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Power Plants and Mercury Pollution Across the Country

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Environment Colorado
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Acknowledgements

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Executive Summary

Power plants are the largest industrial source of U.S. air emissions of mercury, a potent neurotoxin that poses serious health hazards. Mercury is particularly harmful to the developing brain; even low-level exposure can cause learning disabilities, developmental delays, lowered IQ, and problems with attention and memory. While current law requires swift, steep reductions in power plant mercury emissions, the Bush administration recently promulgated regulations that allow power plants to avoid the Clean Air Act requirement to reduce mercury and other toxic air pollutants quickly and by the maximum achievable amount. This report uses the most recent available data reported to the U.S. Environmental Protection Agency's (EPA) Toxics Release Inventory to analyze power plant mercury emissions by state, county, zip code, facility, and company.

When power plants burn coal or wastes containing mercury, their smokestacks emit mercury, some of which is washed out of the air onto land and into waterways, where it may be converted into methylmercury, an organic form of mercury that builds up in fish. Scientists found that a gram of mercury, about a drop, deposited in a mid-sized Wisconsin lake over the course of a year was enough to contaminate the lake's fish.

Eating contaminated fish is the primary pathway for human exposure. Indeed, mercury pollution is now so pervasive that 44 states, the U.S. Food and Drug Administration (FDA), and the EPA have issued fish consumption advisories warning people to avoid or limit their consumption of certain types of fish. Moreover, EPA scientists estimate that one in six women of childbearing age has enough mercury in her blood to put her child at risk should she become pregnant.

This report analyzes the most recent EPA data on mercury air emissions from power plants. Key findings in the report include the following:

- Power plants in the U.S. collectively emitted 90,108 pounds of mercury into the air in 2003. Texas, Ohio, Pennsylvania, Indiana, and Alabama were the states with the most mercury air emissions from power plants in 2003.

- Counties with the highest mercury air emissions from power plants were concentrated in states in the Gulf Coast, Midwest, and Mid-Atlantic regions. More than half of the top 50 counties with the highest mercury air emissions were located in just seven states: Alabama, Florida, Indiana, Ohio, Pennsylvania, Texas, and West Virginia. In the top county, Armstrong County, Pennsylvania, power plant mercury emissions totaled 1,527 pounds in 2003.

- The most polluting 100 facilities emitted 57,242 pounds of mercury into the air in 2003, or 64% of power plant mercury emissions. Most of these facilities—nearly 60%—were located in just nine states: Alabama, Illinois, Indiana, Kentucky, North Dakota,

Ohio, Pennsylvania, Texas, and West Virginia. Five of the 10 most polluting facilities were located in Texas.

- The most polluting 15 companies emitted 48,353 pounds of mercury in 2003, or 54% of total U.S. power plant mercury emissions. Three companies—American Electric Power, Southern Company, and Reliant Energy, which collectively own 57 facilities—emitted 19,694 pounds of mercury in 2003, or 22% of total U.S. power plant mercury emissions.

Rather than let many of the nation's power plants continue to emit or even increase their mercury emissions, the Bush administration should protect public health by rewriting its mercury rules to ensure the maximum, timely reductions in power plant mercury pollution that the law requires.

Background: Toxic Mercury Emissions from Power Plants

When power plants burn coal or wastes containing mercury, their smokestacks emit mercury, a persistent bioaccumulative toxin that builds up in body tissue. Rain, snow, and dust particles "wash" mercury out of the air onto land and into waterways, where some of it is converted to methylmercury, an organic form of mercury that is especially toxic to humans and wildlife.[1]

Power plants are the largest source of mercury air emissions in the U.S., releasing about 41% of the national total per year.[2] According to the Environmental Protection Agency (EPA), while U.S. sources are responsible for 3% of global mercury emissions, 60% of the mercury deposited in the U.S. comes from domestic, manmade sources;[3] about 30% of continental U.S. mercury deposition comes from U.S. power plants alone.[4] Deposition rates differ by region and locale, and mercury deposition can be much higher near individual sources.[5] For instance, in the southeast, the EPA estimates that U.S.-based sources account for 37% of total mercury deposition in Georgia, 58% in North Carolina, 62% in South Carolina, and 68% in Florida.[6] Moreover, a 2003 analysis of EPA data found that in-state sources of mercury can account for 50-80% of mercury deposition at the "hot spots" within each state with the highest levels of mercury.[7]

Notably, even minute amounts of mercury can be significant. At Wisconsin's Little Rock Lake, for instance, researchers found that a single gram of mercury, about a drop, deposited over the course of a single year was enough to account for all of the mercury in the lake's estimated fish population.[8] Moreover, because mercury is a bioaccumulative toxin that is taken in faster than it is eliminated, it biomagnifies up the food chain and builds up in body tissue over time.[9] Fish at the top of the aquatic food chain can have mercury levels approximately one to ten million times greater than the levels in surrounding waters.[10]

The primary way that people in the U.S. are exposed to methylmercury is by eating contaminated fish,[11] which absorb mercury from water through their gills and from eating plants, organisms, and other fish.[12] In addition, mercury can pass through the human placenta to developing fetuses and through breast milk to nursing infants.[13]

A potent neurotoxin, mercury poses significant human health hazards. Mercury can affect multiple organ systems, including the nervous, cardiovascular, and immune systems, throughout an individual's lifetime.[14] Infants and children are particularly at risk of problems associated with mercury exposure because their nervous systems continue to develop until about age 14.[15] Exposure to mercury affects the developing brain, causing vision and hearing difficulties, delays in the development of motor skills and language acquisition, lowered IQ, and problems with attention and memory; these developmental deficits may translate into a wide range of learning difficulties once children are in school, resulting in lifelong

consequences.[16] EPA scientists estimate that one in six women of childbearing age has enough mercury in her body to put her child at risk should she become pregnant.[17]

Adults exposed to mercury may experience neurocognitive defects similar to those seen in children exposed prenatally[18] as well as adverse effects on fertility and blood pressure regulation.[19] Mercury exposure also is associated with an increased risk of heart attacks.[20]

Forty-four states currently have active mercury-related fish consumption advisories.[21] Half of these advisories are statewide advisories covering all of the state's inland lakes and/or rivers.[22] In addition, in 2004, the Food and Drug Administration (FDA) and the EPA issued a joint national advisory warning women who might become pregnant, women who are pregnant, nursing mothers, and young children to avoid or limit their consumption of certain fish and shellfish, including shark, swordfish, and tuna.[23]

Fortunately, studies show that reducing industrial mercury emissions leads to rapid, substantial reductions of mercury in wildlife. The state of Florida, the EPA, and the U.S. Geological Survey recently issued a study concluding that the levels of mercury found in largemouth bass and other wildlife in the Everglades have declined by about 80% since state and federal agencies required municipal and medical waste incinerators to cut their mercury emissions.[24] Similarly, in Wisconsin, a decrease in mercury deposition of 10% per year was accompanied by a 5% per year decline in mercury levels in yellow perch.[25]

