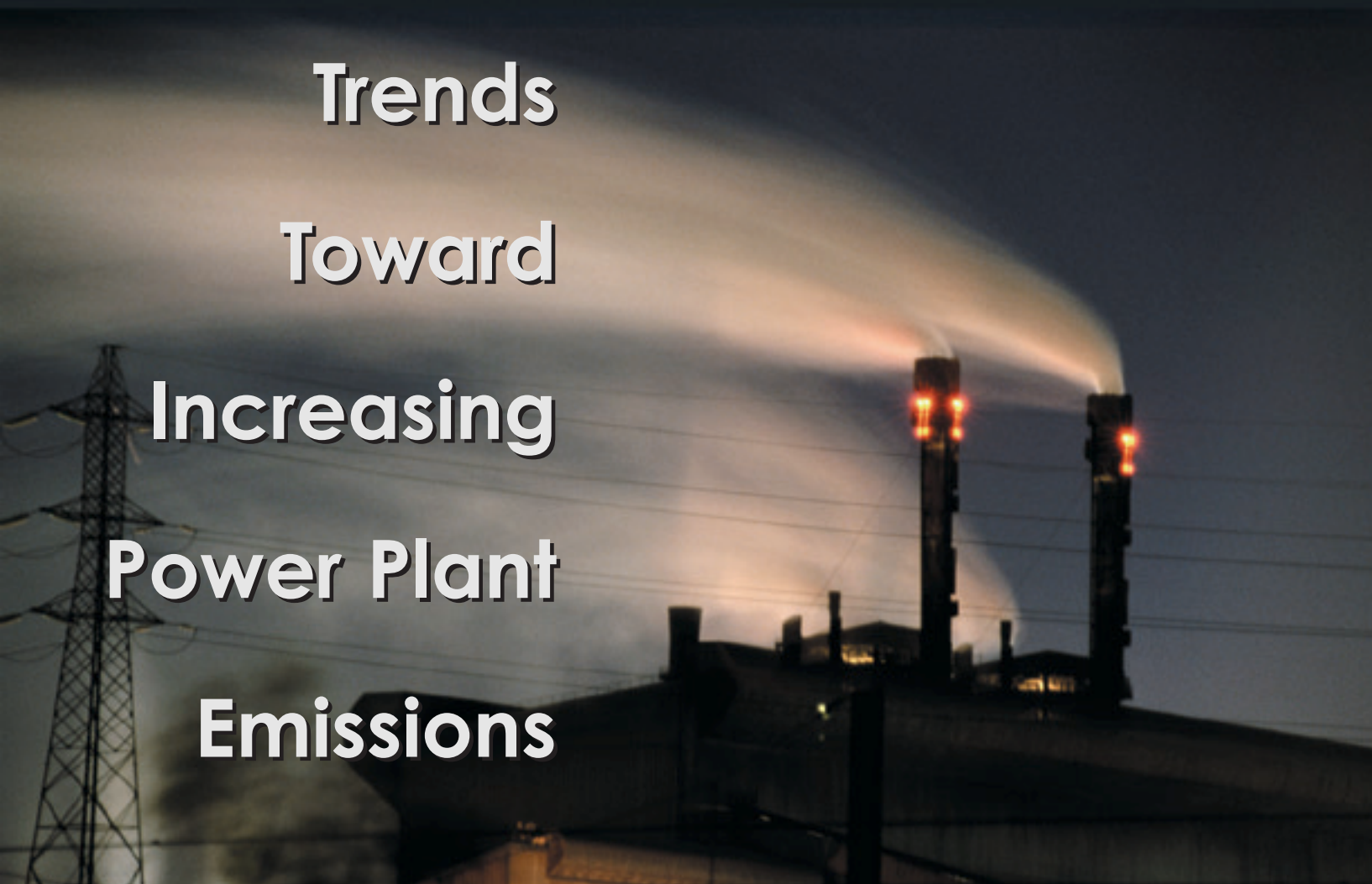
Darkening Skies



Trends Toward Increasing Power Plant Emissions

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Executive Summary

Smog and soot in our air, acid rain destroying our lakes and forests, mercury contamination in our fish and global warming threatening our future – all of these are among the serious public health and environmental problems caused by pollution from the electric power sector. Due to its over-reliance on an aging fleet of uncontrolled coal-burning power plants, the U.S. electric power industry emits billions of tons of pollution each year, much of which could be eliminated through increased use of modern pollution control technologies, a shift to cleaner burning fuels, or increased investment in renewable energy sources and energy efficiency.

Nearly one month ago on February 14, 2002, the Administration unveiled its long-awaited principles for reducing pollution from the electricity sector. This proposal was met by cheers from industry lobbyists and by universal dismay on the part of clean air advocates.[i] While President Bush dubbed his plan the "Clear Skies Initiative," if passed into law this proposal would increase the amount of smog, soot, carbon dioxide and toxic mercury pollution that could be emitted by power plant smokestacks relative to the pollution reductions that could be achieved under the current Clean Air Act.

The thrust of the Bush plan is to replace current Clean Air Act programs with national caps on electric sector emissions of nitrogen oxides (NOx), sulfur dioxide (SO2) and mercury, allowing sources to meet these obligations either by reducing emissions or by purchasing "credits" from other sources that reduce emissions more deeply than required. The President's plan contains no mandate to reduce emissions of carbon dioxide (CO2), the leading cause of global warming, instead relying solely on voluntary action by the polluters.

The findings in this report illustrate some of the major shortcomings of the President's "Clear Skies Initiative." In particular, power plant pollution data trends show that mandatory emission limits on CO2 are essential to any effort to address global warming. Moreover, the data illustrates that for sulfur and nitrogen pollution, which disproportionately impacts the health of people living near the plants, pollution caps alone will not protect the majority of communities from increasing power plant emissions. Rather, caps must work hand-in-hand with existing and new measures to ensure that every plant is meeting modern emission standards.

This report analyzes six years of emissions data (1995-2000) for NOx, SO2 and CO2 from the 500 most polluting power plants in the nation, which is available from the EPA Acid Rain Database. Such data for mercury emissions does not exist. Specifically, we found that:

- In the absence of mandatory CO2 emission limits, CO2 emissions are rapidly rising.
- From 1995 to 2000, power plant CO2 emissions from the 500 most polluting power plants in the nation increased by 13.5 percent, a total increase in annual emissions of 277 million tons.
- Texas saw a net CO2 increase from its dirty power plants of 37 million tons per year, a far bigger increase than any other state in the nation.
- Twelve states, "the dirty dozen," actually had a net CO2 emissions increase of 10 million tons per year or more between 1995 and 2000. These states are, in order of largest to smallest CO2 increases: Texas, Minnesota, Indiana, Alabama, Arizona, South Carolina, North Carolina, Illinois, Virginia, California, West Virginia and Georgia.
- One power plant alone, the Sherburne County plant in Minnesota, increased its output of CO2 by a whopping 10 million tons per year, by far the biggest jump of any single plant in the nation.

LESSON A mandatory limit on carbon emissions is necessary if we are to make real progress toward stabilizing the climate. We cannot continue to rely on voluntary measures.

Although the 1990 Clean Air Act amendments placed a national cap on SO2 from power plants, most plants' emissions of sulfur dioxide continued to rise, exposing nearby communities to more fine particle "soot."

- From 1995 to 2000, over which time the national SO2 cap took effect, 300 of the dirtiest 500 power plants increased their SO2 emissions, even while the cap resulted in an overall decrease of about 5 percent. This means that residents of 300

local communities are being exposed to higher levels of soot from nearby facilities.

- There were seven states that had a net SO2 increase of 20,000 tons or more over this six-year period. These "sooty seven" states are, from largest to smallest emission increases: North Carolina, New York, Mississippi, Georgia, Washington, South Carolina and Maryland.
- One plant, the EC Gaston plant in Alabama, increased its SO2 emissions by 62,000 tons per year, a bigger jump than any other plant in the nation. This plant is just a few miles from Birmingham, Alabama, which is likely to be designated a non-attainment area for fine particle soot under the 1997 federal health standard based on data from monitoring in 1999 and 2000.
- The Clean Air Act's New Source Review (NSR) program, when enforced, provides an important tool for ensuring that communities near these plants are protected. Of the 50 plants with highest SO2 increases during this timeframe, fourteen were the subject of the U.S. EPA's NSR enforcement initiative, including the Gaston plant described above.

LESSON **Pollution caps are not designed to address localized pollution problems and therefore must work hand-in-hand with other emission control programs, such as New Source Review, which ensure that older plants eventually meet modern emission standards. Moreover, the U.S. EPA must tighten enforcement of these emission control programs.**

Despite national and regional NOx reduction initiatives implemented during the 1990s, more power plants increased their NOx pollution between 1995 and 2000 than decreased their pollution. This means that many communities near power plants are being exposed to higher levels of the soot and smog formed from rising NOx emissions at local plants.

- 263 of the dirtiest 500 power plants increased their NOx emissions, even while collectively these 500 plants decreased their total NOx emissions by 877,000 tons per year.
- There were four states that each had a net NOx emission increase of 10,000 tons per year or more. These "filthy four" states are, in order of largest to smallest net increase in NOx emissions: Arizona, Mississippi, Louisiana, and Georgia.
- Three power plants increased their annual NOx emissions by more than 10,000 tons per year. These plants are the Jack Watson plant in Mississippi, the EC Gaston plant in Alabama and the Intermountain plant in Utah. Two of these plants, Jack Watson and EC Gaston, are in or adjacent to areas expected to be in non-attainment with the federal 8-hour health standard for ground-level ozone or "smog" based on monitoring data from 1998-2000.
- The Clean Air Act's New Source Review (NSR) program, when enforced, provides an important tool for ensuring that communities near these plants are protected. Of the 50 plants with the highest NOx increases between 1995 and 2000, eight were the subject of the U.S. EPA's NSR enforcement initiative, including the Jack Watson and EC Gaston plants.

LESSON **Without better enforcement of the Clean Air Act's existing programs, the status quo will allow NOx emissions to increase, exposing more communities located near power plants to smog and soot. A national NOx cap alone will not protect the health of these communities. Rather, a national NOx cap should be accompanied by policies to ensure that every plant installs modern pollution control equipment.**

The President's proposal stands in sharp contrast to the leading Congressional proposals to address power plant pollution. Key differences between the Congressional approaches and the Administration's proposal include:

- The Clean Power Act (S. 556) and the Clean Smokestacks Act (H.R. 1256) would establish caps for NOx and SO2 that work with important existing clean air programs rather than eliminating Clean Air Act programs, including New Source Review, as proposed by the Bush administration.
- S. 556 and H.R. 1256 call for plant-specific controls for NOx, SO2 and mercury to ensure that nearby plants do not threaten human health and to prevent toxic "hotspots" from developing.
- The caps and plant-specific controls under S. 556 and H.R. 1256 are far more stringent and would take effect more than a decade earlier than would the pollution reductions envisioned in the Bush plan.
- S. 556 and H.R. 1256 establish a mandatory cap for carbon dioxide at 1990 emission levels.

This report's findings, as detailed above, illustrate the importance of maintaining these aspects of both bills.

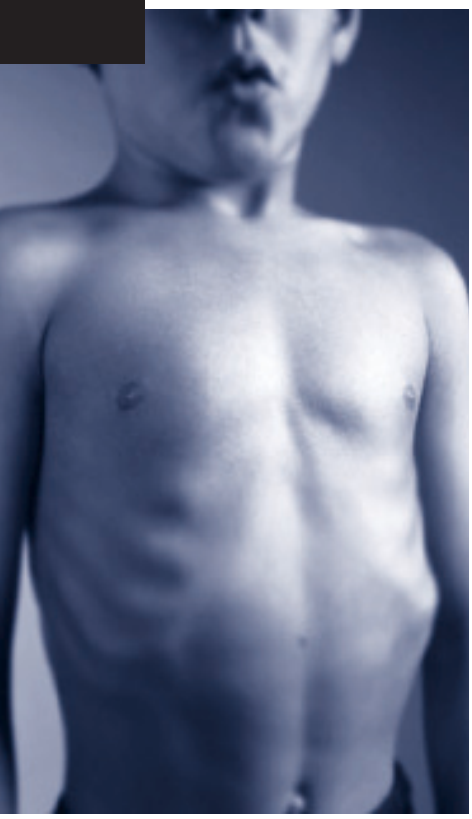
Part 1

Public Health and Environmental Damage Caused By Power Plant Pollution

A. Fine Particle Soot Causes Heart Attacks, Asthma Attacks, Premature Death

Power plants emit sulfur dioxide (SO2) and nitrogen oxides (NOx), which are converted in the atmosphere into fine particle aerosols. When inhaled, these aerosols are extremely hazardous to our health. In the last decade, mountains of research have linked these particles to dozens of health problems, including asthma attacks, heart attacks, hospitalization for respiratory and cardiovascular disease, chronic bronchitis, and premature mortality.

These fine particle pollutants are especially harmful to children, the elderly, and people with preexisting lung or heart problems:



- One study found that babies in cities with high levels of particulate pollution had a 26 percent increased risk for Sudden Infant Death Syndrome (SIDS.)[ii]
- Particles can trigger heart attacks in people with heart disease by causing changes in heart rhythms.[iii]
- Studies by the Harvard School of Public Health, the Health Effects Institute and others have confirmed that tens of thousands of people each year die prematurely due to fine particle pollution.[iv]
- A 2000 study estimated that 30,000 people die prematurely each year due to particles from power plants. Of these deaths, an estimated 18,000 could be prevented if power plants were required to install modern pollution controls.[v]

B. Ozone Smog

More than 141 million Americans live in areas where ground-level ozone or "smog" levels are high enough to cause serious health damage.[vi] Like fine-particle soot, smog damages our respiratory systems and can trigger asthma attacks, sending hundreds of thousands of people to the emergency room each year.

Smog is formed when nitrogen oxides (NOx) from power plants and cars mix with other chemicals in the air in the presence of sunlight. Power plants are the largest industrial source of NOx in the nation.

