Florida study is widely touted as proof that curbing local sources of air pollution can lower the concentrations of mercury in fish caught nearby. Opponents of the EPA's proposal say the lesson to be learned from Florida is that federal regulators should impose strict mercury controls on every coal-fired power plant—the nation's leading source of mercury pollution—and should abandon their proposal to allow power companies to trade mercury-emission credits on a nationwide basis.

But Atkeson cautions against reading too much into the Florida results. He said that even if power-plant emissions are lowered, not all regions of the country would see benefits as quickly as Florida did from reducing the pollution from medical and trash incinerators. The incinerators emit a type of mercury that is likely to fall nearby. By contrast, the mercury emit-



EVERGLADES NATIONAL PARK PHOTO

FISHING THE 'GLADES:

Egrets wade through the waters of Everglades National Park, where mercury levels have declined.

ted by electric power plants varies, depending on the type of coal a plant burns and the plant's design.

According to the EPA, of the 48 tons of mercury belched into the air by power plants each year, only 20 tons falls nearby.

Industry officials who support the EPA proposal cite a recent report indicating that most of the mercury that falls to the ground in the United States comes from abroad. According to the Electric Power Research Institute, an industry-funded research center, the vast majority of the mercury that drops west of the Mississippi River comes from foreign sources, such as pollution in Asia, or from natural causes, such as volcanic eruptions. All sides agree, however, that Eastern states get most of their airborne mercury pollution from U.S. sources.

Another EPRI report suggests that slashing mercury emissions from U.S. power plants would do little to benefit Americans' health. Leonard Levin, an air-pollution specialist at the institute, stressed that locally caught freshwater fish make up only a small part of the average American's diet. And, he said, the vast majority of the fish eaten by

Americans comes from oceans or foreign waters.

"Even if freshwater fish responded to domestic changes in mercury emissions, fish in the oceans would respond in a much less detectable way," he said. "They would respond only because a change in a U.S. source—like utilities—represented a change in the global pool of mercury," he said. "But it's a much smaller fraction."

Therefore, Levin argues, it would be unwise to impose strict and immediate mercury controls on U.S. power plants: "If you take a big [regulatory] step and there's no significant protection of public health that results from it, then it probably wasn't the right step."

However, foes of the EPA proposal say industry

officials and the Bush administration are basing their arguments on cost-benefit analyses that minimize the value of improving the health of the nation's environment and populace. They argue that lowering power-plant emissions would significantly benefit not only fetuses and children but also American waterways. "Fish are the ultimate indicator of the health of the land," argued Chris Wood of Trout Unlimited. "Everything eventually finds its way into the river. And when you have warnings that say you can't eat fish because of the high levels of toxins, that's a problem we should do something about."

David Evers, executive director of the Biodiversity Research Institute in Maine, noted that some preliminary studies have linked mercury poisoning to declining populations of loons and other seabirds. He sees mercury contamination as a state, national, and international problem.

"We need to deal with the global problem," he said. "But before we do that, we need to clean up our own backyard. We can't just point fingers abroad."
—M.K.

Bush administration officials are fighting back. They insist that their 2018 goal for cutting mercury emissions by 69 percent is appropriate because, they say, the most advanced means of controlling the pollutant won't be available till then. Leavitt argues that the Bush administration deserves credit for proposing the first-ever controls on mercury emissions from power plants. The Clinton administration was sued twice by environmental activists before moving forward with mercury controls to comply with a consent decree. Even then, President Clinton didn't formally order the EPA to regulate mercury until days before he left the White House.

"Frankly, previous administrations have put this decision off for a long time," Leavitt told *National Journal*. "We made the decision that we were not going to walk away from it."

RADICAL DETOUR

The EPA's approach to regulating mercury is based on Bush's 2002 legislative initiative to rewrite the Clean Air Act. Dubbed "Clear Skies" by the White House, that revision would set up cap-and-trade programs for emissions of mercury and nitrogen oxides, and lower the caps on the existing trading program for sulfur dioxide. The Clean Air Act's 1990 amendments, pushed through Congress by President George H.W. Bush, created an emissions-trading program that has curbed acid rain by targeting sulfur dioxide emissions. But the current White House would use the expansion of emissions-trading as justification for eliminating several parts of the Clean Air Act that many environmentalists see as essential.