The Bush Administration's Mercury Regulations

analysis, however, projects actual emissions of 24.3 tons as late as 2020—less than a 50% reduction.[33] Moreover, the Congressional Research Service has concluded that "full compliance with the 70% reduction might be delayed until 2030"—or beyond—due to the rule's banking provisions.[34] By comparison, compliance with the maximum controls standard for toxic air pollution under the Clean Air Act would result in mercury reductions on the order of 90% nationally by 2008—from about 48 tons in 1999 to five tons per year in 2008.[35]

In addition to its weak and delayed national caps, the rule permits power plants to buy and trade mercury pollution credits rather than requiring every plant to make emissions reductions. Trading mercury credits is "very risky," according to prominent scientists, and would likely contribute to mercury "hot spots," areas with high levels of mercury deposition.[36]

Finally, the rule allows power plants to avoid taking specific action to reduce their mercury emissions until at least 2018, the second phase of the rule. Indeed, the EPA chose 38 tons as the first cap precisely because power plants could meet the cap as a "co-benefit" of compliance with the Clean Air Interstate Rule, an unrelated rule to reduce the pollutants that form soot and smog.[37] Moreover, the EPA projects that by 2020, only 4% of coal-fired power plants units will have installed mercury-specific control technology.[38]

Both the delisting rule and the cap-and-trade rule are the subject of numerous legal challenges.[39] To date, 16 states have challenged one or both of the administration's mercury rules in court or petitioned the EPA for reconsideration of the delisting rule. These states include California, Connecticut, Delaware, Illinois, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin.[40]

A Regulatory Odyssey: Major Events in the EPA's Mercury Rulemaking

Since 1990, the EPA has repeatedly changed course on regulation of power plant mercury emissions, first delaying action for years, then moving forward during the latter half of the Clinton administration to issue a MACT standard, and now backpedaling under the Bush administration to establish a cap-and-trade system that treats mercury like a conventional air pollutant rather than a hazardous one. A chronology of major events in the regulatory odyssey follows:

1990: Congress amends the Clean Air Act's air toxics provisions. With regard to power plants, Congress requires EPA to complete a study on health hazards from power plant emissions of hazardous air pollutants[45] and directs the EPA, after considering the results, to determine whether regulation of utilities is

Table 1. Power Plant Mercury Air Emissions by State, 2003

Rank	State	Reported Mercury Air Emissions from Power Plants in State (pounds)	Reported Mercury Air Emissions from All Covered Sources in State (pounds)	Percentage of All Covered Mercury Air Emissions from State's Power Plants[b]
1	TX	9,099	13,498	67%
2	OH	7,107	10,218	70%
3	PA	6,789	10,032	68%
4	IN	4,885	6,276	78%
5	AL	4,399	6,431	68%
6	IL	4,125	7,023	59%

Rank	State	Reported Mercury Air Emissions from Power Plants in State (pounds)	Reported Mercury Air Emissions from All Covered Sources in State (pounds)	Percentage of All Covered Mercury Air Emissions from State's Power Plants
27	MT	986	1,068	92%
28	AR	962	1,335	72%
29	NY	899	1,786	50%
30	MS	802	873	92%
31	SC	607	2,053	30%
32	NJ			

Overall, the states with mercury-emitting power plants in the most counties were Pennsylvania (22), Illinois (22), Indiana (19), Virginia (19), Florida (18), Ohio (18), and Texas (18).

Zip codes with the highest power plant mercury air emissions were concentrated in the same Gulf Coast, Midwest, and Mid-Atlantic states and largely paralleled counties with the highest mercury emissions. Overall, the states with mercury-emitting power plants in the most zip codes were Pennsylvania (33), Illinois (24), Ohio (22), Florida (21), Indiana (19), North Carolina (19), Texas (19), and Virginia (19).

Power plants in the top 15 counties emitted 17,973 pounds of orm90% of total U.S. power plant mercury air emissions. (See Table 2.) In the top county, Armstrong County, Pennsylvania, power plant mercury emissions totaled 1,527 pounds, more than the total amount of mercury emitted in the bottom quarter (23%) of all counties in the U.S. with mercury-emitting power plants.

Power plants in the top 15 zip codes emitted 16,428 pounds of orm18% of total U.S. power plant mercury air emissions. (See Table 3.) In the top zip code, 75455 .2mMt. Pleasant, Texas, power plant mercury emissions totaled 1,404 pounds.

See Appendices A.1. and B.1. forma listing of the top 100 counties and zip codes with the highest power plant mercury air emissions. In addition, see Appendices A.2. and B.2. forma listing of the county and zip code with the highest power plant mercury air emissions .2meach state.

Table 2. Counties with Highest Power Plant Mercury Air Emissions,m9003

Rank	State	County	Reported Mercury Air Emissions from Power Plants (pounds)
1	PA	ARMSTRONG	1,527
2	TX	TITUS	1,404
3	TX	LIMESTONE	1,386
4	IN	INDIANA	1,337
5	NM	SAN JUAN	1,308
6	OH	JEFFERSON	1,281
7	OH	COSHOCTON	1,222
8	KS	POTTAWATOMIE	1,197
9	TX	RUSK	1,114
10	ND	MERCER	1,086
11	OH	ADAMS	1,066
12	TX	HARRISON	1,040
13	TX	FORT BEND	1,033
14	AL	JEFFERSON	994
15	AL	SHELBY	978

Table 3. Zip Codes with Highest Power Plant Mercury AirmEmissions, 2003

Rank	State	Zip Code	City	Reported Mercury Air Emissions from

Power Plant Mercury Emissions by Facility

Most of the mercury air emissions from power plants come from comparatively few facilities. Of the 489 U.S. power plants reporting mercury air emissions to the TRI in 2003, the most polluting 100 facilities—about 20%—emitted 57,242 pounds of mercury in 2003, or 64% of total U.S. power plant mercury air emissions. The most polluting 15 plants—3% of power plant facilities—emitted 16,264 pounds of mercury in 2003, accounting for 18% of total U.S. power plant mercury air emissions. (See Table 4.)

Most of the top 100 power plants—nearly 60%—were located in just nine states: Alabama, Illinois, Indiana, Kentucky, North Dakota, Ohio, Pennsylvania, Texas, and West Virginia. Five of the 10 highest power plant mercury emitters were in Texas alone. By contrast, the bottom 100 power plants emitted 681 pounds of mercury into the air, less than one percent of total U.S. power plant mercury air emissions in 2003.

See Appendix C.1. for a complete listing of power plant mercury air emissions by facility, as reported to the TRI. In

Power Plant Mercury Emissions by Company

Most of the mercury air emissions from power plants come from a small number of companies. Of the 151 companies with power plant mercury air emissions reported to the TRI in 2003, the top 15 companies emitted 48,353 pounds of mercury in 2003, or 54% of total U.S. power plant mercury emissions. (See Table 5.) These 15 companies own 170 mercury-emitting power plants, one-third of all U.S. power plant facilities reporting mercury air emissions to the TRI. Three companies—American Electric Power, Southern Company, and Reliant Energy, which collectively own 57 facilities—emitted 19,694 pounds of mercury into the air in 2003, or 22% of total U.S. power plant mercury air emissions.

See Appendix D for a complete listing of power plant mercury air emissions by company, using TRI data and ownership information provided on company websites.