Ozone reduces lung function for anyone chronically exposed, including healthy adults who exercise outdoors in the summertime. For vulnerable populations, including children, the elderly, and people with asthma or other respiratory disease, high smog days often means staying indoors, missing work, or missing school, and in the worst cases, hospitalization. Smog triggers an estimated 6 million asthma attacks per year and sends 150,000 Americans to hospital emergency rooms just in the Eastern half of the nation.[vii]

C. Mercury Poisoning

Mercury is a toxic heavy metal, which, when ingested, can cause serious neurological damage, particularly to fetuses, infants, and children. People are exposed to mercury when they eat fish that have been contaminated by methylmercury, the organic and most dangerous form of mercury. The neurotoxic effects of low-level mercury exposure are similar to the effects of lead toxicity in children and include delayed development and cognitive deficits, language difficulties, and problems with motor function, attention and memory.

Most at risk are developing fetuses exposed to mercury in the womb as well as children and infants whose nervous systems are still developing. The National Academy of Sciences issued an alarming report in July of 2000, concluding that more than 60,000 U.S. children are born each year with a risk of nervous system damage from mercury exposure in the womb.[viii]

Health agencies in 41 states have issued fish consumption advisories for at least one species of fish because of mercury pollution in local waterways. Because mercury is bioaccumulative, moving up the food chain as fish are consumed, large predator fish such as largemouth bass, walleye, shark, tuna and swordfish have higher levels of mercury than species lower in the food chain.[ix]

National estimates for 1994-95 concluded that coal and oil burning power plants were the largest stationary sources of mercury, responsible for 32.8 percent of total mercury emissions.[x] EPA has yet to set any standards for mercury emissions, so power plant operators can emit mercury without limits, unlike every other source of mercury in the U.S.

D. Global Warming:

Perhaps the most serious environmental challenge we face in the coming decade and century is global warming. The world's most respected climate scientists have concluded that our planet is warming as a result of manmade pollution. They also conclude that unless we act quickly to reverse this trend, we will face catastrophic changes in weather systems and our climate across the globe.

The most authoritative source of scientific information has been the United Nation's International Panel on Climate Change (IPCC), which came out with a three-part series of reports last year concluding that:[xi]

- The Earth warmed more in the 20th century than in any century in the past 1000 years;
- The Earth could warm by another 2.5-10.4 degrees Fahrenheit over the course of this century, a warming rate not seen in the last 10,000 years;
- The most likely cause of the warming is the emission of greenhouse gases from the burning of fossil fuels.

The consequences of global warming would include:

- Sea level rise of up to three feet by 2100;
- Unprecedented heat waves;
- Drought;
- Increasingly intense tropical storms;
- Floods;
- Soil erosion;
- Decreased crop yields;
- Decreased water availability;
- Spread of infectious diseases;
- Loss of coastline.

Power plants in the U.S. are responsible for 40 percent of all emissions of carbon dioxide (CO2), the leading cause of global warming. Burning coal results in more CO2 emissions than any other method of generating electricity, yet we continue to rely on coal for more than half of our electricity generation.

E. Acid Rain

The same sulfur and nitrogen emissions that cause soot and smog formation also cause acid rain. These pollutants combine with water to form acids called sulfates and nitrates. These acids fall to earth in rain, snow and fog, destroying sensitive ecosystems. In many eastern states, the rain is often as acidic as orange juice.[xii]

Aquatic life is extremely vulnerable to the effects of acid rain. Twenty-five percent of lakes in the Adirondack region of New York cannot support any fish at all due to acidity.[xiii] Similarly, 30 percent of trout streams in Virginia are either marginal or unsuitable for brook trout.[xiv] Water bodies as far south as Georgia and as far west as Indiana are impacted by acid rain.

Forests also are severely affected by acid deposition. In the Adirondacks, more than half of the red spruce trees have died since the 1960s, and the red spruce in the Southern Appalachians are showing signs of damage as well.[xv] New England's famous sugar maples are in decline due to the loss of nutrients in the soil caused by acid rain.

The 1990 Acid Rain program of the Clean Air Act was designed to protect lakes and forests from the impacts of acid rain. Unfortunately, recent studies show that power plants will need to reduce their emissions of sulfur and nitrogen by as much as 80 percent to allow these lakes and forests to recover.[xvi]

Part 2

Carbon Dioxide Emissions on the Rise

In order to curb global warming, we must stabilize concentrations of greenhouse gases, such as carbon dioxide (CO2), in our atmosphere, and we must begin immediately. Scientists have warned that, even in order to stabilize CO2 concentrations at a level twice as high as pre-industrial levels, global emissions must reverse course by 2013, only 11 years from today.[xvii]

Yet, U.S. CO2 emissions continue to rise at an alarming rate. The Energy Information Administration reported in November 2001 that U.S. CO2 emissions in 2000 were 17 percent higher in 2000 than in 1990.[xviii] Electric utility emissions grew at an even higher rate, jumping 26.5 percent from 1990 to 2000.[xix]

Unfortunately, the Administration has responded to this urgent need with more delay. The President's February 14, 2002 climate change plan announced a set of voluntary goals that would simply reduce the rate at which our CO2 emissions increase, and at roughly the same slowing of emissions growth that took place over the last two decades. The response from the *New York Times* was typical of the response from opinion leaders across the nation:

> **The obvious conclusion to be drawn from President Bush's latest global warming strategy, unveiled this week, is that he does not regard warming as a problem. There seems no other way to interpret a policy that would actually increase the gases responsible for heating the earth s atmosphere... The White House described Mr. Bush's strategy as aggressive and bold. The only thing bold about it are accounting tactics worthy of Enron that are designed to make an increase in emissions look like a decrease.** [xx]

Each power plant that must report emissions to the national acid rain database must report its CO2 emissions. Therefore, the EPA Acid Rain database includes CO2 emissions for each power plant from 1995 to 2000.[xxi] Overall, this set of power plants increased emissions by 200 million tons (9 percent) in just six years. For the 500 most polluting facilities, CO2 emissions grew from 2.05 billion tons in 1995 to 2.36 billion tons in 2000 (13.5%).

In some states, the trends are even worse. Texas increased its CO2 emissions by 37 million tons per year, while another 11 states each increased their CO2 emissions by more than 10 million tons per year. *See Table 1 below.*

The single plant with the greatest increase in CO2 emissions between 1995 and 2000 was the Sherburne County plant in Minnesota, which alone increased its CO2 emissions by 10 million tons. Table 2 *(opposite)* lists the 50 plants with the largest increases in emissions between 1995 and 2000.

Analyses show that we can reverse this trend toward ever-higher CO2 emissions while also lowering energy costs for consumers. For example, the Department of Energy's Interlaboratory Working Group on Energy-Efficient and Clean Energy Technologies released a report (the "5-Lab Study") concluding that we can achieve a 47 percent reduction in CO2 emissions from power plants by the year 2020, while lowering the nation's energy bill by $124 billion per year, compared to the costs of energy in 2020 if we do nothing.[xxii] The Energy Information Administration's "Analysis of Strategies for Reducing Multiple Emissions from Electric Power Plants with Advanced Technology Scenarios," released

Table 1: Dirty Dozen States With Highest Net CO2 Increases, 1995-2000 (tons)

State	1995 CO2	1996 CO2	1997 CO2	1998 CO2	1999 CO2	2000 CO2	Total Increase
TX	170,080,256	193,413,618	198,487,614	207,675,147	212,344,231	211,999,456	37,251,444*
MN	17,008,404	33,830,167	35,403,263	35,853,952	34,343,448	37,664,513	20,656,109
IN	123,103,519	128,993,343	136,134,165	136,939,068	138,132,861	138,763,321	15,659,802
AL	75,079,806	79,063,524	79,063,521	80,114,782	83,137,401	87,604,462	12,524,656
AZ	36,334,807	35,688,112	39,524,262	43,043,183	44,917,115	48,049,782	11,714,975
SC	27,486,242	31,811,591	33,269,909	35,543,030	37,999,860	40,711,160	11,527,906*
NC	61,818,596	70,601,189	75,424,960	73,018,913	72,500,794	73,292,479	11,473,883
IL	82,410,953	84,777,456	91,974,775	92,076,299	89,209,272	93,810,991	11,319,749*
VA	28,781,346	32,389,245	34,742,375	37,781,788	38,225,645	39,471,631	10,690,285
CA	14,110,119	11,388,694	12,422,288	12,886,851	15,728,415	24,740,676	10,556,415*
WV	80,950,713	85,159,095	91,092,513	92,620,057	93,737,299	91,372,550	10,421,837
GA	72,541,533	70,653,268	75,379,251	76,121,675	77,935,560	82,566,859	10,025,326

* For TX, SC, IL and CA, the total state increase noted in the right hand column is lower than the difference between the 1995 and 2000 columns because several plants did not have CO2 data for the year 1995. For those plants, we compared the 2000 emissions to the 1996 or 1997 emissions, and the total increase column is a subtotal of the plant increases for each state.

in October 2001, found that a mandatory CO2 emission cap on the electric sector requiring a return to 1990 emission levels by 2007, coupled with the policies analyzed in the 5-Lab Study, would cut Americans' electricity bills by $36 billion annually starting in 2020.

The Clean Power Act and the Clean Smokestacks Act would each set a mandatory cap on power plant CO2 at 1990 levels, or roughly 1.914 million tons of CO2. This policy is warranted given the large increases we have seen over the last decade while relying on voluntary industry actions.

Table 2: 50 Power Plants with Largest Increases in CO2 Emissions, 1995-2000 (tons)

State	Plant Name	1995 CO2	1996 CO2	1997 CO2	1998 CO2	1999 CO2	2000 CO2	Total Increase
1. Minnesota	Sherburne County	7,494,525	16,363,805	16,837,989	16,564,341	15,864,260	17,679,632	10,185,107
2 Virginia	Clover	1,669,691	5,046,733	5,501,619	6,894,488	7,188,660	7,615,277	5,945,586
3 Alabama	E C Gaston	9,285,950	11,413,392	11,413,392	12,609,741	13,010,925	13,811,099	4,525,149
4 Alabama	James H Miller Jr	18,073,241	21,214,722	21,214,721	20,953,699	21,365,768	22,337,061	4,263,820
5 Pennsylvania	Bruce Mansfield	11,818,383	3,313,022	14,311,790	14,960,050	13,576,930	16,047,349	4,228,966
6 Arizona	Navajo	15,964,166	14,341,710	17,156,377	19,800,996	19,499,180	20,137,722	4,173,556
7 Florida	Stanton Energy	2,645,121	4,461,627	6,420,602	5,928,290	6,083,921	6,718,589	4,073,468
8 Texas	Monticello	10,916,304	15,108,938	16,340,889	15,672,988	16,184,141	14,960,318	4,044,014
9 West Virginia	John E Amos	11,256,524	15,653,553	16,272,570	15,849,703	18,017,179	15,289,449	4,032,925
10 Texas	Big Brown	6,820,531	7,783,463	7,827,732	7,635,131	7,850,243	10,834,508	4,013,977
11 Texas	Cedar Bayou	892,334	4,021,269	4,334,699	4,218,978	4,282,200	4,836,827	3,944,493
12 S.Carolina	Winyah	4,609,621	5,873,908	6,856,728	7,147,039	8,389,202	8,447,635	3,838,014
13 Louisiana	Big Cajun	10,339,156	11,607,737	12,327,289	12,693,110	13,183,144	14,124,989	3,785,833
14 Texas	Welsh	9,412,130	11,365,865	12,285,844	12,371,975	12,695,086	13,121,748	3,709,618
15 Texas	Coleto Creek	1,108,403	4,973,419	3,828,119	4,491,076	4,720,563	4,791,472	3,683,069
16 Indiana	Warrick	2,584,160	4,429,072	6,031,805	5,657,846	6,181,321	6,154,590	3,570,430
17 Georgia	Yates	3,214,223	3,911,146	4,659,475	5,344,568	5,896,638	6,736,643	3,522,420
18 Illinois	Kincaid	2,918,670	4,290,447	4,162,423	5,058,023	5,665,024	6,437,581	3,518,911
19 Minnesota	Allen S King	337,290	3,626,468	3,822,028	2,783,991	3,465,485	3,800,539	3,463,249
20 Washington	Centralia	6,946,854	9,960,211	8,846,268	11,402,964	10,645,221	10,345,031	3,398,177
21 Indiana	Wabash River	2,352,261	9,143,036	6,889,443	5,699,948	4,911,992	5,531,139	3,178,878
22 Kentucky	Mill Creek	8,100,965	9,541,622	9,078,841	9,232,003	9,904,727	11,068,921	2,967,956
23 Indiana	Merom	5,903,197	8,120,859	8,188,881	8,393,394	8,474,637	8,615,208	2,712,011
24 Minnesota	Riverside	224,480	2,372,023	2,591,266	3,104,748	2,744,689	2,874,901	2,650,421
25 S. Carolina	Cross	6,121,414	7,373,774	6,992,030	7,647,547	7,405,600	8,756,646	2,635,232
26 California	Pittsburg	1,758,578	1,723,476	2,383,037	3,008,883	2,261,328	4,288,462	2,529,884
27 New York	Northport	3,946,552	3,908,333	3,995,685	4,535,011	7,322,022	6,468,963	2,522,411
28 Georgia	Hammond	2,934,826	2,978,460	3,675,158	3,303,202	4,378,698	5,456,480	2,521,654
29 Arizona	Coronado	4,664,519	4,691,427	4,788,183	5,391,429	6,096,634	7,113,186	2,448,667
30 Ohio	Muskingum River	5,818,753	8,298,811	8,442,669	7,207,813	5,907,439	8,261,015	2,442,262
31 New Mexico	San Juan	12,074,907	13,956,090	14,509,543	14,284,771	13,748,364	14,512,417	2,437,510
32 Ohio	Walter C Beckjord	5,718,967	6,784,736	7,252,347	8,406,213	8,663,538	8,079,087	2,360,120
33 New Jersey	Hudson	1,592,571	2,222,225	3,142,642	1,954,968	3,140,979	3,855,072	2,262,501
34 N. Carolina	GG Allen	3,661,778	5,545,956	6,627,324	4,508,312	5,619,742	5,914,264	2,252,486
35 Missouri	Meramec	1,728,293	1,973,359	2,580,016	2,886,756	3,846,320	3,957,804	2,229,511
36 Arkansas	Independence	10,084,094	12,832,863	11,117,813	11,720,401	13,282,750	12,310,474	2,226,380
37 Wyoming	Laramie River	12,228,380	13,528,172	12,406,750	14,741,078	14,267,970	14,442,863	2,214,483
38 Kentucky	EW Brown	2,933,021	4,230,780	3,750,188	4,167,850	4,287,034	5,099,558	2,166,537
39 Oregon	Boardman	1,861,637	2,049,975	1,836,655	3,968,873	4,329,202	3,998,677	2,137,040
40 Indiana	R M Schahfer	9,160,428	9,644,056	10,495,513	11,506,357	11,909,084	11,265,361	2,104,933
41 Texas	P H Robinson	0	3,358,009	3,334,940	4,520,013	5,177,627	5,441,940	2,083,931
42 Arizona	Cholla	6,361,723	5,941,289	7,799,519	7,666,799	8,017,733	8,441,970	2,080,247
43 Ohio	Miami Fort	7,236,870	8,526,433	8,304,793	8,283,229	9,755,553	9,308,268	2,071,398
44 New York	Ravenswood	3,089,414	2,866,784	3,382,204	3,052,408	3,383,600	5,132,053	2,042,639
45 Texas	Sam Seymour	10,540,286	11,125,152	11,033,481	10,233,106	12,723,703	12,514,444	1,974,158
46 Louisiana	Rodemacher	2,882,671	4,438,165	4,428,841	4,747,034	4,923,508	4,843,732	1,961,061
47 Texas	Sweeny Cogeneration	n/a	n/a	58,216	2,039,493	1,830,090	2,004,701	1,946,485
48 Alabama	Barry	10,496,463	12,259,660	12,259,660	11,084,687	11,980,916	12,435,918	1,939,455
49 Illinois	Waukegan	3,219,770	3,425,604	5,269,305	4,976,266	4,189,626	5,157,540	1,937,770
50 Nevada	North Valmy	2,075,920	2,761,013	3,086,418	3,808,791	3,730,046	3,998,874	1,922,954