This administration's effort to rewrite the landmark act hasn't gotten far. Congressional Democrats and GOP moderates want the emissions-trading plan to include carbon dioxide, which is widely linked to global warming. But Bush has steadfastly refused to regulate carbon dioxide emissions. The only progress made on the bill so far came in June 2002, when the Senate Environment and Public Works Committee approved a version more palatable to environmentalists. Republicans killed that measure on the Senate floor. Now GOP leaders concede that they don't have the votes to get Bush's original package through the Republican-controlled Senate.

While the White House air-pollution bill languished, the EPA was under two rigid legal mandates to regulate airborne mercury emissions. First, Clinton's December 2000 order directed the agency to develop mercury controls in keeping with Clean Air Act provisions governing hazardous pollutants. That part of the law requires emission limits to be based on

the most-advanced means available, otherwise known as "maximum achievable control technology," or MACT.

Second, the EPA was under pressure from a 1994 legal settlement with the Natural Resources Defense Council, an environmental group that sued the agency for failing to regulate mercury despite its proven dangers. That accord required the EPA to propose a MACT standard for mercury by December 2003 and to take final action on the rule a year later. Because the Clean Air Act gives companies three years to comply with any new pollution standard, the consent agreement appeared to mean that power plants would have to begin reducing mercury emissions by December 2007. That's three years earlier than the Bush administration proposal's deadline.

As their regulators moved toward drafting the first mercury-emissions limits, administration officials hinted that they were considering tough controls. In December 2001, Jeffrey

Holmstead, who heads the EPA's air-pollution office, reported that agency research indicated the technology was available to enable coal-fired plants to cut mercury emissions by an average of 90 percent by 2007. He released the findings at a meeting with electric-company CEOs sponsored by the Edison Electric Institute, an industry trade group. Holmstead noted that some facilities would have difficulty achieving such dramatic reductions, because of their design and the type of coal burned. Details of Holmstead's presentation were obtained by the National Environmental Trust under a Freedom of Information Act request. (In a recent interview, Holmstead said his 2001 conclusions were based on numbers "that we sort of pulled out of thin air," adding that the presentation was designed to persuade industry officials to back the presi-

dent's proposed overhaul of the Clean Air Act.)

Others in the Bush administration had also signaled that the EPA was on the verge of adopting a stringent mercury standard. Energy Secretary Spencer Abraham, in an August 2003 speech at a department lab, said the EPA would require "as much as 90 percent mercury control" by December 2007.

In the end, however, the EPA took a radical detour. The proposal Leavitt unveiled would rescind Clinton's 2000 order requiring the agency to regulate mercury under strict MACT provisions. The EPA proposes instead to create a cap-and-trade program under a totally different, untested part of the Clean Air Act.

The EPA's plan would allow power plants not only to buy and sell mercury credits but also to "bank" emission-control credits earned under the first phase of the program for use in phase two, which would begin in 2018. As a result, according



MIKE LEAVITT:

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RICHARD A. BLOOM

to one EPA analysis, the industry would probably not meet the agency's 15-ton goal for 2018.

In asking for public comment, the EPA sought reaction to two alternatives. One would require every power plant to cut its mercury emissions by 29 percent by the end of 2007, and the other would set up a mercury emissions-trading program based on MACT standards. The EPA made clear that it doesn't like either alternative.

Because the Clean Air Act does not explicitly authorize the EPA to set up a trading program for mercury, regulators have had to do some fancy legal footwork to justify their proposal. Agency officials have asserted that they have broad authority to create an emissions-trading scheme under a flexible provision normally used to control new sources of air pollutants that are not extremely dangerous.

The Bush administration's unique interpretation of the law immediately came under attack. "EPA developed a proposal to complement its legislative agenda, not to meet its legal mandate," argued Felice Stadler of the National Wildlife Federation. Rep. John Dingell, D-Mich., a sponsor of the 1990 Clean Air Act amendments, warned the EPA not to stray far from traditional interpretations of those amendments. "Abrupt policy shifts that appear after more than 13 years of agency effort," Dingell wrote to Leavitt, "do little to improve the public's confidence in EPA's ultimate decision-making apparatus."