Table 5. Power Plant Mercury Air Emissions by Company, 2003

Rank	Parent Company*	Headquarters Location	Reported Mercury Air Emissions from Power Plants (pounds)	# of Plants Reporting Mercury Air Emissions	Location of Plants
1	AMERICAN ELECTRIC POWER	Columbus, OH	8,797	22	AR, IN, KY, OH, OK, TX, VA, WV
2	SOUTHERN CO	Atlanta, GA	6,992	22	AL, FL, GA, MS
3	RELIANT ENERGY INC	Houston, TX	3,905	13	FL, NY, OH, PA
4	U.S. TENNESSEE VALLEY AUTHORITY	Knoxville, TN	3,364	11	AL, KY, TN
5	TXU ENERGY	Dallas, TX	3,239	4	TX
6	AMEREN CORP	St. Louis, MO	2,946	11	IL, MO
7	EDISON INTERNATIONAL	Rosemead, CA	2,718	10	IL, NV, PA, WV
8	TEXAS GENCO LP	Houston, TX	2,464	3	TX
9	CINERGY CORP	Cincinnati, OH	2,375	11	IL, IN, KY, OH, VA
10	ALLEGHENY ENERGY INC	Greensburg, PA	2,075	9	MD, PA, WV
11	PROGRESS ENERGY	Raleigh, NC	2,029	11	FL, NC, SC
12	DOMINION	Richmond, VA	1,993	14	IL, IN, VA, WV
13	FIRSTENERGY CORP	Akron, OH	1,981	7	OH, PA
14	ALLIANT ENERGY	Madison, WI	1,793	11	IA, WI
15	LG & E ENERGY CORP	Louisville, KY	1,683	11	KY, NC

Southern Company: A Case Study

Power plants owned by Southern Company, which touts itself as a leader in the research and development of mercury control technology,[77] emitted 6,992 pounds of mercury into the air in 2003, making it the 2nd largest power plant mercury polluter in the nation. The company has 22 plants in four states, including Georgia, Alabama, Mississippi, and Florida.

Southern Company is also one of the most active lobbyists on utility issues.[78] Between 1998 and 2004, Southern spent almost $35 million on lobbying in Washington, D.C.[79] In 2004 alone, the company spent $11.5 million dollars on lobbying,[80] including on the proposed

Solving the Problem at the Source: Reducing Power Plant Mercury Emissions

To comply with the law and protect public health, the Bush administration should reduce mercury emissions from power plants swiftly and by the maximum achievable amount. Fortunately, technologies to achieve these reductions are already available and cost-effective.

Nearly five years ago, in 2000, the EPA found that "there are cost-effective ways of controlling mercury emissions from power plants. Technologies available today and technologies expected to be available in the near future can eliminate most of the mercury from utilities at a cost far lower than one percent of utility industry revenues."[83] While the EPA now claims that technological and cost factors preclude reductions beyond its cap-and-trade plan,[84] the Congressional Research Service found that "[a]nalysis by other experts came to a different conclusion."[85]

First, effective technology already exists to substantially reduce mercury emissions from power plants using all major types of coal. Numerous full-scale tests of activated carbon injection (ACI), a control technology that has reduced mercury emissions from medical and municipal waste incinerators by more than 90% since the mid-90s, have shown similar success in reducing power plant mercury emissions. Examples include Alabama Power's multi-unit Gaston plant, which obtained up to 90% reductions for a boiler burning bituminous coal; Sunflower Electric's Holcomb Station in Kansas, which reported reductions in excess of 90% on subbituminous coal; and Great River Energy's Stanton Station in North Dakota, which reported up to 81% control with untreated carbon and up to 96% control with brominated carbon on a boiler burning lignite coal.[86] As two power company representatives, the Electric Power Research Institute, the U.S. Department of Energy, and ADA-ES, a leading pollution control company, concluded: "Recent full-scale field tests have proven the effectiveness of activated carbon injection for reducing mercury emissions. The technology is ideally suited for use on existing coal-fired boilers . . . ."[87]

Moreover, while ACI is currently the leading mercury control technology, there are numerous other methods of reducing mercury from coal-fired power plants. Substantial reductions in mercury emissions can be achieved simply by optimizing pollution controls that have already been installed on power plants to reduce the pollutants that form soot and smog. Indeed, the EPA's own Office of Research and Development found that fabric filters already installed on power plants could achieve 90% mercury reductions for bituminous coal and 72% reductions for subbituminous coal and that adding a scrubber increased mercury reductions on bituminous coal to 98%.[88] In addition, several control technologies other than ACI are currently available or in various stages of development and testing.[89]

Second, mercury control technology for power plants is commercially available today. Several power plants have already agreed to install such technology to reduce mercury emissions. For example, in August 2005, ADA-ES announced a contract to install ACI at a 790-megawatt power plant being built in the Midwest that is expected to burn subbituminous Powder River Basin coal.[90] A few months earlier, in May, Rocky Mountain Power agreed to install either ACI or a similar technology approved by Montana's Department of Environmental Quality for a new power plant, the Hardin Generating Station.[91] And in March, the San Juan Generating Station, a 1600-megawatt power plant located in Farmington, New Mexico that emits hundreds of pounds of mercury per year, agreed to install ACI and expects reductions of up to 80%.[92] Moreover, a power plant under construction in Iowa is installing ACI to meet the terms of a state air pollution permit, and one in Michigan has begun to install a multipollutant control that will use sorbent injection to reduce mercury.[93]

Third, mercury control technology is affordable. Using EPA data, the National Wildlife Federation (NWF) estimated that installing mercury control technology to achieve 90% mercury reduction at power plants would cost the average household about 69 cents to $2.14 per month in five coal-dependent states: Illinois, Michigan, Ohio, Pennsylvania, and North Dakota.[94] NWF also estimated the average monthly cost per household for all 50 states using low-end and high-end estimates by the Department of Energy and the Institute for Clean Air Companies of 0.1 cents and 0.3 cents per kilowatt hour.[95] Based on this range, the average monthly household cost for each of the 50 states ranged from one cent to $1.05 on the low end and from two cents to $3.16 on the high end.[96]

Furthermore, several recent studies have shown substantial benefits from reducing power plant mercury emissions—benefits greater than both the EPA's estimated benefits of $50 million per year and its estimated costs to utilities and electricity users of $750 million per year by 2020.[97] The Mt. Sinai School of Medicine, which assessed the economic impact of U.S. power plant mercury emissions on the developing fetal brain, found that such emissions cost $1.3 billion per year in diminished economic productivity due to loss of IQ.[98] The Harvard Center for Risk Analysis, which monetized both neurological and cardiovascular impacts of reducing power plant mercury emissions using targets in the Bush administration's "Clear Skies" initiative, estimated benefits ranging up to $3.5 billion annually at an emissions level of 26 tons of mercury per

Stronger State Controls on Power Plant Mercury Emissions

In the absence of strong federal standards on power plant mercury emissions, states are moving forward to protect their residents from mercury pollution. As New Jersey Commissioner of Environmental Protection Bradley Campbell explained, "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."[103]

States with stronger mercury emissions for power plants include:

Connecticut: Law requiring coal-fired power plants to achieve an emissions rate of 0.6 pounds of mercury per trillion BTU or an emissions rate equal to a 90% mercury reduction by 2008.[104]

Massachusetts: Rule requiring coal-fired power plants to reduce mercury emissions 85% by 2008 and 95% by 2012.[105]

New Jersey: Rule requiring coal-fired power plants to reduce mercury emissions 90% by 2007, with the option of meeting the standard by 2012 if they also make major reductions in emissions of sulfur dioxide, nitrogen oxides, and fine particulates.[106] Notably, using pollution control technology "about a decade old," two coal-fired power plants in New Jersey have already reduced their mercury emissions by more than 90% compared with uncontrolled levels.[107]

Wisconsin: Rule requiring power plants to reduce mercury emissions 40% by 2010 and 75% by 2015 and establishing goal of 80% reduction by 2018.[108] Unfortunately, the state is now faced with weakening its mercury standards, due to a provision in the rule requiring the state to adopt a "similar standard" to a federal standard, if one is issued.[109]

Several states are considering stronger power plant mercury emissions standards. Among the states poised to move forward with power plant mercury emissions standards are:

Michigan: Stakeholders' workgroup issued its final recommendation to Governor Granholm in June 2005; workgroup agreed Michigan can achieve greater reductions than those required under the federal rule.[110]

Pennsylvania: Department of Environmental Protection will propose regulations to reduce mercury emissions from power plants in response to a citizen petition seeking 90% mercury reductions; regulations will be more stringent than the federal rule.[111]

Conclusion

Rather than let many of the nation's power plants continue to emit or even increase their mercury emissions, the Bush administration should protect public health by rewriting its mercury rules to ensure the swift, maximum reductions in power plant mercury pollution that the law requires.

Methodology

To analyze power plant mercury emissions by state, county, zip code, facility, and company, we used 2003 data reported to EPA's Toxics Release Inventory (TRI), available at www.epa.gov/triexplorer. We looked at releases of mercury and mercury compounds from electric utilities (SIC 4911, 4931, and 4939). The TRI database contains information about toxic chemical releases, including mercury, as reported annually by covered facilities. While the database covers most mercury releases, some industries are not required to report to the TRI, including medical, municipal, and sewage sludge waste incinerators. In addition, facilities that manufacture, process, or release 10 or fewer pounds of mercury annually are not required to report to the TRI. Our analysis covers only mercury emissions reported in the TRI.

To analyze power plant mercury emissions by company, we downloaded detailed facility information from EPA's TRI database[112] and linked it to the TRI data on mercury releases through the TRIF ID number. We reviewed the parent companies listed in the detailed facility file and made sure that the companies listed as the parent were not subsidiaries of a larger company (e.g., Alabama Power is a subsidiary of Southern Company). If two or more companies co-owned a facility, we attributed the emissions to only one company, generally the company with the largest percentage stake in the facility. We then grouped the facilities with the same parent companies together to determine the total emissions by company.

Appendix A.1. 100 Counties with Highest Power Plant Mercury Air Emissions, 2003

Rank	County	State	Reported Mercury Air Emissions from Power Plants (pounds)
1	ARMSTRONG	PA	1,527
2	TITUS	TX	1,404
3	LIMESTONE	TX	1,386
4	INDIANA	PA	1,337
5	SAN JUAN	NM	1,308
6	JEFFERSON	OH	1,281
7	COSHOCTON	OH	1,222
8	POTTAWATOMIE	KS	1,197
9	RUSK	TX	1,114
10	MERCER	ND	1,086
11	ADAMS	OH	1,066
12	HARRISON	TX	1,040
13	FORT BEND	TX	1,033
14	JEFFERSON	AL	994

AlFORT BEND

Appendix A.2. County in Each State with Highest Power Plant Mercury Air Emissions, 2003

State	Top County	Reported Mercury Air Emissions from Power Plants, County (pounds)	Reported Mercury Air Emissions from Power Plants, Statewide (pounds)	% from Top County
AK	DENALI	19	32	59%
AL	JEFFERSON	994	4,399	23%
AR	JEFFERSON	460	962	48%
AZ	APACHE	901	1,696	53%
CA	SAN JOAQUIN	14	18	77%
CO	MOFFAT	120	343	35%
CT	NEW LONDON	51	102	50%
DC	DIST. OF COLUMBIA	0.5	0.5	100%
DE	NEW CASTLE	212	242	87%
FL	DUVAL	633	2,982	21%
GA	MONROE	805	2,805	29%
HI	HONOLULU	302	362	83%
IA	WOODBURY	640	2,453	26%
IL	WILL	735	4,125	18%
IN	SPENCER	873	4,885	18%
KS	POTTAWATOMIE	1,197	2,126	56%
KY	MUHLENBERG	647	3,486	19%
LA	POINTE COUPEE	919	1,434	64%
MA	BRISTOL	126	205	61%
MD	BALTIMORE CITY	670	1,659	40%
ME	LINCOLN	0.0000015	0.0000015	100%
MI	MONROE	770	2,462	31%
MN	SHERBURNE	908	1,629	56%
MO	FRANKLIN	960	3,289	29%
MS	CHOCTAW	305	802	38%
MT	ROSEBUD	873	986	89%
NC	PERSON	937	3,038	31%
ND	MERCER	1,086	2,512	43%
NE	LINCOLN	224	389	58%
NH	MERRIMACK	120	136	88%
NJ	CAPE MAY	226	450	50%
NM	SAN JUAN	1,308	1,341	98%
NV	CLARK	264	272	97%
NY	CHAUTAUQUA	232	899	26%
OH	JEFFERSON	1,281	7,107	18%
OK	MUSKOGEE	335	1,382	24%
OR	MORROW	210	221	95%
PA	ARMSTRONG	1,527	6,789	22%
SC	BERKELEY	173	607	28%
SD	GRANT	200	213	94%
TN	ROANE	490	2,023	24%
TX	TITUS	1,404	9,099	15%
UT	MILLARD	223	449	50%
VA	CHESTERFIELD	370	1,379	27%
WA	LEWIS	113	113	100%
WI	KENOSHA	762	2,457	31%
WV	PUTNAM	902	3,948	23%
WY	PLATTE	650	1,800	36%