Part 3

Sulfur Dioxide Emissions on the Rise at Most Power Plants

In 1990, Congress adopted Title IV of the Clean Air Act to address the acid rain in the Eastern U.S. by reducing power plant emissions of sulfur and nitrogen. One goal of the program was to reduce sulfur emissions to 10 million tons below 1980 levels, or roughly 8 million tons per year.[xxiii] This program was the first to set a national pollution cap and allow power plants to meet their obligation by either reducing their emissions or purchasing emission "allowances" from other sources that reduce emissions beyond their obligation. This type of emission program is known as "cap and trade."

In some respects, the program has been a success. SO2 emissions from the sources subject to the cap in 2000 were 11.2 million tons, 4.5 million tons lower than when the program was adopted, but still 3.5 million tons above the goal of 8.9 million tons of sulfur per year due to the ability of sources to bank credits.[xxiv] The reductions were 75 percent less expensive than projected in 1990.[xxv] However, it has become evident that much deeper reductions will be necessary to allow lakes and forests to recover from the impacts of acid rain.[xxvi]

Moreover, an analysis of the implementation of the acid rain program strongly suggests that such cap and trade policies alone are not appropriate if the goal is to protect public health. This is primarily because a national cap cannot assure that reductions will occur where they are most needed, in places with degraded air quality. Furthermore, caps allow emissions to remain at high levels or even increase in some communities, placing the people who live in those communities at greater risk for pollution-related health problems.

Particulate Matter Disproportionately Impacts Health of People Near the Plants: It is becoming increasingly well documented that fine particulate matter resulting from power plant sulfur dioxide emissions contributes to severe health impacts, including premature death.[xxvii] Researchers from the Harvard School of Public Health have documented in two important studies that sulfur dioxide and other emissions from power plants have their most severe impact on the cardiovascular and respiratory health of people who live near the plants. The Harvard researchers found that nine plants in northern Illinois increased particulate matter concentrations in the vicinity enough to cause an additional 320 premature deaths per year. Another study found that over 70 lives could be saved simply by requiring two Massachusetts power plants to meet modern pollution standards.[xxviii]

Under the 1990 Sulfur Cap, Most Plants Got Dirtier: Under a cap and trade regime, some plants may decrease pollution, but others will actually increase pollution levels, further jeopardizing the health of neighboring communities. Since the sulfur cap adopted in the 1990 Acid Rain Program took effect, this is exactly what has occurred. While the dirtiest 500 plants have made a modest reduction in their collective SO2 emissions because of the sulfur cap, 300 plants actually have increased their emissions since 1995. Many of these pollution increases will make it even more difficult for communities to meet federal health standards for particulate matter.

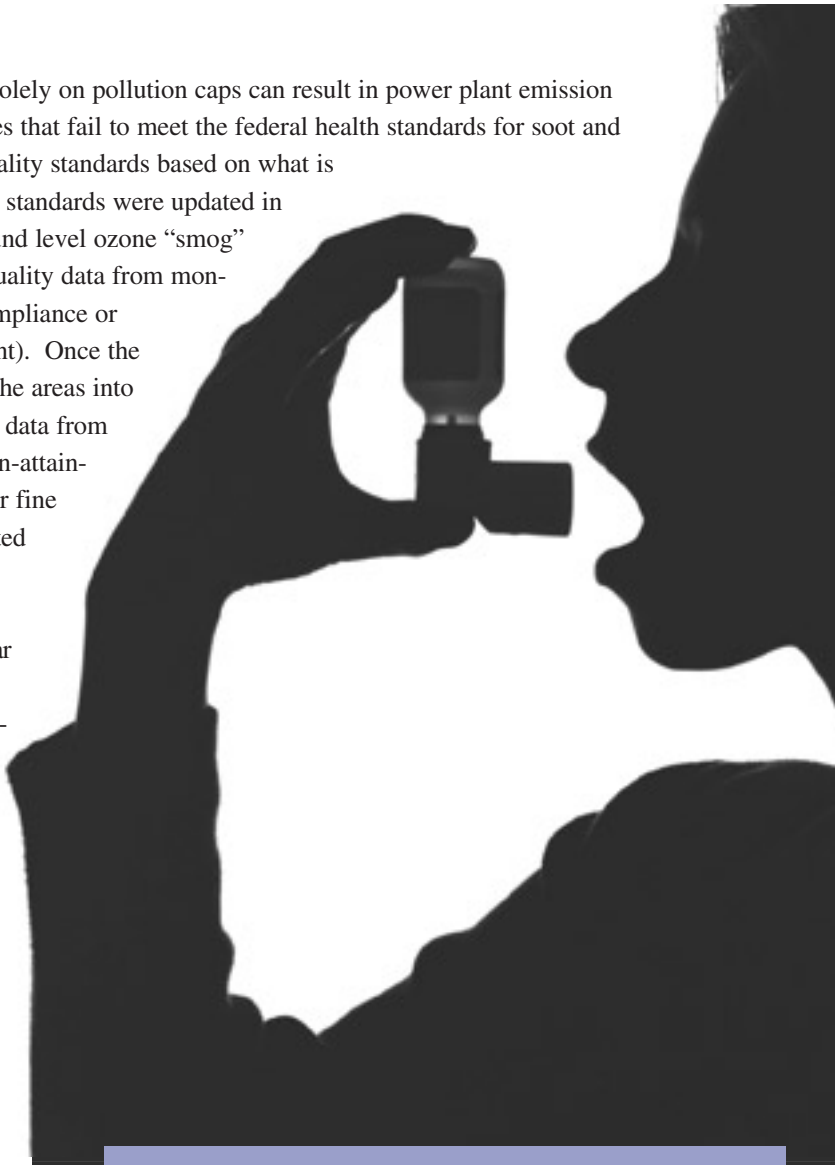
The Industry Campaign to Eliminate Plant Specific Control Programs: Unfortunately, industry advocates, including Enron and Southern Company, are fiercely advocating the elimination of key Clean Air Act programs that require plant-specific pollution reductions in favor of replacing these programs with national pollution caps. One of the most important programs they want to eliminate is the New Source Review (NSR) program. Under the Clean Air Act, new power plants and other industries are required to meet tough emission limits, but older sources are exempt. However, the NSR program imposes modern emission standards on older plants whenever these plants make major, pollution-increasing modifications. The purpose of NSR is to ensure that eventually all facilities meet modern emission standards or are replaced by new, clean facilities.

In 1999, EPA concluded an investigation of the NSR program finding widespread violations in the electric and oil refining industry, and launched an enforcement initiative. Dozens of lawsuits filed by the Department of Justice on behalf of EPA as part of this initiative are still pending.

Unfortunately, due to intense industry pressure, the Bush Administration is preparing regulatory changes that would

gut the NSR program, placing both the enforcement actions and the future of the program in jeopardy. Regulatory changes to the NSR program could result in emission increases at more than 17,000 facilities, including power plants, refineries, chemical plants and other industry. Moreover, in its February 14, 2002 announcement of its "Clear Skies" program, the Administration made it clear that its intent was to support legislation replacing current programs with new national caps. EPA Administrator Christine Todd Whitman previewed this announcement in her testimony before the Senate Environment and Public Works Committee on July 26, 2001, listing NSR along with five other important programs she would replace with pollution caps.[xxix]

Smog and Soot Non-Attainment Areas: Reliance solely on pollution caps can result in power plant emission increases in areas that most need pollution reductions – places that fail to meet the federal health standards for soot and smog. Under the Clean Air Act, the EPA sets ambient air quality standards based on what is necessary to protect public health. These ambient air quality standards were updated in 1997, and new standards for fine particles (PM 2.5) and ground level ozone "smog" were adopted. Now EPA is in the process of collecting air quality data from monitors across the nation and designating which areas are in compliance or "attainment" and which areas are too polluted (non-attainment). Once the areas are designated, states must reduce pollution and bring the areas into attainment over a specific period of time. Ozone monitoring data from 1998-2000 indicates which counties should be designated non-attainment for smog.[xxx] In addition, we have two years of data for fine particles (PM 2.5) on the basis of which we can make educated assumptions regarding likely non-attainment areas.[xxxi]



We cannot rely on pollution caps to reduce emissions in or near non-attainment areas. In fact, many of the power plants with the largest increases in NOx and SO2 are in or near likely non-attainment areas for particulate matter. The EC Gaston plant in Alabama provides a valuable case study showing why pollution caps alone cannot ensure protection of public health. Birmingham in Jefferson County, Alabama, likely will not meet the federal health standard for fine particle pollution when designations are made *(see Appendix 5)*. A few miles away, the Gaston Plant, a large, 1960s-era coal burning plant, has increased its SO2 emissions (the leading precursor of fine particulate matter) by 62,000 tons per year since 1995, more than any other plant in the nation. The national sulfur emission cap, which is indifferent to the local air quality needs of cities like Birmingham, has allowed SO2 emissions at EC Gaston to skyrocket.

In contrast, the NSR program provides the necessary tools to address the sulfur emissions at Gaston; in fact, this plant is one of the 51 targeted by EPA's NSR enforcement actions in 1999. If that suit is successful, EC Gaston would dramatically reduce its sulfur emissions, allowing Birmingham to meet the particulate standards and prevent pollution-induced illness and mortality in the area.

Figure 1: Skyrocketing SO2 Emissions at Alabama Power s Gaston Plant

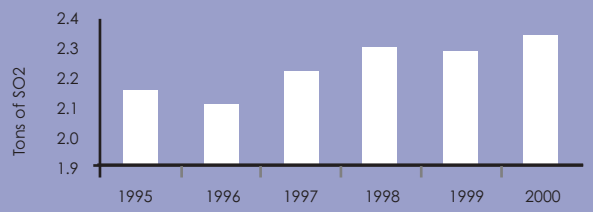


Table 3: Sooty Seven States with Highest Increases in SO2 Emissions between 1995 and 2000

State	1995 SO2	2000 SO2	Total Increase 1995-2000
North Carolina	392,200	453,391	61,191
New York	192,803	244,431	51,628
Mississippi	83,703	129,892	46,189
Georgia	472,779	508,336	35,557
Washington	52,941	83,604	30,663
South Carolina	177,854	200,252	22,398
Maryland	226,971	248,799	21,828

The Sooty Seven States: Seven states had a net increase of 20,000 tons of SO2 or more between 1995 and 2000 *(See Table 3 left)*. It is worth noting that North Carolina, with an astounding 62,000 ton-per-year increase since 1995, has 17 counties that are projected to be in non-attainment with the PM 2.5 health standard when designations are made, meaning that fine particle pollution in