The Edison Electric Institute and other traditional industry groups have cautiously praised the Bush administration's mercury proposal. But some of the most-searing criticism has come from within the industry. Clean Energy Group, a coalition of electric companies dedicated to reducing their indus-

try's pollution, predicted that the EPA's proposal is destined to become entangled in protracted legal battles: "The number of legal questions the proposals raise makes them look more like a law school exam question (with a premium on the number of legal booby traps that the student can identify) than proposed regulations."

TRUSTING MARKET FORCES

Agency officials say that the EPA's mercury cap-and-trade program was conceived late last summer, when Holmstead and his chief counsel, Bill Wehrum, were debating how to regulate mercury in a way consistent with Bush's effort to rewrite the Clean Air Act to rely more on market forces to reduce pollution. "I had my statute book out, and [Bill] had his statute book out, and we started talking about other parts of the Clean Air Act that could allow us to create this sort of cap-and-trade system," Holmstead recalled in an interview. "Bill remembered that there was another part of the law that gives us authority to regulate emissions from existing sources." And that comment, Holmstead says, resulted in the agency's radical new approach to regulating mercury.

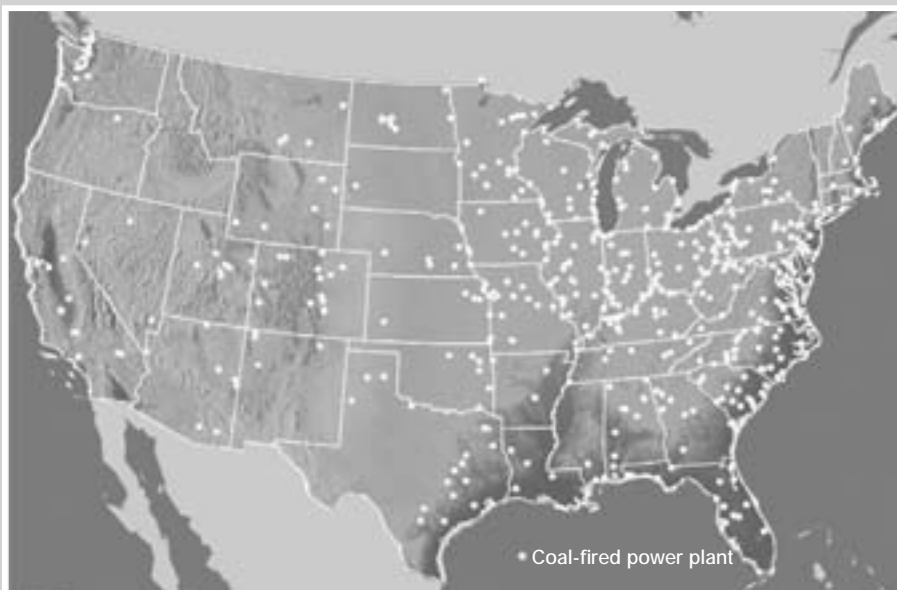
Critics have drawn attention to the fact, first reported in *The Washington Post*, that parts of the EPA's mercury proposal read word-for-word like the recommendations sent to the agency by the Washington law firm of Latham & Watkins, which represents several energy companies. Holmstead and Wehrum worked for the firm before joining the EPA. Holmstead dismisses the lifted language as merely an "interagency mix-up" that happened as the regulatory language bounced around inside the administration.

EPA critics also have serious substantive problems with the proposal—particularly with the cap-and-trade program, which they worry would create mercury hot spots around plants that buy credits to avoid installing new pollution-control equipment. "There is no guarantee that the coal-fired power plant in your backyard is ever going to put controls on, if it's more cost-effective for them to keep buying those pollution credits from a different company," noted Michael Bender, executive director of the Mercury Policy Project, a Vermont-based public-interest group. But Holmstead responds that no regional hot spots developed under the cap-and-trade program created by Congress in 1990 to control acid rain. "Based on our experience and our analyses," he said, "we think you will get the greatest emission reductions where you have now the highest levels of mercury."

Despite those assurances, a recent report by the National Academies of Science warned

COAL-FIRED POWER PLANTS

The vast majority of the nation's coal-fired power plants, which produce half of the nation's electricity, are east of the Mississippi River. Studies show that Eastern states get most of their airborne mercury pollution from U.S. sources. The dots on the map indicate the location of more than 500 coal-powered facilities.