Appendix B.1. 100 Zip Codes with Highest Power Plant Mercury Air Emissions, 2003

Rank	Zip	City	State	Reported Mercury Air Emissions from Power Plants (pounds)
1	75455	MOUNT PLEASANT	TX	1,404
2	75846	JEWETT	TX	1,386
3	15774	SHELOCTA	PA	1,280
4	43811	CONESVILLE	OH	1,222
5	66536	SAINT MARYS	KS	1,197
6	75691	TATUM	TX	1,114
7	45144	MANCHESTER	OH	1,066
8	75650	HALLSVILLE	TX	1,040
9	77481	THOMPSONS	TX	1,033
10	35130	QUINTON	AL	994
11	35186	WILSONVILLE	AL	978
12	63055	LABADIE	MO	960
13	58576	UNDERWOOD	ND	927
14	70760	NEW ROADS	LA	919
15	55308	BECKER	MN	908
[redacted]				
17	59323	COLSTRIP	MT	873
[redacted]				
19	45620	CHESHIRE	OH	848
20	31046	JULIETTE	GA	805
21	15077	SHIPPINGPORT	PA	783
22	53142	KENOSHA	WI	762
23	30120	CARTERSVILLE	GA	725
24	27343	SEMORA	NC	710
25	16873	SHAWVILLE	PA	701
26	58523	BEULAH	ND	700
27	48161	MONROE	MI	683
28	87421	WATERFLOW	NM	681
29	15944	NEW FLORENCE	PA	673
30	21226	BALTIMORE	MD	670
31	15748	HOMER CITY	PA	665
32	43913	BRILLIANT	OH	657
33	82201	WHEATLAND	WY	650
34	46392	WHEATFIELD	IN	648
35	87416	FRUITLAND	NM	627
36	43961	STRATTON	OH	624
37	25265	NEW HAVEN	WV	610
38	47670	PRINCETON	IN	606
39	85938	SPRINGERVILLE	AZ	605
40	36512	BUCKS	AL	603
41	42337	DRAKESBORO	KY	600
42	32226	JACKSONVILLE	FL	599
43	35580	PARRISH	AL	599
44	52501	OTTUMWA	IA	580
45	34601	BROOKSVILLE	FL	570
46	61554	PEKIN	IL	561
47	53954	PARDEEVILLE	WI	556
48	34428	CRYSTAL RIVER	FL	541
49	26041	MOUNDSVILLE	WV	530
50	28682	TERRELL	NC	513

Rank	Zip	City	State	Reported Mercury Air Emissions from Power Plants (pounds)
51	60436	JOLIET	IL	506
52	63028	FESTUS	MO	505
53	47567	PETERSBURG	IN	499
54	37748	HARRIMAN	TN	490
55	78263	SAN ANTONIO	TX	478
56	58530	CENTER	ND	470
57	15461	MASONTOWN	PA	470
[redacted]		POINT OF ROCKS	WY	468
59	48054	CHINA TOWNSHIP	MI	466
60	72132	REDFIELD	AR	460
61	62217	BALDWIN	IL	450
62	75840	FAIRFIE.26	0.FAIRFIE.26	0.FAIRFAIRFIE.42(2 ref375.84 53332.7

Appendix B.2. Zip Code in Each State with Highest Power Plant Mercury Air Emissions, 2003

Appendix C.1. All Power Plants Reporting Mercury Air Emissions, 2003

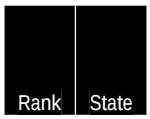
Rank	State	Facility	Parent Company*	County	Zip	Reported Mercury Air Emissions from Power Plants (pounds)
381	AK	GOLDEN VALLEY ELECTRIC ASSOCIATES INC HEALY POWER PLANT	GOLDEN VALLEY ELECTRIC ASSOCIATES	DENALI	99743	19
406	AK	AURORA ENERGY LLC	USIBELLI COAL MINE	FAIRBANKS NORTH STAR	99701	13
9	AL	ALABAMA POWER CO MILLER STEAM PLANT	SOUTHERN CO	JEFFERSON	35130	994
10	AL	ALABAMA POWER CO GASTON STEAM PLANT	SOUTHERN CO	SHELBY	35186	978
36	AL	SOUTHERN CO BARRY STEAM PLANT	SOUTHERN CO	MOBILE	36512	603
39	AL	ALABAMA POWER CO GORGAS STEAM PLANT	SOUTHERN CO	WALKER	35580	599
77	AL	ALABAMA POWER CO GREENE CTY STEAM PLANT	SOUTHERN CO	GREENE	36740	357
84	AL	U.S. TVA WIDOWS CREEK FOSSIL PLANT	U.S. TENNESSEE VALLEY AUTHORITY	JACKSON	35772	330
133	AL	U.S. TVA COLBERT FOSSIL PLANT	U.S. TENNESSEE VALLEY AUTHORITY	COLBERT	35674	230
166	AL	CHARLES R. LOWMAN POWER PLANT	ALABAMA ELECTRIC COOPERATIVE	WASHINGTON	36548	190
239	AL	ALABAMA POWER CO GADSDEN STEAM PLANT	SOUTHERN CO	ETOWAH	35903	95
365	AL	MOBILE ENERGY SERVICES LLC	DTE ENERGY CO	MOBILE	36610	22
55	AR	WHITE BLUFF GENERATING PLANT	ENTERGY CORP	JEFFERSON	72132	460
72	AR	ENTERGY SERVICES INC INDEPENDENCE STEAM ELECTRIC STATION	ENTERGY CORP	INDEPENDENCE	72562	370
200	AR	AMERICAN ELECTRIC POWER FLINT CREEK POWER PLANT	AMERICAN ELECTRIC POWER	BENTON	72734	132
35	AZ	TUCSON ELECTRIC POWER CO SPRINGERVILLE GENERATING STATION	UNISOURCE ENERGY	APACHE	85938	605
94	AZ	NAVAJO GENERATING STATION	SALT RIVER PROJECT	COCONINO	86040	312
98	AZ	CORONADO GENERATING STATION	SALT RIVER PROJECT	APACHE	85936	296
113	AZ	CHOLLA POWER PLANT	PINNACLE WEST CAPITAL CORP	NAVAJO	86032	269
163	AZ	ARIZONA ELECTRIC POWER COOPERATIVE INC	ARIZONA ELECTRIC POWER COOPERATIVE	COCHISE	85606	192
372	AZ	IRVINGTON GENERATING STATION	UNISOURCE ENERGY	PIMA	85714	21
400	CA	POSDEF POWER CO LP	FPL GROUP	SAN JOAQUIN	95203	14
460	CA	ACE COGENERATION FACILITY	CONSTELLATION ENERGY GROUP	SAN BERNARDINO	93562	2
472	CA	RIO BRAVO POSO	CONSTELLATION ENERGY GROUP	KERN	93308	0.97
473	CA	RIO BRAVO JASMIN	CONSTELLATION ENERGY GROUP	KERN	93308	0.90
488	CA	STOCKTON COGEN CO	AIR PRODUCTS & CHEMICALS INC	SAN JOAQUIN	95206	0.000032
212	CO	TRI-STATE GENERATION & TRANSMISSION CRAIG STATION	TRI-STATE GENERATION & TRANSMISSION	MOFFAT	81626	120
228	CO	RAWHIDE ENERGY STATION	PLATTE RIVER POWER AUTHORITY	LARIMER	80549	105
344	CO	RAY D. NIXON POWER PLANT	COLORADO SPRINGS UTILITIES	EL PASO	80817	31
382	CO	COLORADO SPRINGS UTILTITIES MARTIN DRAKE POWER PLANT	COLORADO SPRINGS UTILITIES	EL PASO	80903	18
390	CO	PUBLIC SERVICE CO OF COLORADO PAWNEE STATION	XCEL ENERGY	MORGAN	80723	16
390	CO	PUBLIC SERVICE CO OF COLORADO COMANCHE STATION	XCEL ENERGY	PUEBLO	81006	16
413	CO	TRI-STATE GENERATION & TRANSMISSION - NUCLA STATION	TRI-STATE GENERATION & TRANSMISSION	MONTROSE	81424	12
426	CO	PUBLIC SERVICE CO OF COLORADO CHEROKEE STN	XCEL ENERGY	ADAMS	80216	9
445	CO	PUBLIC SERVICE CO OF COLORADO HAYDEN STATION	XCEL ENERGY	ROUTT	81639	6
453	CO	PUBLIC SERVICE CO OF COLORADO ARAPAHOE STN	XCEL ENERGY	DENVER	80223	4
458	CO	TRIGEN-NATIONS ENERGY CO LLLP	TRIGEN ENERGY CORP	JEFFERSON	80401	2
461	CO	PUBLIC SERVICE CO OF COLORADO VALMONT STN	XCEL ENERGY	BOULDER	80302	2
461	CO	AQUILA INC W.N. CLARK GENERATING STATION	AQUILA INC	FREMONT	81212	2