Table 4: 50 Power Plants with Highest SO2 Emission Increases, 1995-2000

State	Plant Name	County	Projected PM 2.5 nonattainment?	NSR Enforcement Target?	1995 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
1 Alabama	E C Gaston	Shelby		Yes	55,738	117,856	62,118
2 Indiana	Warrick	Warrick			37,682	91,387	53,705
3 Ohio	Muskingum River	Morgan		Yes	117,556	156,037	38,481
4 Ohio	Miami Fort	Hamilton	Yes		44,476	81,513	37,037
5 Ohio	Kyger Creek	Gallia			92,806	126,191	33,385
6 Washington	Centralia	Lewis			52,941	83,600	30,659
7 Mississippi	Gerald Andrus	Washington			1,960	31,740	29,780
8 Ohio	Walter C Beckjord	Clermont		Yes	42,141	71,434	29,293
9 Indiana	Tanners Creek	Dearborn		Yes	39,589	67,447	27,858
10 Georgia	Yates	Coweta			20,269	45,104	24,835
11 Indiana	Wabash River	Vigo	Yes	Yes	34,087	58,472	24,385
12 Ohio	W H Sammis	Jefferson		Yes	97,519	120,619	23,100
13 Kentucky	EW Brown	Mercer			27,794	50,380	22,586
14 Ohio	Conesville	Coshocton		Yes	116,770	137,941	21,171
15 W.Virginia	Fort Martin	Monongolia		Yes	69,974	90,055	20,081
16 S. Carolina	Winyah	Georgetown			18,401	37,542	19,141
17 W. Virginia	John E Amos	Putnam		Yes	72,121	91,106	18,985
18 Maryland	C P Crane	Baltimore City	Yes		12,162	30,677	18,515
19 Florida	Crist	Escambia		Yes	34,951	53,082	18,131
20 New Jersey	Hudson	Hudson	Yes		6,529	23,234	16,705
21 Georgia	Wansley	Heard			53,801	69,218	15,417
22 W. Virginia	Mt Storm	Grant		Yes	97,793	113,072	15,279
23 New York	Northport	Suffolk			10,927	25,649	14,722
24 N. Dakota	Leland Olds	n/a			30,805	45,451	14,646
25 N. Carolina	Roxboro	Person			82,454	96,913	14,459
26 Texas	Monticello	Titus			74,434	88,345	13,911
27 Texas	Big Brown	Freestone			72,166	85,991	13,825
28 Illinois	E D Edwards	Peoria	Yes		43,046	56,809	13,763
29 Illinois	Marion	Williamson			189	13,632	13,443
30 Kansas	Jeffrey Energy	Pottawatomie			45,600	58,495	12,895
31 N. Carolina	GG Allen	Gaston	Yes	Yes	21,274	34,059	12,785
32 New York	Roseton	Orange			3,988	16,664	12,676
33 Pennsylvania	Armstrong	Armstrong			21,907	34,387	12,480
34 Michigan	St Clair	St Clair			38,250	50,327	12,077
35 Alabama	Greene County	Greene		Yes	36,975	47,891	10,916
36 Maryland	Herbert A Wagner	Anne Arundel	Yes		13,219	23,602	10,383
37 Illinois	Vermilion	Vermillion			2,623	13,001	10,378
38 N. Carolina	Lee	Wayne	Yes		6,654	16,853	10,199
39 Wisconsin	Nelson Dewey	Grant			4,127	14,271	10,144
40 Indiana	H T Pritchard	Morgan			7,866	17,663	9,797
41 Mass.	Canal	n/a			14,067	23,848	9,781
42 Florida	Port Everglades	n/a			11,290	20,947	9,657
43 W. Virginia	Mountaineer (1301)	Mason			28,719	38,350	9,631
44 Mississippi	Baxter Wilson	Warren			444	10,004	9,560
45 Pennsylvania	Bruce Mansfield	Beaver			19,549	29,062	9,513
46 Texas	Welsh	Titus			30,043	39,466	9,423
47 N.Carolina	Riverbend	Gaston	Yes	Yes	8,166	17,462	9,296
48 New York	Greenidge	Yates			10,665	19,893	9,228
49 Michigan	Trenton Channel	Wayne	Yes		18,608	27,758	9,150
50 Oregon	Boardman	Morrow			5,279	14,374	9,095

these counties is at levels capable of damaging human health and causing premature death. These 17 counties have a population of 3.7 million, including 46,000 children with asthma.

Table 4 *(opposite)* lists the fifty plants with the highest increases in sulfur dioxide emissions from 1995-2000. Of these fifty plants, ten are in projected PM 2.5 non-attainment areas. This illustrates clearly that we cannot rely upon pollution caps to reduce pollution where it is most needed, in places where air quality is most degraded. Moreover, fourteen of these fifty plants are the subject of NSR enforcement actions, showing that NSR is a critical tool for achieving local air quality goals.

Pollution caps can play an important role in reducing regional and national air pollution problems, such as acid rain. However, in order to ensure that every community is protected against fine particulate matter resulting from power plant emissions of sulfur dioxide, policies must require each plant to meet modern emission standards. The Clean Power Act (S. 556) under consideration by the U.S. Senate accomplishes this goal in two ways: (1) It maintains current Clean Air Act programs, including NSR, and (2) It requires every plant to meet modern air quality standards by the later of the plant's 30th year of operation or five years after adoption of the Clean Power Act. By contrast, the President's plan envisions a future in which we rely solely on pollution caps. Adding insult to injury, the President's plan sets the caps at levels that will fail to accomplish the pollution reductions achievable under the current Clean Air Act.

Part 4

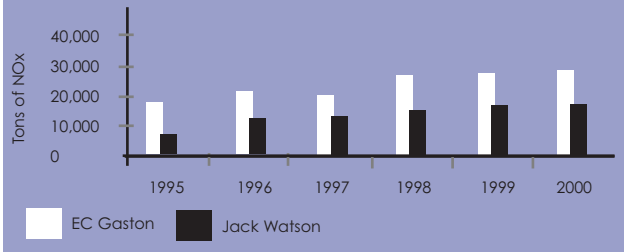
NOx Emissions Increasing at a Majority of Power Plants

As described earlier, nitrogen oxides (NOx) contribute to the formation of both fine-particle "soot" and ground-level ozone or "smog." Both smog and soot attack our respiratory systems. Smog triggers an estimated six million asthma attacks per year in the Eastern U.S. alone and sends 150,000 Americans to hospital emergency rooms each year.[xxxii] Because smog and soot have both regional and local impacts, it is important to design policies that not only reduce NOx at the national level but also in communities surrounding power plants.

The policies at work from 1995 to 2000 did not adequately achieve this objective. Over the six years from 1995 through 2000, NOx emissions from the 500 dirtiest power plants fell from about 6 million tons per year to about 5 million tons per year. However, once again, more than half (263 plants or 53%) of the plants increased their output of NOx during this period.

Two Southern Company power plants illustrate why policymakers should enact stronger measures to guarantee power plant emission reductions. The Jack Watson plant in Harrison County, Mississippi, and the EC Gaston plant in Shelby County, Alabama

Fig. 2: Skyrocketing NOx Emissions at Two Southern Company Power Plants



emitted 11,900 and 11,100 tons more NOx in 2000 than in 1995, respectively *(See Figure 2 previous page)*. These were the highest increases of NOx in the nation. However, the neighboring communities of these plants can ill-afford more power plant pollution:

- As noted above, the Gaston plant is just miles from Birmingham, Alabama, where particulate levels are exceeding national health standards. Moreover, Shelby County, Alabama, where the Gaston plant is located, will likely fail to meet the new health standard for ozone adopted in 1997 when the attainment designations are made (see Appendix 6). Shelby County is home to 143,000 people, including 2,000 children with asthma.
- The Jack Watson plant in Harrison County, Mississippi is surrounded on both sides by Hancock and Jackson Counties,

Table 6: 50 Power Plants with Largest Increase in NOx Emissions Between 1995 and 2000

State	Plant Name	County	Projected 8-hour ozone nonattainment?	NSR Enforcement Target?	1995 NOx (tons)	2000 NOx (tons)	Total Change in NOx
1 Mississippi	Jack Watson	Harrison		Yes	6,504	18,418	11,914
2 Alabama	E C Gaston	Shelby	Yes	Yes	18,635	29,751	11,116
3 Utah	Intermountain	Millard			20,575	30,919	10,344
4 Texas	P H Robinson	Galveston	Yes		0	9,051	9,051
5 Georgia	Hammond	Floyd			8,099	16,867	8,768
6 Louisiana	Big Cajun Point	Coupee			12,863	21,486	8,623
7 S.Carolina	Winyah	Georgetown			13,478	21,896	8,418
8 Arizona	Navajo	Coconino			29,521	37,267	7,746
9 Illinois	Marion	Williamson			271	7,543	7,272
10 Texas	Welsh	Titus			13,761	20,963	7,202
11 Indiana	Warrick	Warrick	Yes		10,992	18,151	7,159
12 Illinois	Kincaid	n/a			16,989	23,796	6,807
13 Texas	Big Brown	Freestone			12,607	19,171	6,564
14 W.Virginia	John E Amos	Putnam		Yes	37,592	43,970	6,378
15 N. Mexico	San Juan	San Juan			25,005	31,376	6,371
16 Virginia	Clover	Halifax			4,742	10,917	6,175
17 Missouri	Sioux	St. Charles	Yes		19,365	25,266	5,901
18 Montana	Colstrip	Rosebud			26,453	32,301	5,848
19 Washington	Centralia	Lewis			14,618	20,115	5,497
20 Indiana	Wabash River	Vigo		Yes	5,959	11,414	5,455
21 Florida	Fort Myers	Lee			5,162	10,614	5,452
22 Iowa	Council Bluffs	Pottawattamie			8,287	13,715	5,428
23 Missouri	Thomas Hill	Randolph			21,384	26,774	5,390
24 Florida	Sanford	Volusia			8,977	14,335	5,358
25 Ohio	Walter C Beckjord	Clermont	Yes	Yes	16,122	21,410	5,288
26 Ohio	Muskingum River	Morgan		Yes	23,294	28,417	5,123
27 Kansas	La Cygne	Linn			29,069	34,136	5,067
28 Pennsylvania	Bruce Mansfield	Beaver	Yes		23,941	28,949	5,008
29 Colorado	Craig	Moffat			14,573	19,565	4,992
30 Ohio	Conesville	Coshocton		Yes	24,064	28,892	4,828
31 Louisiana	Rodemacher	Rapides			5,297	10,097	4,800
32 Arizona	Agua Fria	Maricopa	Yes		636	5,414	4,778
33 Georgia	Yates	Coweta			5,893	10,640	4,747
34 Texas	Monticello	Titus			15,636	20,325	4,689
35 W.Virginia	Willow Island	Pleasants			4,821	9,409	4,588
36 Nevada	North Valmy	Humbolt			2,782	7,189	4,407
37 Oregon	Boardman	Morrow			3,841	8,202	4,361
38 Oklahoma	Seminole	Seminole			0	4,323	4,323
39 Texas	Sam Seymour	n/a			15,686	19,836	4,150
40 Florida	Stanton Energy	Orange			5,189	9,263	4,074
41 Kentucky	EW Brown	Mercer			5,896	9,850	3,954
42 S.Carolina	Cope	Orangeburg			0	3,887	3,887
43 Oklahoma	Muskogee	Muskogee			17,986	21,825	3,839
44 Texas	Permian Basin	Ward			8,842	12,585	3,743
45 W.Virginia	Mitchell	Marshall		Yes	21,018	24,735	3,717
46 New York	Northport	Suffolk	Yes		3,706	7,191	3,485
47 S.Carolina	Cross	Berkeley			11,777	15,216	3,439
48 Texas	Morgan Creek	Mitchell			6,628	9,981	3,353
49 Wisconsin	Pulliam	Brown			4,661	7,984	3,323
50 Indiana	Merom	Sullivan			12,882	16,192	3,310

both of which will fail to meet the new ozone standard when designations are made, based on 1998-2000 data. These counties are home to 174,000 people including 2500 children with asthma.

Table 5 *(below)* lists the "filthy four" states with the highest increases in NOx emissions between 1995 and 2000. In these four states, more than 111,000 children with asthma live in counties that are projected to fail federal health standards for ozone when EPA makes those designations.

Table 5: Filthy Four States with Largest Increases in NOx Emissions, 1995 - 2000

State	1995 NOx	2000 NOx	Total Increase In NOx	Counties That Exceed Ozone Health Standard	Estimated Number of Children with Asthma in Non-attainment Counties
Arizona	72,336	93,033	20,697	1	40,534
Mississippi	43,032	58,572	15,540	4	4,384
Louisiana	81,001	94,554	13,553	15	28,900
Georgia	169,032	181,431	12,399	12	37,635

Table 6 *(opposite)* lists the fifty plants with the highest increases in power plant NOx emissions. Of these fifty plants, eight are in projected ozone non-attainment areas. Moreover, eight of these fifty plants would be cleaned up under the current enforcement actions filed by the U.S. EPA under the New Source Review (NSR) program in 1999.

Conclusion

Pollution from the electric industry has an enormous impact on our health and environment. It is long past time for policymakers to adopt an aggressive new program to comprehensively address the pollution from this sector.

Failure to set mandatory reduction targets for power plant CO2 emissions irresponsibly diminishes our ability to stabilize greenhouse gas concentrations in the atmosphere. This report shows that we cannot depend upon voluntary industry actions to reverse the upward trend in power plant CO2 emissions.

Finally, any new power plant pollution policy should recognize and build upon the successes of the existing Clean Air Act. The Bush Administration's plan to eliminate plant-specific control programs and rely solely on pollution caps would ignore the experience of the last decade, as illustrated by the findings of this report. In order to ensure clean air progress at the national, regional and local levels, any new policy must maintain current plant-specific control programs in addition to setting aggressive national pollution reduction caps.

i See Appendix 1 for statements by clean air advocates and opinion leaders.

ii Woodruff, T.J., Grillo, J. and Schoendorf, K.C. "The Relationship Between Selected Causes of Postneonatal Infant Mortality and Particulate Air Pollution in the United States." Environmental Health Perspectives, 105(6), June 1997.

iii See, e.g., Gold, D. et al., "Ambient Pollution and Heart Rate Variability," Circulation, v. 101, 1267-1273, American Heart Association (March 21, 2000).

iv See summary of studies, Wilson and Spengler, Particles in Our Air: Concentrations and Health Effects (1999), at 212.

v Abt Associates, The Particulate-Related Health Benefits of Reducing Power Plant Emissions (October 2000).

vi The American Lung Association, State of the Air: 2001, available at www.lungusa.org.

vii Out of Breath, Health Effects from Ozone in the Eastern United States, Prepared by Abt Associates for Clear the Air, October 1999.

viii NRC/NAS Report; Toxicological Effects of Methylmercury (July 2000), available on the web at www.nap.edu/catalog9899.html.

ix U.S. EPA "Mercury Study Report to Congress," 1997.

x Id.

xi International Panel on Climate Change, Reports of Working Groups I, II and III, Available on the web at www.ipcc.ch , March 11, 2001.

xii National Atmospheric Deposition Program, 2001.

xiii Baker, J.P., J. Van Sickle, C.J. Gagen, D.R. DeWalle, W.E. Sharpe, R.F. Carline, B.P. Baldigo, P.S. Murdoch, D.W. Bath, W.A. Kretser, H.A. Simonin, and P.J. Wigington, 1996. Episodic acidification of small streams in the Northeastern United States: Effects on fish populations. Ecological Applications 6(2): 422-437.

xiv Bulger, A.J. et al. "Current, reconstructed past, and projected future status of brook trout streams in Virginia." Canadian Journal of Fish and Aquatic Sciences. Volume 57: 1515-1523.

xv See, e.g., Droscoll, et.al, "Acidic deposition in the Northeastern United

Frank O'Donnell, Clean Air Trust, February 15, 2002: "In effect, this has become a polluter protection plan. It's a Valentine's Day Massacre of the Clean Air Act."