SOURCE: EPA

that “ecological hot spots” can “increase the number of persons exposed to pollution.” The report, which praised the use of emissions-trading to make pollution control more affordable, suggested that cap-and-trade programs should allow trading only within geographical zones, to ensure that polluters in each region achieve a collective reduction and that a given pollutant doesn’t become concentrated in any part of the country.

Other criticism has come from within the EPA. Its advisory panel on protecting children’s health criticized the agency’s mercury cap-and-trade proposal, arguing that the plan “does not sufficiently protect our nation’s children” from neurological problems and learning disabilities caused by mercury poisoning. The panel, which consists of 27 experts from state health agencies, industry, health advocacy groups, and universities, specifically charged that the

technologies that can reduce mercury emissions by 60 to 90 percent. Those technologies are ready or will be within two years, according to that survey. Leavitt said that EPA engineers disagree with that assessment.

Many East Coast states and some Midwestern ones are considering mercury-emissions standards far tougher than those proposed by the EPA. “No governor in Connecticut, New Hampshire, Maine, New Jersey, or Massachusetts—which are all adopting stricter controls—is saying that they care so deeply about mercury and public health that they’re going to kill off their economies,” said Ken Colburn, executive director of Northeast States for Coordinated Air Use Management, an association of state air-quality agencies. “What the governors are saying is, ‘We’ve seen that the technologies can be developed.’”

Jon Heinrich, a policy analyst with Wisconsin’s air-quality program, said, “We’re pretty concerned that what EPA has come forward with is not a national rule that’s going to help Wisconsin’s mercury-contamination problem in the near future.”

But Quin Shea at the Edison Electric Institute said that many other states oppose tough new mercury controls. “I think that for every state like a Connecticut or a New Jersey, I could find two or three states that would disagree,” he said.

Nonetheless, S. William Becker, executive director of both the State and Territorial Air-Pollution Program Administrators and the Association of Local Air-Pollution Control Officials, said the EPA’s proposal will spur states and cities to get more aggressive: “What

I can predict with almost absolute certainty is that, if this EPA proposal is promulgated close to its original language, you will see an onslaught of actions at the state and local levels to replace or strengthen EPA’s program. These programs will vary widely in scope and magnitude, and it will drive the industry nuts.”

Leavitt asserts that his agency’s mercury proposal is taking a beating because of election-year politics. “Others have the luxury of dealing with mercury in a political way,” he said. “I have an obligation to deal with it in a factual way.”

But EPA critics argue that the controversy has political legs because mercury threatens the health of fetuses and small children in several states that will be key in November’s election. According to the advocacy group Environmental Defense, the states with the most-dangerous mercury hot spots are (in descending order of severity): Michigan, Maryland, Florida, Illinois, South Carolina, North Carolina, Pennsylvania, Texas, and Tennessee.

Colburn of the Northeastern states’ air-quality association argues that the mercury debate is catching public attention because it focuses on the age-old conflict between short-term economic gain and long-term public health. “Every year those plants run without controls is another year of better cash flow for the utilities,” he said. “And it’s another year of mercury pollution accumulating in our waterways and poisoning our children.” ■

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STEVEN HOLTYRIK/DESK PHOTOS



NO KIDDING:

Forty-five states advise pregnant women not to eat freshwater fish, because of mercury poisoning.

proposed emissions-trading plan might create mercury hot spots.

Agency officials say they chose the cap-and-trade approach because they wanted to avoid requiring all power plants to control their mercury emissions by the 2007 deadline that would have kicked in under the MACT provisions. Leavitt argues that the 2007 deadline would have been impossible to meet: “On a best-case scenario, it became evident to me that you can’t deploy this technology on a 2007 or 2008 timeline and expect to get large-scale reductions immediately.”

If the EPA had proceeded with the 2007 deadline, Leavitt said, some power plants would have met the new pollution standards by switching from coal to natural gas. According to Leavitt, that would have caused natural gas prices to skyrocket. “You can adopt any standard you will, but if the technology is not yet deployable, you’re dealing with a very practical limit” on what can be achieved, he said. “And what will occur at that point is that people will begin to do fuel-switching.”

EPA critics counter that the Bush administration is ignoring the advances in mercury-control technologies. Jeffords’s office found that at least five U.S. companies are developing