Rank	State	Facility	

Rank	State	Facility	Parent Company*	County	Zip	Reported Mercury Air Emissions from Power Plants (pounds)

Rank	State	Facility	Parent Company*	County	Zip	Reported Mercury Air Emissions from Power Plants (pounds)
383	IL	TUSCOLA GENERATING FACILITY	CINERGY CORP	DOUGLAS	61953	18
447	IL	COLLINS GENERATING STATION	EDISON INTERNATIONAL	GRUNDY	60450	6
486	IL	SOYLAND POWER COOPERATIVE INC PEARL STATION	SOYLAND POWER COOPERATIVE INC	PIKE	62361	0.07
16	IN	AMERICAN ELECTIC POWER ROCKPORT PLANT	AMERICAN ELECTRIC POWER	SPENCER	47635	873
31	IN	R.M. SCHAHFER GENERATING STATION	NISOURCE	JASPER	46392	648
34	IN	CINERGY GIBSON GENERATING STATION	CINERGY CORP	GIBSON	47670	606
63	IN	IPL PETERSBURG	AES CORP	PIKE	47567	421
110	IN	AMERICAN ELECTRIC POWER TANNERS CREEK PLT	AMERICAN ELECTRIC POWER	DEARBORN	47025	272
114	IN	CLIFTY CREEK STATION	OHIO VALLEY ELECTRIC CORP	JEFFERSON	47250	260
129	IN	CINERGY CAYUGA GENERATING STATION	CINERGY CORP	VERMILLION	47928	234
149	IN	STATE LINE GENERATING LLC	DOMINION	LAKE	46320	210
151	IN	MEROM GENERATING STATION	HOOSIER ENERGY REC INC	SULLIVAN	47882	207
162	IN	IPL HARDING STREET STATION	AES CORP	MARION	46217	193
169	IN	CINERGY WABASH RIVER GENERATING STATION	CINERGY CORP	VIGO	47885	183
177	IN	MICHIGAN CITY GENERATING STATION	NISOURCE	LA PORTE	46360	167
209	IN	SIGECO A. B. BROWN GENERATING STATION	VECTREN CORP	POSEY	47620	121
215	IN	CINERGY GALLAGHER GENERATING STATION	CINERGY CORP	FLOYD	47150	116
230	IN	SIGECO F B CULLEY GENERATING STATION	VECTREN CORP	WARRICK	47630	104
257	IN	FRANK E RATTS GENERATING STAT ION	HOOSIER ENERGY REC INC	PIKE	47567	78
264	IN	IPL EAGLE VALLEY	AES CORP	MORGAN	46151	73
280	IN	BAILLY GENERATING STATION	NISOURCE	PORTER	46304	62

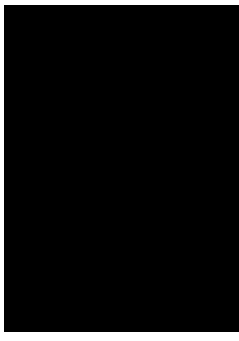
Rank	State	Facility	Parent Company*	County	Zip	Reported Mercury Air Emissions from Power Plants (pounds)
134	LA	DOLET HILLS POWER STATION	CLECO CORPORATION	DE SOTO	71052	230
186	LA	RODEMACHER POWER STATION	CLECO CORPORATION	RAPIDES	71447	148
194	LA	ENTERGY SERVICES INC ROY S NELSON PLANT	ENTERGY CORP	CALCASIEU	70669	137
214	MA	USGEN NEW ENGLAND INC	NATIONAL EN			


Rank
State

ık	State	Facility	Parent Company*	County	Zip	Reported Mercury Air Emissions from Power Plants (pounds)

Rank	State	Facility	Parent Company*	County	Zip	Reported Mercury Air Emissions from Power Plants (pounds)
120	PA	ALLEGHENY ENERGY INC ARMSTRONG POWER STN	ALLEGHENY ENERGY INC	ARMSTRONG	16201	247
125	PA	SUNBURY GENERATION LLC	WPS RESOURCES CORP	SNYDER	17876	240
127	PA	CHESWICK POWER PLANT	RELIANT ENERGY INC	ALLEGHENY	15144	236
156	PA	NEW CASTLE POWER PLANT	RELIANT ENERGY INC	LAWRENCE	16160	200
170	PA	EXELON CORP. EDDYSTONE GENERATING STATION	EXELON CORP	DELAWARE	19022	181
199	PA	RELIANT ENERGY SEWARD POWER PLANT	RELIANT ENERGY INC	INDIANA	15944	132
219	PA	RELIANT ENERGY PORTLAND POWER PLANT	RELIANT ENERGY INC	NORTHAMPTON	18351	112
252	PA	RELIANT ENERGY TITUS POWER PLANT	RELIANT ENERGY INC	BERKS	19508	82
286	PA	RELIANT ENERGY INC ELRAMA POWER PLANT	RELIANT ENERGY INC	WASHINGTON	15038	61
294	PA	ALLEGHENY ENERGY INC MITCHELL POWER STATION	ALLEGHENY ENERGY INC	WASHINGTON	15067	56
304	PA	PPL MARTINS CREEK STEAM ELECTRIC STATION	PPL CORPORATION	NORTHAMPTON	18013	49

Rank	State	Facility	Parent Company*	County	Zip	Reported Mercury Air Emissions from Power Plants (pounds)
114	TN	U.S. TVA BULL RUN FOSSIL PLANT	U.S. TENNESSEE VALLEY AUTHORITY	ANDERSON	37716	260
123	TN	U.S. TVA GALLATIN FOSSIL PLANT	U.S. TENNESSEE VALLEY AUTHORITY	SUMNER	37066	243



Rank	State	Facility	

State	Top Facility	Parent Company*	County	Reported Mercury Air Emissions from Power Plants, Facility

Rank	Parent Company*	Headquarters Location	Reported Mercury Air Emissions from

Rank	Parent Company*	Headquarters Location	Reported Mercury Air Emissions from Power Plants