The Atlanta Journal-Constitution editorial, February 19, 2002: "It's unfortunate that Bush has chosen to reward his old buddies in the business when he could have called for stricter enforcement of the Clean Air Act, advocated for higher fuel efficiency standards for passenger vehicles and boldly led the nation toward cleaner, more sustainable sources of energy."

The Washington Post editorial, Sunday, February 17, 2002: "There was more air than substance in the global warming policy President Bush outlined last week, a disappointing program that aims too low, asks too little and waits too long to assess the need for tougher action." — Washington Post, Sunday, February 17, 2002

Appendix 2: CO2 Trends Data By State, 1995-2000

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Alabama	Barry	10,496,463	12,259,660	12,259,660	11,084,687	11,980,916	12,435,918	1,939,455
Alabama	Charles R Lowman	4,077,946	4,029,933	4,029,933	4,161,691	4,003,034	4,028,993	-48,953
Alabama	Colbert	8,050,806	7,366,685	7,366,686	7,723,744	7,718,010	8,196,719	145,913
Alabama	E C Gaston	9,285,950	11,413,392	11,413,392	12,609,741	13,010,925	13,811,099	4,525,149
Alabama	Gadsden	616,056	668,591	668,591	685,792	645,148	737,571	121,515
Alabama	Gorgas	9,598,474	9,197,060	9,197,059	9,098,808	8,874,049	9,503,887	-94,587
Alabama	Greene County	3,554,769	3,897,568	3,897,567	4,924,843	4,107,037	4,647,240	1,092,471
Alabama	James H Miller Jr	18,073,241	21,214,722	21,214,721	20,953,699	21,365,768	22,337,061	4,263,820
Alabama	Widows Creek	11,326,101	9,015,913	9,015,912	8,871,778	11,432,515	11,905,974	579,873
Alabama Total		75,079,806	79,063,524	79,063,521	80,114,782	83,137,401	87,604,462	12,524,656
Arizona	Agua Fria	132,046	182,090	217,584	468,044	661,539	1,087,358	955,312
Arizona	Apache Station	2,560,248	2,220,366	2,755,456	2,868,575	3,288,501	3,597,609	1,037,361
Arizona	Cholla	6,361,723	5,941,289	7,799,519	7,666,799	8,017,733	8,441,970	2,080,247
Arizona	Coronado	4,664,519	4,691,427	4,788,183	5,391,429	6,096,634	7,113,186	2,448,667
Arizona	Irvington	605,128	752,843	833,681	666,422	1,076,731	1,426,410	821,282
Arizona	Navajo	15,964,166	14,341,710	17,156,377	19,800,996	19,499,180	20,137,722	4,173,556
Arizona	Springerville	6,046,977	7,558,387	5,973,462	6,180,918	6,276,798	6,245,527	198,550
Arizona Total		36,334,807	35,688,112	39,524,262	43,043,183	44,917,115	48,049,782	11,714,975
Arkansas	Flint Creek	3,157,682	3,368,770	4,189,104	4,171,398	4,064,432	4,292,162	1,134,480
Arkansas	Independence	10,084,094	12,832,863	11,117,813	11,720,401	13,282,750	12,310,474	2,226,380
Arkansas	Lake Catherine	826,006	790,260	418,520	770,229	1,201,869	1,061,321	235,315
Arkansas								

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Colorado	Arapahoe	1,319,402	1,803,168	1,875,259	1,604,848	1,821,341	1,954,789	635,387
Colorado	Cherokee	3,913,836	4,816,898	5,236,332	5,394,279	5,059,395	5,424,679	1,510,843
Colorado	Comanche	4,733,286	5,040,764	5,277,724	4,952,655	4,991,905	4,892,206	158,920
Colorado	Craig	8,583,339	8,345,928	10,594,910	10,094,903	9,537,560	10,466,665	1,883,326
Colorado	Fort St. Vrain	0	73,046	99,364	62,618	816,550	1,365,757	1,292,711
Colorado	Hayden	4,563,036	4,006,359	4,207,095	3,892,536	3,877,204	3,926,479	-636,557
Colorado	Martin Drake	1,714,292	1,575,904	1,834,005	1,884,028	1,857,794	2,183,126	468,834
Colorado	Nucla	508,906	856,499	970,915	827,455	890,005	831,311	322,405
Colorado	Pawnee	3,599,281	3,140,855	3,780,852	3,746,993	4,695,495	4,691,603	1,092,322
Colorado	Rawhide	2,184,156	2,455,415	2,282,401	2,229,845	2,647,172	2,430,904	246,748
Colorado	Ray D Nixon	1,599,359	1,611,538	1,627,249	1,723,551	1,221,127	1,793,609	194,250
Colorado	Valmont	1,304,170	1,398,705	1,377,547	1,590,360	762,390	1,323,363	19,193
Colorado Total		34,023,063	35,125,079	39,163,653	38,004,073	38,177,936	41,284,491	7,188,382
Connecticut	dgeport Harbor - WISVE	2,698,967	3,086,486	3,626,007	2,306,188	592,197	2,274,684	-424,283
Connecticut	Devon	967,623	661,195	1,001,099	1,141,838	1,011,931	748,643	-218,980
Connecticut	Middletown	1,084,978	1,467,426	2,466,318	2,456,742	1,864,924	2,105,937	1,020,959
Connecticut	Montville	1,059,754	901,067	1,424,115	1,380,947	1,093,785	1,067,131	7,377
Connecticut	w Haven Harbor- WISVE	1,350,521	1,747,585	2,351,206	1,891,323	1,884,048	1,499,161	148,640
Connecticut	Norwalk Harbor	844,074	1,028,805	1,673,002	1,707,288	1,388,135	1,276,429	432,355
onnecticut Total		8,005,917	8,892,564	12,541,747	10,884,326	7,835,020	8,971,985	966,068
Delaware	Edge Moor	2,677,884	2,884,397	2,512,940	2,697,686	2,242,836	2,177,031	-500,853
Delaware	Indian River	4,011,654	3,725,648	3,571,364	3,618,046	2,601,574	3,442,548	-569,106
Delaware Total		6,689,538	6,610,045	6,084,304	6,315,732	4,844,410	5,619,579	-1,069,959
Florida	Anclote	2,741,017	3,288,992	3,733,221	4,365,726	4,320,648	3,808,903	1,067,886
Florida	Arvah B Hopkins	808,595	715,169	774,902	834,783	934,666	906,892	98,297
Florida	Big Bend	16,741,397	12,989,646	12,314,221	11,747,898	10,398,081	11,497,768	-5,243,629
Florida	C D Mcintosh Jr	2,767,611	2,363,855	2,626,488	2,328,717	2,743,322	3,569,381	801,770
Florida	Cape Canaveral	2,605,430	2,893,946	2,669,832	3,624,085	2,885,953	2,684,978	79,548
Florida	Crist	5,174,693	4,276,699	4,606,496	6,685,309	6,611,153	6,457,298	1,282,605
Florida	Crystal River	14,857,411	16,491,391	18,618,708	17,330,544	16,199,684	15,433,230	2,767,611

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State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Florida	Polk Station	n/a	n/a	1,058,919	1,475,314	1,640,573	1,678,772	619,853
Florida	Port Everglades	3,851,057	2,683,385	3,061,557	4,051,993	4,362,052	4,266,058	415,001
Florida	Putnam	993	1,457,880	1,438,332	1,432,209	1,299,645	1,359,730	1,358,737
Florida	Riviera	2,882,169	2,283,622	2,186,265	3,250,755	2,942,681	2,071,306	-810,863
Florida	Sanford	2,222,598	2,202,768	2,455,555	3,501,942	3,172,172	2,958,916	736,318
Florida	Seminole	11,490,299	10,587,367	10,516,509	11,271,767	9,782,239	10,424,329	-1,065,970
Florida	St Johns River Power	10,030,142	10,740,497	10,735,241	10,974,347	10,595,267	10,809,674	779,532
Florida	Stanton Energy	2,645,121	4,461,627	6,420,602	5,928,290	6,083,921	6,718,589	4,073,468
Florida	Tiger Bay	n/a	n/a	162,867	580,617	551,917	608,203	445,336
Florida	Turkey Point	2,401,075	2,462,647	2,584,300	3,169,739	2,981,937	2,712,479	311,404
Florida Total		102,603,032	109,044,164	116,293,259	127,370,655	119,505,081	119,657,951	6,282,063
Georgia	Bowen	20,282,042	21,019,289	21,267,028	20,074,912	20,165,773	21,220,502	938,460
Georgia	Hammond	2,934,826	2,978,460	3,675,158	3,303,202	4,378,698	5,456,480	2,521,654
Georgia	Harllee Branch	9,240,407	7,507,603	8,106,820	8,478,922	7,607,799	8,785,873	-454,534
Georgia	Jack Mcdonough	3,104,587	2,842,849	3,635,157	3,631,528	3,131,060	3,317,349	212,762
Georgia	Kraft	476,131	591,575	860,905	1,165,330	1,393,385	1,460,544	984,413
Georgia	McIntosh	855,447	852,862	1,001,215	1,390,460	1,265,627	1,382,521	527,074
Georgia	Mitchell	392,099	405,666	451,865	471,472	474,158	621,427	229,328
Georgia								

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Illinois	Meredosia	1,303,854	1,567,298	1,633,338	1,469,465	1,474,773	1,635,179	331,325
Illinois	Meredosia							

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Iowa	Muscatine	1,672,973	1,735,073	1,803,777	1,730,570	1,680,806	1,810,091	137,118
Iowa	Ottumwa	5,334,921	4,763,412	4,678,873	5,774,299	5,406,743	5,690,687	355,766
Iowa	Prairie Creek	1,179,119	1,162,217	1,233,606	1,305,237	1,404,935	1,399,949	220,830
Iowa	Riverside	447,279	572,171	711,740	642,634	605,083	823,509	376,230
Iowa	Sixth Street	701,582	544,919	617,591	641,403	652,831	617,677	-83,905
Iowa	Sutherland	1,120,164	802,167	1,177,930	1,256,753	1,274,466	1,262,161	141,997

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Louisiana	LOUISIANA 1 Total	1,465,167	2,514,770	1,416,482	1,396,578	2,037,676	2,203,317	738,150
Louisiana	MICHOUD Total	2,459,732	802,357	1,642,094	1,584,398	2,345,369	2,410,194	-49,538
Louisiana	NINEMILE POINT Total	4,617,366	2,925,535	3,729,272	3,837,350	4,590,949	4,372,681	-244,685
Louisiana	R S NELSON Total	5,399,045	4,447,367	5,033,568	5,255,842	5,960,445	6,136,209	737,164
Louisiana	RODEMACHER Total	2,882,671	4,438,165	4,428,841	4,747,034	4,923,508	4,843,732	1,961,061
Louisiana	STERLINGTON Total	525,088	226,502	198,707	575,768	647,556	809,093	284,005
Louisiana	TECHE Total	496,934	751,817	806,474	862,845	909,558	910,641	413,707
Louisiana	VATERFORD 1 & 2 Tot	1,393,248	1,088,607	1,322,448	1,074,505	1,463,978	1,117,647	-275,601
Louisiana	WILLOW GLEN Total	3,029,466	2,524,889	2,484,428	2,891,815	2,968,308	3,335,416	305,950
Louisiana Total		40,945,250	38,207,747	40,664,592	42,135,676	45,500,156	47,489,766	6,544,516
Maine	William F Wyman	848,139	695,978	1,461,746	1,729,591	2,441,376	1,731,846	883,707
Maine Total		848,139	695,978	1,461,746	1,729,591	2,441,376	1,731,846	883,707
Maryland	Brandon Shores	10,027,980	9,952,698	9,769,550	9,530,383	10,395,000	9,643,561	-384,419
Maryland	C P Crane	2,085,210	2,428,009	2,368,528	2,379,604	2,691,150	2,447,539	362,329
Maryland	Chalk Point	5,156,964	4,567,198	5,190,639	6,876,647	8,003,847	5,270,061	113,097
Maryland	Dickerson	3,592,498	3,562,845	3,665,264	4,172,882	3,563,985	2,962,100	-630,398
Maryland	Herbert A Wagner	2,203,901	3,884,204	3,725,206	4,756,750	3,984,574	3,653,743	1,449,842
Maryland	Morgantown	6,726,667	7,450,241	7,170,509	7,841,100	7,207,552	7,554,401	827,734
Maryland	R P Smith	235,601	301,714	315,916	321,115	385,540	624,407	388,806
Maryland Total		30,028,821	32,146,909	32,205,612	35,878,483	36,231,647	32,155,812	2,126,991
Massachusetts	Brayton Point	8,996,830	n/a	8,665,189	8,281,906	8,808,361	7,925,715	-1,071,115
Massachusetts	Canal	2,505,775	2,758,928	4,973,552	5,852,248	5,169,661	4,240,199	1,734,424
Massachusetts	Mount Tom	1,018,199	1,016,662	1,217,580	1,067,076	1,068,052	1,286,132	267,933
Massachusetts	Mystic	1,112,016	1,654,087	3,421,873	4,586,383	2,963,295	1,661,491	549,475
Massachusetts	New Boston	1,055,969	1,757,453	2,012,320	1,607,914	834,662	528,031	-527,938
Massachusetts	Salem Harbor	3,355,145	3,313,688	4,384,591	4,582,172	3,891,396	3,553,198	198,053
Massachusetts	Somerset							

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Michigan	Presque Isle	3,912,764	3,778,670	3,945,561	4,108,087	3,911,274	4,156,469	243,705
Michigan	River Rouge	1,168,436	3,619,472	3,588,457	4,091,713	3,884,703	2,815,041	1,646,605
Michigan	St Clair	8,410,570	8,563,376	7,945,159	8,827,569	8,892,158	8,180,019	-230,551
Michigan	Trenton Channel	3,638,611	4,908,790	3,928,241	4,979,437	4,894,310	4,336,479	697,868
Michigan Total		65,705,297	72,023,551	71,985,406	78,034,868	77,500,407	74,015,311	7,744,241
Minnesota	Allen S King	337,290	3,626,468	3,822,028	2,783,991	3,465,485	3,800,539	3,463,249
Minnesota	Black Dog	164,799	1,269,539	1,662,467	1,908,792	1,795,940	1,940,160	1,775,361
Minnesota	Clay Boswell	7,717,152	7,407,377	7,302,633	7,643,730	7,230,445	7,636,336	-80,816
Minnesota	High Bridge	141,109	1,656,095	1,775,262	2,148,290	1,724,936	1,920,237	1,779,128
Minnesota	Hoot Lake	565,494	577,885	742,737	902,367	870,831	1,022,831	457,337
Minnesota	Riverside	224,480	2,372,023	2,591,266	3,104,748	2,744,689	2,874,901	2,650,421
Minnesota	Sherburne County	7,494,525	16,363,805	16,837,989	16,564,341	15,864,260	17,679,632	10,185,107
Minnesota	Syl Laskin	363,555	556,975	668,881	797,692	646,863	789,877	426,322
Minnesota Total		17,008,404	33,830,167	35,403,263	35,853,952	34,343,448	37,664,513	20,656,109
Mississippi	Baxter Wilson	3,641,041	3,393,911	4,141,390	4,888,992	4,458,314	4,081,548	440,507
Mississippi	Gerald Andrus	1,222,493	563,653	2,792,130	2,403,535	3,150,936	2,478,529	1,256,036
Mississippi	Jack Watson	4,277,367	5,183,067	4,845,317	5,581,462	5,876,706	5,834,039	1,556,672
Mississippi	R D Morrow	1,965,407	2,858,560	2,874,513	3,025,998	2,477,566	2,645,042	679,635
Mississippi	Victor J Daniel Jr	5,157,509	6,324,449	7,058,229	5,620,310	6,543,247	7,071,915	1,914,406
Mississippi Total		16,263,817	18,323,640	21,711,579	21,520,297	22,506,769	22,111,073	5,847,256
Missouri	Asbury	1,499,884	1,252,248	1,546,552	1,399,961	1,433,185	1,477,870	-22,014
Missouri	Iatan	5,541,471	5,317,875	4,891,882	5,182,100	4,812,489	4,260,446	-1,281,025
Missouri	James River	1,479,388	1,413,382	1,359,226	1,398,631	1,585,703	1,708,766	229,378
Missouri	Labadie	14,807,531	13,663,316	14,542,156	16,106,090	15,608,008	16,069,898	1,262,367
Missouri	Lake Road	157,258	335,135	617,357	684,511	669,334	582,358	425,100
Missouri	Meramec	1,728,293	1,973,359	2,580,016	2,886,756	3,846,320	3,957,804	2,229,511
Missouri	Montrose	3,181,448	3,212,288	3,621,186	3,404,014	3,596,551	3,735,651	554,203
Missouri	New Madrid	8,267,693	7,908,347	8,808,992	9,095,183	8,183,447	8,415,550	147,857
Missouri	Rush Island	7,423,682	7,902,767	7,505,942	8,497,883	8,021,847	8,272,522	848,840
Missouri	Sibley	2,900,950	3,246,680	3,092,113	3,323,989	3,365,548	3,472,443	571,493
Missouri	Sikeston	1,993,451	1,995,845	2,284,659	1,712,972	2,171,460	2,182,425	188,974
Missouri	Sioux	3,834,762	4,440,646	5,167,319	5,681,664	5,337,653	5,396,971	1,562,209
Missouri	388							

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Nebraska	Gerald Whelan Energy	616,615	659,572	553,541	611,848	639,068	694,753	78,138
Nebraska	Nebraska City	4,429,020	3,816,556	3,310,438	4,963,084	5,080,801	4,634,286	205,266
Nebraska	North Omaha	3,054,468	3,994,090	4,109,473	4,160,417	3,906,533	3,966,586	912,118
Nebraska	Platte	539,117	698,955	638,056	678,088	730,975	781,086	241,969
Nebraska	Sheldon	1,764,655	1,751,983	1,781,191	1,728,735	1,658,956	1,734,114	-30,541
Nebraska Total		19,739,505	19,496,816	20,369,819	21,847,391	21,450,845	20,973,230	1,233,725
Nevada	Fort Churchill	851,735	854,343	695,297	774,126	744,638	889,606	37,871
Nevada	Mohave	10,867,642	10,550,311	10,422,494	10,114,689	10,107,992	10,848,287	-19,355
Nevada	North Valmy	2,075,920	2,761,013	3,086,418	3,808,791	3,730,046	3,998,874	1,922,954
Nevada	Reid Gardner	5,965,154	12,410,507	3,963,257	4,946,877	4,683,718	5,343,704	-621,450
Nevada	Tracy	693,420	1,035,676	1,130,107	1,435,877	1,238,214	1,683,566	990,146
Nevada Total		20,453,871	27,611,850	19,297,573	21,080,361	20,504,607	22,764,037	2,310,166
New Hampshire	Merrimack	3,1[illegible]	2,80[illegible]193	3,537,15[illegible]	3,20[illegible],209	3[illegible]097,220	[illegible],474,01[illegible]	[illegible]53,642
8,627,506s49	Newington	20[illegible],75[illegible]	911,[illegible]52	1,206,[illegible]61	1,46[illegible],379	1[illegible]559,294	[illegible],529,152	-735,602
New Hampshire	Schiller	47[illegible],07[illegible]	[illegible]1,332	1,195,[illegible]96	[illegible]3,850	[illegible]61,71[illegible]	1,17[illegible],[illegible]52	701,[illegible]91
New Hampshire Total		4,859,100	4,629,377	5,938,808	5,612,438	5,578,224	5,178,731	319,631
New Jersey	B L England	2,034,213	2,097,720	1,895,240	1,623,850	1,813,932	1,899,031	-135,182
New Jersey	Bergen	304,313	527,137	572,830	428,494	433,704	633,450	329,137
New Jersey	Deepwater	562,670	580,258	617,971	1,875,944	1,545,547	568,291	5,621
New Jersey	Hudson	1,592,571	2,222,225	3,142,642	1,954,968	3,140,979	3,855,072	2,262,501
New Jersey	Mercer	1,936,756	1,904,493	2,616,596	2,744,252	2,854,388	3,399,438	1,462,682
New Jersey Total		6,430,523	7,331,833	8,845,279	8,627,506s49			

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State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
New York	Greenidge	746,210	651,159	747,949	1,060,603	1,212,262	1,303,218	557,008
New York	Northport	3,946,552	3,908,333	3,995,685	4,535,011	7,322,022	6,468,963	2,522,411
New York	Port Jefferson	1,001,986	1,174,231	1,197,398	1,524,511	1,772,475	1,865,620	863,634
New York	Ravenswood	3,089,414	2,866,784	3,382,204	3,052,408	3,383,600	5,132,053	2,042,639
New York	Richard M Flynn	538,703	462,182	337,512	251,996	551,414	668,292	129,589
New York	ıchester 7 (Russell Stati	1,763,124	1,137,103	1,281,397	1,486,468	1,557,436	1,561,760	-201,364
New York	Roseton	1,890,252	1,089,970	1,919,884	3,614,561	3,858,360	3,025,470	1,135,218
New York	Waterside	1,972,603	1,256,142	901,976	1,079,233	1,229,231	1,290,199	

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Ohio	J M Stuart	15,509,988	14,481,922	14,953,189	14,742,270	14,731,941	15,028,267	-481,721
Ohio	Killen Station	4,530,245	6,148,758	4,952,105	5,654,344	5,108,795	4,769,250	239,005
Ohio	Kyger Creek	8,269,555	8,446,634	7,635,875	7,658,758	7,465,223	7,840,394	-429,161
Ohio	Lake Shore	0	250,670	173,613	372,203	324,094	509,278	258,608
Ohio	Miami Fort	7,236,870	8,526,433	8,304,793	8,283,229	9,755,553	9,308,268	2,071,398
Ohio	Muskingum River	5,818,753	8,298,811	8,442,669	7,207,813	5,907,439	8,261,015	2,442,262
Ohio	Niles	1,321,423	1,395,902	1,133,753	1,350,093	1,309,919	1,360,394	38,971
Ohio	O H Hutchings	413,368	590,129	930,856	835,214	641,712	1,069,300	655,932
Ohio	R E Burger	1,860,180	2,391,596	2,297,701	2,014,823	2,121,638	2,110,319	250,139
Ohio	Richard Gorsuch	1,925,226	1,931,872	1,648,854	1,941,385	2,007,625	2,056,358	131,132
Ohio								

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Pennsylvania	Hatfield's Ferry	9,918,197	9,550,372	9,150,091	9,442,960	8,796,357	10,074,184	155,987
Pennsylvania	Homer City	13,135,044	13,608,463	13,745,174	14,053,053	13,029,807	12,313,107	-821,937
Pennsylvania	Keystone	12,188,857	13,023,822	13,201,321	12,930,816	12,323,856	11,433,551	-755,306
Pennsylvania	Martins Creek	2,255,193	3,062,483	3,009,859	3,104,165	2,454,422	2,838,496	583,303
Pennsylvania	Mitchell	1,447,009	967,151	1,722,710	1,691,772	1,617,249	1,925,951	478,942
Pennsylvania	Montour	9,161,832	7,856,670	8,580,820	9,505,611	8,392,818	8,927,542	-234,290
Pennsylvania	New Castle	1,922,959	1,747,412	2,039,937	1,975,406	1,720,091	1,986,459	63,500
Pennsylvania	Portland	1,535,711	1,844,713	2,038,836	2,088,845	2,097,140	1,895,928	360,217
Pennsylvania	Seward	1,469,263	1,621,869	1,423,802	1,374,253	871,474	876,343	-592,920
Pennsylvania	Shawville	4,104,230	3,845,746	4,337,960	4,246,858	3,649,677	3,458,122	-646,108
Pennsylvania								

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Texas	Big Brown	6,820,531	7,783,463	7,827,732	7,635,131	7,850,243	10,834,508	4,013,977
Texas	Blackhawk Station	n/a	n/a	n/a	12,283	783,514	1,104,193	1,091,910
Texas	Cedar Bayou	892,334	4,021,269	4,334,699	4,218,978	4,282,200	4,836,827	3,944,493
Texas	Cleburne Cogeneration	n/a	n/a	237,773	850,235	885,902	733,930	496,157
Texas	Coleto Creek	1,108,403	4,973,419	3,828,119	4,491,076	4,720,563	4,791,472	3,683,069
Texas	Decker Creek	914,125	1,273,488	1,228,322	970,939	1,221,551	1,352,067	437,942
Texas	Decordova	2,195,277	2,269,549	2,154,190	2,021,401	2,277,365	2,219,984	24,707
Texas	Eagle Mountain	442,669	555,086	469,948	817,689	629,095	687,020	244,351
Texas	Fort Phantom	237,611	962,918	720,759	759,872	760,906	836,801	599,190
Texas	Gibbons Creek	3,850,775	3,495,533	3,090,888	2,498,131	3,345,460	3,417,398	-433,377
Texas	Graham	1,378,082	1,291,625	1,305,523	1,493,340	1,391,690	1,433,331	55,249
Texas	Handley	1,286,108	1,658,516	2,059,163	2,329,017	1,695,762	2,123,690	837,582
Texas	Harrington Station	9,400,450	9,394,359	9,230,655	9,672,652	8,653,391	9,248,017	-152,433
Texas	Holly Street	471,270	382,213	322,196	650,957	527,050	711,016	239,746
Texas	J K Spruce	3,502,210	4,920,034	4,838,733	4,487,279	4,328,748	4,536,490	1,034,280
Texas	J T Deely	5,023,789	5,942,529	6,435,917	5,947,039	7,216,705	6,344,393	1,320,604
Texas	Jones Station	1,228,951	1,337,481	1,242,745	1,355,901	1,278,010	1,485,426	256,475
Texas	Knox Lee	534,844	616,751	618,447	755,819	875,249	833,323	298,479
Texas	Lake Creek	413,267	413,254	463,003	617,757	474,964	629,305	216,038
Texas	Lake Hubbard	1,370,640	1,144,164	1,387,560	1,752,714	1,659,928	1,732,061	361,421
Texas	Laredo	499,442	477,881	512,068	523,859	526,455	521,733	22,291
Texas	Lewis Creek	1,302,996	1,499,054	1,398,951	1,546,423	1,816,949	1,818,203	515,207
Texas	Limestone	12,711,150	13,487,330	14,481,003	12,954,251	12,728,992	13,081,433	370,283
Texas	Lon C Hill	2,628,649	862,953	1,158,157	1,154,379	1,146,892	1,172,817	-1,455,832
Texas	Monticello	10,916,304	15,108,938	16,340,889	15,672,988	16,184,141	14,960,318	4,044,014
Texas	Morgan Creek	1,465,405	1,949,174	1,690,217	1,938,709	1,855,796	2,019,037	553,632
Texas	Mountain Creek	1,257,874	1,462,100	1,531,045	1,759,789	1,419,203	1,558,563	300,689
Texas	Newman	1,076,118	1,215,855	1,347,025	1,415,000	1,356,771	1,298,936	222,818
Texas	Nichols Station	495,383	729,425	806,213	962,276	780,119	612,502	117,119
Texas	North Lake	1,060,886	1,007,412	956,711	1,242,073	1,030,207	1,236,396	175,510
Texas	Nueces Bay	1,636,917	1,363,219	1,639,154	1,760,171	1,647,177	1,411,893	-225,024
Texas	O W Sommers	736,339	954,455	1,508,457	1,838,539	1,778,802	1,657,748	921,409
Texas	Oklaunion	4,588,181	5,581,021	6,243,946	6,238,691	6,041,745	5,017,002	428,821
Texas	P H Robinson	0	3,358,009	3,334,940	4,520,013	5,177,627	5,441,940	2,083,931
Texas	Pasadena Power Plant	n/a	n/a	n/a	195,505	766,374	1,017,730	822,225
Texas	Permian Basin	1,333,519	1,567,439	1,781,844	1,943,173	1,926,617	1,814,466	480,947
Texas	Pirkey	6,718,376	5,924,834	5,729,225	5,194,442	5,242,266	5,311,704	-1,406,672
Texas	Plant X	299,502	594,741	432,537	730,899	459,486	572,725	273,223
Texas	R W Miller	950,594	1,257,600	941,581	1,244,350	1,152,305	1,170,866	220,272