End Notes

[1] U.S. Environmental Protection Agency (EPA), *Mercury Study Report to Congress*, December 1997, vol. 1, pp. 2-5 & 2-6 (hereinafter *Mercury Study Report to Congress*).
[2] Emily Figdor, U.S. PIRG Education Fund, *Reel Danger: Power Plant Mercury Pollution and the Fish We Eat*, August 2004, 4 (analyzing U.S. EPA's 1999 National Emissions Inventory for Hazardous Air Pollutants as cited in Northeast States for Coordinated Air Use Management, *Mercury Emissions for Coal-Fired Power Plants: The Case for Regulatory Action*, October 2003), available at http://www.uspirg.org/reports/ReelDanger7_04.pdf.
[3] *Mercury Study Report to Congress*, Vol. 3, p. 5-1. See also EPA, Office of Air and Radiation, Mercury White Paper, p.1 (hereinafter "Mercury White Paper"), available at http://www.epa.gov/ttn/oarpg/t3/memoranda/whtpaper.pdf.
[4] EPA, *Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units—Final Report to Congress*, February 1998, Vol. 1, p. 7-28 (hereinafter *Utility HAP Study*) ("Long-range transport modeling conducted as part of this Utility Study predicts that approximately 30 percent (i.e., 15 tpy [tons per year]) of the utility mercury emissions deposit in the continental United States"). See also *Mercury Study Report to Congress*, Vol. 3, pp. 5-1 & 5-2.
[5] *EPA Mercury Study Report to Congress*, Vol. 1, pp. 3-15 – 3-17. See also Mercury White Paper, p.1.
[6] Douglas Rae and Laura Graham, EPA Office of Wetlands, Oceans, and Watersheds, *Benefits of Reducing Mercury in Saltwater Ecosystems: A Case Study*, January 2004, p. 17, available at http://cleanairnow.org/cleanairnow.asp?id2=18509 (hereinafter *EPA Water Office Study*).
[7] Environmental Defense, *Out of Control and Close to Home: Mercury Pollution from Power Plants*, 2003, p.5.
[8] J.G. Weiner et al, "Partitioning and Bioavailability of Mercury in an Experimentally Acidified Wisconsin Lake," *Environmental Toxicology and Chemistry*, 9:909-918, 1990.
[9] EPA, "Mercury Update: Impact on Fish Advisories" (fact sheet), June 2001 (hereinafter "Mercury Update: Impact on Fish Advisories"), available at http://www.epa.gov/ost/fishadvice/mercupd.pdf.
[10] "Mercury Update: Impact on Fish Advisories."
[11] *Mercury Study Report to Congress*, vol. 1, p. O-2.
[12] *Mercury Study Report to Congress*, vol. 6, p.2-3.
[13] *Mercury Study Report to Congress*, vol. 5, pp. ES-2, 2-1, 2-5, 2-9.
[14] National Academy of Sciences, National Research Council, *Toxicological Effects of Methylmercury* (Washington, D.C.: National Academy Press, 2000) (hereinafter "*Toxicological Effects of Merthylmercury*"); *Mercury Study Report to Congress*.
[15] *Mercury Study Report to Congress*.
[16] *Toxicological Effects of Methylmercury*; *Mercury Study Report to Congress*.
[17] Kathryn Mahaffey, Robert P. Cliffner, and Catherine Bodurow, "Blood Organic Mercury and Dietary

[24] Florida Department of Environmental Protection, "Integrating Atmospheric Mercury Deposition with Aquatic Cycling in South Florida: An Approach for Conducting Total Maximum Daily Load Analysis for an Atmospherically Derived Pollutant," November 2003.
[25] T.R. Hrabik and C.J. Watras, "Recent Declines in Mercury Concentration in a Freshwater Fishery: Isolating the Effects of De-Acidification and Decreased Atmospheric Mercury Deposition in Little Rock Lake," *The Science of the Total Environment*, 297: 229-237, 2002.
[26] EPA, Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units and the Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units from the Section 112(c) List, 70 Fed. Reg. 15993, 29 March 2005 (hereinafter "Delisting Rule").
[27] Mercury is listed as a hazardous air pollutant under the Clean Air Act, § 112(b)(1).
[28] Clean Air Act § 112 (d).
[29] Clean Air Act § 112 (c)(9).
[30] Delisting Rule, 70 Fed. Reg. at 16025.
[31] Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 70 Fed. Reg. 28605, 18 May 2005 (hereinafter "Cap-and-Trade Rule"). The cap-and-trade rule, dubbed the "Clean Air Mercury Rule" by EPA, is also available at http://www.epa.gov/air/mercuryrule/pdfs/camr_final_preamble.pdf (preamble) and http://www.epa.gov/air/mercuryrule/pdfs/camr_final_regtext.pdf (regulatory text).
[32] James E. McCarthy, *Mercury Emissions from Electric Power Plants: An Analysis of EPA's Cap-and-Trade Regulations*, 15 April 2005, CRS-6 (hereinafter "*CRS Report*").
[33] EPA, Office of Air Quality Planning and Standards, *Regulatory Impact Analysis of the Clean Air Mercury Rule*, March 2005, Table 7-3, p.7-5, available at http://www.epa.gov/ttn/atw/utility/ria_final.pdf.
[34] *CRS Report*, p.7 & n.24.
[35] In 2001, EPA indicated that a MACT standard would require national reductions in mercury emissions of 89%, 90%, or 98% by December 2007, assuming promulgation of final MACT regulations by December 2004. See EPA, Presentation to the Edison Electric Institute (hereinafter "EPA Presentation to EEI"), 18 September 2001, available at http://cta.policy.net/epamercury/pdf. The 48-ton figure is based on mercury emissions tests and comes from the EPA's 1999 Information Collection Request, available at http://www.epa.gov/ttn/atw/combust/utiltox/utoxpg.html#TECR. EPA uses the 1999 dataset as "baseline emissions" against which future reductions are compared.
[36] Hubbard Brook Research Foundation, Mercury Science Briefing (presentation to the EPA), 23 June 2004.
[37] Cap-and-Trade Rule, 70 Fed. Reg. at 28617 ("We have designed the CAIR and CAMR approach to take advantage of this so-called Hg [mercury] "co-benefit." . . . the Phase 1 Hg cap should be set at a level that reflects these co-benefits, and that additional controls designed specifically for Hg should not be required until after 2010."). See also *CRS Report*, CRS-9 ("Under EPA's cap-and-trade regulations, both the 2010 and 2018 mercury emission standards are set to maximize use of these co-benefits [of emission controls under the CAIR rule].").
[38] *CRS Report*, Summary & CRS-9. The source for the underlying EPA data is the Office of Air Quality Planning and Standards, *Regulatory Impact Analysis of the Clean Air Mercury Rule*, March 2005, Table 7-9, p.7-7, available at http://www.epa.gov/ttn/atw/utility/ria_final.pdf.
[39] Of the court challenges, all of the delisting cases have been consolidated under *New Jersey v. EPA*, No. 05-1097 (D.C. Cir.) (orders filed 5 May 2005, 10 June 2005, and 29 June 2005), and all of the cap-and-trade cases have been consolidated under *New Jersey v. EPA*, No. 05-1162 (D.C. Cir.) (orders filed 9 July 2005 and 22 July 2005).
[40] Fourteen states—California, Connecticut, Delaware, Illinois, Maine, Massachusetts, Minnesota, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Vermont, and Wisconsin—filed suit as plaintiffs against both the delisting and cap-and-trade rules. See *New Jersey v. EPA*, No. 05-1097 (D.C. Cir. (delisting rule; plaintiff states: NJ, CA, CT, ME, MA, NH, NM, NY, VT); *Commonwealth of Pennsylvania, Department of Environmental Protection*, No. 05-1104 (D.C. Cir.); *State of Delaware v. EPA*, No. 05-1116 (D.C. Cir.);

of the Michigan Department of Environmental Quality in case captioned *Utility Air Regulatory Group v. U.S. EPA*, No. 05-1275 (D.C. Cir.); Darren Samuelsohn, "Michigan Joins State-Driven Suit Against U.S. EPA Rule, *Greenwire*, 11 August 2005. Moreover, 14 states jointly petitioned the EPA for reconsideration of the delisting rule, and 15 states jointly petitioned EPA for reconsideration of the cap-and-trade rule. See *In re Petition for Reconsideration, Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units and the Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units from the Section 112(c) List, 70 Fed. Reg. 15994 (March 29, 2005)*, 31 May 2005 (delisting rule; petitioning states: NJ, CA, CT, DE, IL, ME, MA, NH, NM, NY, PA, RI, VT, WI); *In re Petition for Reconsideration, Standards of Performance for New and Existing Stationary Sources; Electric Utility Steam Generating Units, 70 Fed. Reg. 28606 (May 18, 2005)*, 18 July 2005 (cap-and-trade rule; petitioning states: NJ, CA, CT, DE, IL, ME, MA, MN, NH, NM, NY, PA, RI, VT, WI).

[41] The groups include Environmental Defense, National Wildlife Federation, and Sierra Club, represented by Earthjustice; Natural Resources Council of Maine, Ohio Environmental Council, and U.S. Public Interest Research Group, represented by the Clean Air Task Force; Natural Resources Defense Council; and Chesapeake Bay Foundation, Conservation Law Foundation, and Waterkeeper Alliance. See *Chesapeake Bay Foundation, Inc. et al. v. EPA*, No. 05-1158 (D.C. Cir.) (delisting rule); *Environmental Defense et al. v. EPA*, No. 05-1159 (D.C. Cir.) (delisting rule); *Natural Resources Council of Maine et al. v. EPA*, No. 05-1160 (D.C. Cir.) (delisting rule); *Natural Resources Defense Council v. EPA*, No. 05-1158 (D.C. Cir.) (delisting rule); *Chesapeake Bay Foundation, Inc. v. EPA*, No. 05-1267 (D.C. Cir.); *Ohio Environmental Council v. U.S. EPA*, No. 05-1164 (D.C. Cir.) (cap-and-trade rule); *Natural Resources Defense Council v. EPA*, No. 05-1167 (D.C. Cir.) (cap-and-trade rule). See also "Clean Air, Public Health Advocates: EPA Mercury Rule Leaves Public Health at Risk, Violates Law" (press release), 17 May 2005, available at http://www.commondreams.org/cgi-bin/newsprint.cgi?file=/news2005/0517-11.htm. Several of these groups—Natural Resources Defense Council, Clean Air Task Force, Ohio Environmental Council, U.S. Public Interest Research Group, and Natural Resources Council of Maine—also petitioned the EPA for reconsideration of both rules. See Petition for Reconsideration, *In the Matter of the Final Rule: Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants From Electric Utility Steam Generating Units and the Removal of Electric Utility Steam Generating Units from the Section 12(c) List*, OAR-2002-0056, 31 May 2005 (delisting rule); Petition for Reconsideration, *In the Matter of the Final Rule: Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units*, OAR-2002-0056, 18 July 2005 (cap-and-trade rule).

[42] Four national public health groups moved to intervene in the litigation against the delisting rule on June 14, 2005. See Motion for Intervention by Physicians for Social Responsibility, the American Nurses Association, the American Public Health Association, and the Am

[51] EPA, Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 62 Fed. Reg. 79825, 20 December 2000.
[52] EPA, "EPA Decides Mercury Emissions from Power Plants Must Be Reduced" (press release), 14 December 2000.
[53] EPA Presentation to EEI.
[54] Reducing annual mercury emissions of 48 tons by 89%, 90%, and 98% would result in approximately 5.3, 4.8, and 1.0 tons, respectively.
[55] 60 Fed. Reg. 65387, 19 December 1995 (municipal waste combusters); 62 Fed. Reg. 48348, 15 September 1997 (medical waste incinerators). See also *CRS Report*, CRS-3 & Table 1.
[56] 69 Fed. Reg. 4652, 30 January 2004; 69 Fed. Reg. 12398, 16 March 2004 (supplemental proposal).
[57] Eric Pianin, "Proposed Mercury Rules Bear Industry Mark," *Washington Post*, 31 January 2004; Darren Samuelsohn, "More Industry Materials Found Duplicated in EPA's Mercury Rule," *Greenwire*, 26 February 2004 (reporting that sections of EPA's proposed rule were taken verbatim from memos written by Latham & Watkins, a law firm representing large electric utilities, and West Associates, a group representing 20 power and transmission companies).
[58] See, e.g., Tom Hamburger and Alan C. Miller, "Mercury Emissions Rule Geared to Benefit Industry, Staffers Say," *Los Angeles Times*, 16 March 2004 (reporting that "[p]olitical appointees in the Environmental Protection Agency bypassed agency professional staff and a federal advisory panel last year to craft a rule on mercury emissions preferred by the industry and the White House, several longtime EPA officials say. The EPA staffers say they were told not to undertake the normal scientific and economic studies called for under a standing executive order."); Jennifer Lee, "White House Minimized the Risks of Mercury in Proposed Rules, Scientists Say," *New York Times*, 7 April 2004 (reporting that White House officials scrubbed language in the proposal to downplay the scientific evidence regarding the hazards of mercury pollution).
[59] Children's Health Protection Advisory Committee letter to EPA Administrator Michael Leavitt, 26 January 2004, downloaded from http://yosemite.epa.gov/ochp/ochpweb.nsf/content/20040126/$file/20040126.pdf, 5 July 2004.
[60] Statement of Emily Figdor, Clean Air Advocate, U.S. PIRG, "Protect Children's Health: Stop Mercury Pollution," 30 June 2004, available at www.uspirg.org.
[61] Letter from national sportsmens' groups, 29 June 2004, available at: http://cleanairnow.org/cleanairnow.asp?id2=18165&id3=cleanairnow&; letter from 475 hunting and fishing groups to EPA Administrator Mike Leavitt, 22 June 2004, available at http://cleanairnow.org/cleanairnow.asp?id2=18509.
[62] Letter from 650 small businesses and medical professionals from 48 states and the District of Columbia to members of Congress, undated, signed in 2004, available from author and U.S. PIRG; Consensus Statement on Methylmercury and Public Health, 16 March 2004, available at: http://cleanairnow.org/cleanairnow.asp?id2=18509.
[63]

of 34 tons annually, instead of basing the standard on an unbiased determination of what the top performing units were achieving in practice").

[69] U.S. Government Accountability Office (GAO), *Clean Air Act: Observations on EPA's Cost-Benefit Analysis of Its Mercury Control Options*, GAO-05-252, February 2005.

[70] *Water Office Study*