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Texas	Ray Olinger	776,967	789,163	655,533	851,414	701,720	784,981	8,014
Texas	Sabine	5,870,342	4,850,658	4,841,113	5,723,696	5,872,551	5,303,959	-566,383
Texas	Sam Bertron	0	805,969	828,198	874,583	875,290	1,213,544	407,575
Texas	Sam Seymour	10,540,286	11,125,152	11,033,481	10,233,106	12,723,703	12,514,444	1,974,158
Texas	San Jacinto Steam	663,674	932,060	933,136	909,171	957,996	1,001,773	338,099
Texas	San Miguel	3,671,210	3,567,190	3,844,890	4,072,545	4,237,846	3,869,295	198,085
Texas	Sandow	5,614,642	5,687,049	5,665,753	5,515,083	5,580,164		

State	Plant Name	1995 CO2 (tons)	1996 CO2 (tons)	1997 CO2 (tons)	1998 CO2 (tons)	1999 CO2 (tons)	2000 CO2 (tons)	Total Increase
Washing								

Appendix 3: SO2 Trends Data by State

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Alabama	Barry	70,533	74,949	74,949	63,408	66,355	61,332	-9,201
Alabama	Charles R Lowman	15,128	23,883	23,883	26,943	22,278	16,209	1,081
Alabama	Colbert	76,907	78,022	78,023	74,261	69,573	70,190	-6,717
Alabama	E C Gaston	55,738	87,210	87,209	93,021	101,128	117,856	62,118
Alabama	Gadsden	8,321	9,592	9,591	9,214	8,531	9,738	1,417
Alabama	Gorgas	145,577	133,762	133,762	130,239	97,834	70,915	-74,662
Alabama	Greene County	36,975	44,476	44,475	60,010	56,951	47,891	10,916
Alabama	James H Miller Jr	77,530	81,603	81,603	80,519	74,069	65,192	-12,338
Alabama	Widows Creek	45,775	34,421	34,420	37,847	45,711	52,746	6,971
Alabama Total		532,484	567,918	567,915	575,462	542,430	512,069	-20,415
Arizona	Agua Fria	327	18	1	0	1	73	-254
Arizona	Apache Station	4,422	4,710	6,228	5,719	5,969	6,569	2,147
Arizona	Cholla	12,655	12,160	17,192	17,607	19,062	17,896	5,241
Arizona	Coronado	15,157	16,276	16,308	18,472	19,998	19,460	4,303
Arizona	Irvington	2,041	2,230	2,597	1,731	2,862	3,418	1,377
Arizona	Navajo	69,974	63,878	66,230	39,846	9,163	4,837	-65,137
Arizona	Springerville	17,014	20,988	17,797	18,457	18,387	19,049	2,035
Arizona Total		121,590	120,259	126,353	101,831	75,441	71,302	-50,288
Arkansas	FLINT CREEK Total	11,209	11,083	14,799	15,047	11,854	12,863	1,654
Arkansas	INDEPENDENCE Total	21,710	28,370	23,121	23,854	26,674	21,861	151
Arkansas	LAKE CATHERINE Total	25	4	2	4	6	5	-20
Arkansas	ROBERT E RITCHIE Tota	553	5	4	6	4	7	-546
Arkansas	WHITE BLUFF Total	49,373	55,442	46,717	36,862	38,206	38,272	-11,1

2 121,53 38,206

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Colorado	Arapahoe	3,942	5,357	4,743	3,638	4,166	4,167	225
Colorado	Cherokee	13,205	16,515	18,227	18,435	18,542	19,145	5,940
Colorado	Comanche	13,732	12,900	12,339	12,768	13,700	14,361	629
Colorado	Craig	9,279	9,068	12,015	9,848	10,662	10,065	786
Colorado	Fort St. Vrain	0	0	1	2	4	7	7
Colorado	Hayden	16,028	13,985	13,616	13,368	6,678	2,298	-13,730
Colorado	Martin Drake	5,702	5,391	6,040	6,069	6,596	8,317	2,615
Colorado	Nucla	902	1,399	1,578	1,487	1,476	1,273	371
Colorado	Pawnee	15,374	11,633	13,929	15,326	16,666	14,678	-696
Colorado	Rawhide	798	844	896	1,000	1,117	849	51
Colorado	Ray D Nixon	6,488	6,411	6,465	6,957	4,601	5,220	-1,268
Colorado	Valmont	4,880	4,779	4,721	5,636	2,835	4,506	-374
Colorado Total		90,330	88,282	94,570	94,535	87,043	84,886	-5,444
Connecticut	idgeport Harbor - WISVES	11,018	12,601	15,268	10,740	3	9,221	-1,797
Connecticut	Devon	373	1,010	1,723	5,846	3,410	2,577	2,204
Connecticut	Middletown	2,657	3,836	6,306	5,422	3,729	4,397	1,740
Connecticut	Montville	1,408	4,221	5,736	5,992	4,844	4,705	3,297
Connecticut	ew Haven Harbor- WISVES	5,588	9,248	13,822	11,654	11,690	9,256	3,668
Connecticut	Norwalk Harbor	4,555	5,522	8,237	8,826	7,513	6,759	2,204
Connecticut Total		25,599	36,437	51,092	48,480	31,187	36,915	11,316
Delaware	Edge Moor	11,176	13,397	12,372	13,316	8,759	10,973	-203
Delaware	Indian River	27,803	27,856	28,044	28,754	19,791	27,228	-575
Delaware Total		38,979	41,253	40,416	42,070	28,550	38,201	-778
Florida	Anclote	24,258	30,015	25,988	37,770	34,540	26,082	1,824
Florida	Arvah B Hopkins	562	91	90	32	237	863	301
Florida	Big Bend	91,132	95,898	102,494	107,425	95,614	48,097	-43,035
Florida	C D Mcintosh Jr	8,145	6,540	7,691	7,471	8,202	9,677	1,532
Florida	Cape Canaveral	24,708	23,644	21,193	26,616	19,218	12,940	-11,768
Florida	Crist	34,951	33,242	36,724	50,594	45,702	53,082	18,131
Florida	Crystal River	86,243	98,753	113,498	107,100	101,827	92,211	5,968
Florida	Deerhaven	5,977	6,977	7,026	7,736	5,429	8,416	2,439
Florida	F J Gannon	57,395	62,994	66,851	64,620	54,496	48,070	-9,325
Florida	Fort Myers	16,307	17,792	23,330	36,040	32,966	18,618	2,311
Florida	Lansing Smith	46,110	48,776	56,849	56,742	53,885	20,727	-25,383
Florida	Lauderdale	16	16	15	59	21	16	0
Florida	Manatee	22,603	18,484	22,565	33,480	30,215	28,910	6,307
Florida	Martin	9,979	12,709	9,846	13,144	10,106	15,894	5,915
Florida	Northside	11,254	13,004	15,809	28,421	23,393	15,300	4,046
Florida	P L Bartow	13,112	22,716	24,912	30,413	28,668	20,291	7,179

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Illinois	Meredosia	23,695	22,727	28,131	23,581	18,097	22,512	-1,183
Illinois	Newton	23,479	26,553	30,317	21,806	18,812	15,958	-7,521
Illinois	Powerton	19,707	23,803	28,111	19,577	36,069	22,771	3,064
Illinois	Vermilion	2,623	579	6,208	12,220	10,833	13,001	10,378
Illinois	Waukegan	13,765	11,534	22,718	23,011	18,103	17,650	3,885
Illinois	Will County	14,561	13,747	15,319	16,887	15,402	16,230	1,669
Illinois	Wood River	10,162	13,835	3,778	15,269	14,311	13,569	3,407
Illinois Total		623,919	727,010	812,125	798,064	703,227	426,507	-197,412
Indiana	A B Brown	8,631	8,244	12,454	11,768	11,253	6,864	-1,767
Indiana	Bailly	6,245		4,736	4,334	3,813	5,144	-1,101
Indiana	Cayuga	91,170	70,848	108,789	88,939	83,463	65,734	-25,436
Indiana	Clifty Creek	91,504	104,329	93,455	89,192	52,676	42,678	-48,826
Indiana	Dean H Mitchell	7,864	7,274	7,684	9,366	8,830	6,365	-1,499
Indiana	Edwardsport	5,520	8,281	10,469	9,234	11,308	10,794	5,274
Indiana	Elmer W Stout	38,869	38,277	36,727	39,964	44,589	40,311	1,442
Indiana	F B Culley	3,242	7,098	6,956	9,590	11,329	11,737	8,495
Indiana	Frank E Ratts	20,642	13,349	16,555	18,629	17,180	23,050	2,408
Indiana	Gibson	183,849	155,728	152,513	169,194	158,901	171,504	-12,345
Indiana	H T Pritchard	7,866	8,913	13,053	12,880	15,476	17,663	9,797
Indiana	Merom	26,379	37,452	36,142	37,126	37,356	16,820	-9,559
Indiana	Michigan City	12,261	14,841	15,262	16,672	10,512	11,298	-963
Indiana	Petersburg	104,181	67,110	46,370	50,308	50,196	42,055	-62,126
Indiana	R Gallagher	51,630	50,435	46,845	50,595	49,877	59,008	7,378
Indiana	R M Schahfer	28,791	30,990	34,984	36,583	41,669	34,935	6,144
Indiana	Rockport	71,438	66,623	65,643	67,446	66,845	63,389	-8,049
Indiana	State Line	6,186	5,251	7,235	1,101	7,085	8,994	2,808
Indiana	Tanners Creek	39,589	71,047	76,451	46,672	50,716	67,447	27,858
Indiana	Wabash River	34,087	51,109	46,446	59,428	60,567	58,472	24,385
Indiana	Warrick	37,682	92,919	118,901	113,042	119,656	91,387	53,705
Indiana	Whitewater Valley	13,289	13,862	12,507	16,997	18,944	12,074	-1,215
Indiana Total		890,915	923,980	970,177	959,060	932,239	867,723	-23,192
Iowa	Ames	685	827	937	923	935	973	288
Iowa	Burlington	9,020	6,309	6,352	5,847	6,502	6,374	-2,646
Iowa	Council Bluffs	21,399	20,596	20,746	26,242	21,695	20,837	-562
Iowa	George Neal North	24,693	20,950	23,709	25,792	23,165	20,689	-4,004
Iowa	George Neal South	18,527	19,025	18,675	16,223	17,638	14,973	-3,554
Iowa	Lansing	4,810	5,189	4,408	8,127	9,748	6,944	2,134
Iowa	Louisa	13,213	17,274	16,166	17,640	16,466	14,779	1,566
Iowa	Milton L Kapp	7,450	5,989	4,839	5,282	4,437	4,922	-2,528

Appendix 3: SO2 Trends by State and Plant

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2	
Iowa	Muscatine	11,412	7,175	7,504	5,976	3,062	3,157	-8,255	
Iowa	Ottumwa	18,601	17,773	16,277	20,198	18,392	18,415	-186	
Iowa	Prairie Creek	6,769	3,702	4,138	4,832	4,859	4,066	-2,703	
Iowa	Riverside	1,828	2,285	2,545	1,435	1,879	2,507	679	
Iowa	Sixth Street	9,167	3,902	2,441	2,185	2,220	1,829	-7,338	
Iowa	Sutherland	14,219	7,453	11,723	10,769	8,585	4,673	-9,546	
Iowa Total		161,793	138,446	140,460	151,471	139,583	125,138	-36,655	
Kansas	Gordon Evans	4	382	124	3	43	613	609	
Kansas	Holcomb	2,103	2,116	1,776	2,204	2,431	2,094	-9	
Kansas	Jeffrey Energy	45,600	56,857	56,154	61,761	58,247	58,495	12,895	
Kansas	La Cygne	26,156	27,638	18,230	25,234	29,919	30,681	4,525	
Kansas	Lawrence	4,570	3,747	3,680	2,828	3,577	2,961	-1,609	
Kansas	Nearman Creek	6,501	5,841	6,620	7,739	6,355	7,596	1,095	
Kansas	Quindaro	8,494	7,850	11,434	8,491	6,004	3,170	-5,324	
Kansas	Riverton	5,811	6,059	5,762	5,448	4,999	2,690	-3,121	
Kansas	Tecumseh	2,923	4,437	3,936	3,864	4,610	5,409	2,486	
Kansas Total		102,162	114,927	107,716	117,571	116,184	113,709	11,547	17,8773otal
Kentucky	BIG SANDY Total	73,029	56,764	75,255	71,979	67,368	51,810	-21,219	
Kentucky	CANE RUN Total	8,885	13,097	16,160	17,634	17,877	17,439	8,554	
Kentucky	COLEMAN Total	52,272	57,157	50,623	38,154	37,437	45,197	-7,075	
Kentucky	COOPER Total	18,389	16,652	15,818	17,613	19,882	18,102	-287	17,613

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Louisiana	LOUISIANA 1 Total	13	34	49	55	23	44	21
Louisiana	MICHOUD Total	71	10	706	2,480	2,415	2,256	2,185
Louisiana	NINEMILE POINT Total	270	50	19	34	23	178	-92
Louisiana	R S NELSON Total	20,068	15,342	21,901	18,425	22,385	20,431	363
Louisiana	RODEMACHER Total	12,561	17,293	16,894	15,025	14,607	14,839	2,278
Louisiana	STERLINGTON Total	17	1	1	3	3	9	-8
Louisiana	TECHE Total	11	16	4	5	5	59	48
Louisiana	WATERFORD 1 & 2 Total	237	143	1,056	926	482	1,810	1,573
Louisiana	WILLOW GLEN Total	19	13	521	167	15	720	701
Louisiana Total		103,276	101,146	123,923	118,364	119,691	110,267	6,981
Maine	William F Wyman	4,139	5,651	13,048	14,287	17,120	10,572	6,433
Maine Total		4,139	5,651	13,048	14,287	17,120	10,572	6,433
Maryland	Brandon Shores	53,382	52,253	50,439	50,343	54,491	49,700	-3,682
Maryland	C P Crane	12,162	28,744	29,791	28,860	31,063	30,677	18,515
Maryland	Chalk Point	45,454	42,808	43,693	55,414	57,634	35,489	-9,965
Maryland	Dickerson	34,545	32,562	34,673	40,096	30,641	29,214	-5,331
Maryland	Herbert A Wagner	13,219	19,645	22,738	28,606	24,827	23,602	10,383
Maryland	Morgantown	66,555	72,778	72,991	79,906	75,520	75,618	9,063
Maryland	R P Smith	1,654	2,147	2,335	2,379	2,798	4,499	2,845
Maryland Total		226,971	250,935	256,660	285,603	276,973	248,799	21,828
Massachusetts	Brayton Point	52,348	n/a	48,225	46,830	48,909	44,586	-7,762
Massachusetts	Canal	14,067	15,230	28,379	33,213	27,878	23,848	9,781
Massachusetts	Mount Tom	8,223	7,314	9,742	8,417	7,172	7,373	-850
Massachusetts	Mystic	19,703	9,136	19,455	28,170	16,350	9,384	-10,319
Massachusetts	New Boston	6,759	79	10	8	14	2	-6,757
Massachusetts	Salem Harbor	21,909	23,791	32,105	34,300	23,844	20,514	-1,395
Massachusetts	Somerset	3,602	3,963	4,578	4,663	3,688	5,023	1,421
ssachusetts Total		126,611	59,513	142,494	155,601	127,855	110,730	-15,881
Michigan	B C Cobb	11,996	12,164	10,435	14,995	16,403	16,081	4,085
Michigan	Belle River	32,259	28,143	28,861	30,713	28,352	29,357	-2,902
Michigan	Dan E Karn	21,178	22,668	20,456	23,074	27,896	23,678	2,500
Michigan	Eckert Station	5,729	5,208	5,892	7,464	7,085	6,678	949
Michigan	Erickson	3,777	5,795	5,452	5,430	6,744	6,504	2,727
Michigan	Greenwood	35	145	249	512	1,010	1,157	1,122
Michigan	J C Weadock	11,789	10,792	10,679	12,330	10,701	9,614	-2,175
Michigan	J H Campbell	40,369	44,912	45,071	51,543	52,029	40,762	393
Michigan	J R Whiting	13,302	12,207	12,841	13,256	12,851	10,376	-2,926
Michigan	Michigan Power	0	3	3	3	2	3	3
Michigan	Monroe	127,149	118,002	144,077	130,680	111,557	107,542	-19,607

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Michigan	Presque Isle	19,347	19,056	20,987	20,981	18,392	18,844	-503
Michigan	River Rouge	12,567	14,896	15,598	18,777	20,284	12,488	-79
Michigan								

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Nebraska	Gerald Whelan Energy	1,558	2,072	1,700	1,894	2,251	2,164	606
Nebraska	Nebraska City	17,138	13,469	12,233	12,832	17,697	15,227	-1,911
Nebraska	North Omaha	10,893	15,936	19,340	13,124	13,123	12,641	1,748
Nebraska	Platte	1,729	2,213	2,004	2,782	2,564	2,497	768
Nebraska	Sheldon	5,004	4,869	3,092	3,089	2,907	4,190	-814
Nebraska Total		64,284	64,584	61,250	56,805	60,046	59,311	-4,973
Nevada	Fort Churchill	42	74	20	88	32	127	85
Nevada	Mohave	42,973	40,524	41,354	39,983	38,640	42,750	-223
Nevada	North Valmy	3,800	5,664	5,688	6,389	6,828	7,240	3,440
Nevada	Reid Gardner	3,424	6,716	4,012	3,297	3,193	2,977	-447
Nevada	Tracy	23	6,380 yr Platte	20328	88			

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
New York	Greenidge	10,665	8,560	8,126	11,326	13,270	19,893	9,228
New York	Northport	10,927	15,577	12,630	19,268	18,544	25,649	14,722
New York	Port Jefferson	6,276	7,335	3,492	7,355	4,350	7,305	1,029
New York	Ravenswood	909	1,251	1,314	1,124	1,175	1,956	1,047
New York	Richard M Flynn	64	60	34	20	70	99	35
New York	ochester 7 (Russell Statio	22,402	18,111	20,683	23,759	24,307	25,511	3,109
New York	Roseton	3,988	6,924	11,512	24,729	25,190	16,664	12,676
New York	Waterside	235	17	26	12	8	11	-224
New York Total		192,803	196,561	205,668	253,945	230,632	244,431	51,628
North Carolina	ASHEVILLE Total	22,357	24,426	21,324	19,557	22,093	20,181	-2,176
North Carolina	BELEWS CREEK Total	70,577	78,241	93,070	90,871	83,850	72,329	1,752
North Carolina	BUCK Total	3,476	12,049	16,463	11,964	11,874	10,245	6,769
North Carolina	CAPE FEAR Total	12,304	14,570	12,731	13,422	13,267	12,651	347
North Carolina	CLIFFSIDE Total	21,563	28,878	29,541	30,588	25,409	29,139	7,576
North Carolina	DAN RIVER Total	3,649	7,877	7,704	7,004	6,555	5,833	2,184
North Carolina	G G ALLEN Total	21,274	35,291	40,083	25,224	32,169	34,059	12,785
North Carolina	L V SUTTON Total	14,201	20,180	19,399	23,210	20,251	22,548	8,347
North Carolina	LEE Total	6,654	11,088	12,477	14,342	15,444	16,853	10,199
North Carolina	MARSHALL Total	100,290	100,850	111,568	98,766	74,539	79,041	-21,249
North Carolina	MAYO Total	22,983	19,082	28,288	26,978	25,163	29,512	6,529
North Carolina	RIVERBEND Total	8,166	16,475	16,064	13,812	12,285	17,462	9,296
North Carolina	ROXBORO Total	82,454	92,259	97,215	106,999	108,672	96,913	14,459
North Carolina	' H WEATHERSPOON Tot	2,252	4,693	6,056	5,826	6,355	6,625	4,373
orth Carolina Total		392,200	465,958	511,983	488,564	457,926	453,391	61,191
North Dakota	Antelope Valley	14,669	14,890	15,349	16,020	15,516	13,047	-1,622
North Dakota	Coal Creek	60,371	51,869	54,796	57,255	49,743	27,149	-33,222
North Dakota	Coyote	46,898	17,914	13,567	18,363	20,040	14,521	-32,377
North Dakota	Leland Olds	30,805	37,135	44,515	52,272	50,107	45,451	14,646
North Dakota	Milton R Young	41,833	45,502	38,468	40,284	41,344	39,229	-2,604
North Dakota	R M Heskett	5,723	2,066	1,765	1,866	2,208	1,778	-3,945
North Dakota	Stanton	7,805	7,814	8,707	8,711	9,784	8,633	828
lorth Dakota Total		208,104	177,190	177,167	194,772	188,742	149,808	-58,296
Ohio	Ashtabula	56,078	67,319	46,603	28,212	26,018	7,861	-48,217
Ohio	Avon Lake	27,824	32,763	32,794				
						16,020		

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Pennsylvania	Hatfield's Ferry	164,841	153,413	138,630	150,869	141,872	165,695	854
Pennsylvania	Homer City	127,383	134,201	150,376	168,555	163,462	131,269	3,886
Pennsylvania	Keystone	145,095	168,610	185,715	174,739	162,290	153,490	8,395
Pennsylvania	Martins Creek	17,262	30,058	27,681	24,922	19,529	25,701	8,439
Pennsylvania	Mitchell	848	753	1,137	1,154	1,031	1,327	479
Pennsylvania	Montour	123,616	108,204	121,738	128,345	113,787	107,967	-15,649
Pennsylvania	New Castle	22,821	21,836	26,866	25,797	22,198	24,659	1,838
Pennsylvania	Portland	22,144	25,788	29,038	21,903	26,321	20,297	-1,847
Pennsylvania	Seward	16,527	18,531	17,511	16,779	10,747	10,893	-5,634
Pennsylvania	Shawville	58,404	53,945	63,903	58,764	51,786	48,253	-10,151
Pennsylvania	Sunbury	44,061	45,297	45,019	44,840	33,332	28,071	-15,990
Pennsylvania	Titus	13,641	15,963	17,089	15,190	12,630	15,293	1,652
ennsylvania Total		1,032,751	930,904	1,049,395	1,050,233	950,184	927,882	-104,869
Rhode Island	Manchester Street	5	17	9	8	7	6	1
hode Island Total		5	17	9	8	7	6	1
South Carolina	CANADYS STEAM Total	21,171	13,229	12,810	17,345	11,877	18,667	-2,504
South Carolina	COPE STATION Total	0	9,887	2,275	2,496	2,347	2,012	2,012
South Carolina	CROSS Total	15,853	12,292	12,173	13,520	11,916	12,453	-3,400
South Carolina	)LPHUS M GRAINGER Tc	8,946	4,196	5,851	7,769	10,575	8,544	-402
South Carolina	H B ROBINSON Total	8,637	13,140	9,449	10,435	11,325	7,894	-743
South Carolina	JEFFERIES Total	18,181	15,859	18,478	23,625	23,977	19,334	1,153
South Carolina	MCMEEKIN Total	13,564	15,138	15,453	16,839	14,894	14,156	592
South Carolina	URQUHART Total	12,875	10,743	11,519	11,961	13,251	13,990	1,115
South Carolina	W S LEE Total	4,469	10,258	8,981	7,988	8,911	10,271	5,802
South Carolina	WATEREE Total	34,611	39,533	35,550	36,387	39,501	31,184	-3,427
South Carolina	WILLIAMS Total	21,146	24,350	25,399	18,598	24,937	24,205	3,059
South Carolina	WINYAH Total	18,401	32,877	33,272	35,826	41,125	37,542	19,141
uth Carolina Total		177,854	201,502	191,210	202,788	214,637	200,252	22,398
1101272	247300							
South Dakota	Big Stone	31,568	14,034	24,059	21,194	25,695	13,528	-18,040
outh Dakota Total		31,568	14,034	24,059	21,194	25,695	13,528	-18,040
Tennessee	ALLEN Total	48,274	20,332	21,323	20,211	13,681	18,862	-29,412
Tennessee	BULL RUN Total	51,108	45,415	66,747	55,309	38,179	36,669	-14,439
Tennessee	CUMBERLAND Total	26,130	22,775	20,968	20,501	15,921	19,856	-6,274
Tennessee	GALLATIN Total	98,365	116,666	117,103	86,215	84,841	78,310	-20,055
Tennessee	JOHN SEVIER Total	58,438	75,022	68,826	58,189	61,885	55,900	-2,538
Tennessee	JOHNSONVILLE Total	114,677	126,367	115,938	114,588	119,778	118,426	3,749
Tennessee	260367	117,885			47040			

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Texas	Big Brown	72,166	78,365	79,862	80,342	83,772	85,991	13,825
Texas	Blackhawk Station	0	0	0	0	4	6	6
Texas	Cedar Bayou	30	289	27	27	44	359	329
Texas	Cleburne Cogeneration			3	4	5	4	4
Texas	Coleto Creek	14,481	17,433	15,311	18,977	22,134	14,721	240
Texas	Decker Creek	55	33	7	7	9	32	-23
Texas	Decordova	19	21	18	10	12	69	50
Texas	Eagle Mountain	3	25	2	4	3	26	23
Texas	Fort Phantom	2	5	4	4	4	181	179
Texas	Gibbons Creek	20,152	13,485	10,480	8,732	11,991	11,639	-8,513
Texas	Graham	34	37	7	8	7	434	400
Texas	Handley	31	41	33	12	13	141	110
Texas	Harrington Station	30,742	33,996	33,986	31,902	28,889	25,482	-5,260
Texas	Holly Street	5	2	4	3	3	4	-1
Texas	J K Spruce	2,499	4,024	4,549	6,070	6,121	3,642	1,143
Texas	J T Deely	18,566	22,031	24,024	21,960	24,103		

Appendix 3: SO2 Trends by State and Plant

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Texas	Ray Olinger	10	189	4	5	4	8	-2
Texas	Sabine	54	24	24	29	30	27	-27
Texas	Sam Bertron	2	4	4	4	4	6	4
Texas	Sam Seymour	31,055	27,597	28,323	27,492	33,182	30,629	-426
Texas	San Jacinto Steam	11	5	5	5	5	6	-5
Texas	San Miguel	20,137	21,113	21,480	22,990	21,350	12,223	-7,914
Texas	Sandow	27,939	28,591	28,215	27,861	28,734	19,546	-8,393
Texas	Sim Gideon	5	18	7	6	6	6	1
Texas	Stryker Creek	36	59	7	8	8	220	184
Texas	Sweeny Cogeneration	n/a	n/a	0	10	9	9	9
Texas	T C Ferguson	3	6	3	5	4	5	2
Texas	Tnp One	7,951	7,445	7,013	6,876	6,335	5,045	-2,906
Texas	Tolk Station	24,958	24,912	29,006	28,967	29,388	28,201	3,243
Texas	Tradinghouse	27	62	24	19	20	101	74
Texas	V H Braunig	2	3	4	7	6	15	13
Texas	Valley (Texas Utilities)	13	44	26	22	13	52	39
Texas	Victoria	3	3	4	3	4	51	48
Texas	W A Parish	68,275	67,321	69,067	71,919	67,583	54,542	-13,733
Texas	Welsh	30,043	37,154	41,946	46,717	37,958	39,466	9,423
Texas	Wilkes	8	7	13	8	9	22	14
Texas Total		522,919	556,565	571,217	572,435	571,540	498,992	-23,927
Utah	Bonanza	675	995	1,214	1,495	1,135	1,038	363
Utah	Carbon	6,334	6,120	5,755	5,350	4,388	4,604	-1,730
Utah	Gadsby	3	1	1	1	1	3	0
Utah	Hunter (Emery)	7,365	8,066	6,774	7,226	7,045	4,970	0.0333 Tc (Texas) Tj 52.68 0 8d5

State	Plant Name	1995 SO2 (tons)	1996 SO2 (tons)	1997 SO2 (tons)	1998 SO2 (tons)	1999 SO2 (tons)	2000 SO2 (tons)	Total Change in SO2
Washington	River Road Generation			0	4	4	4	4
Washington Total		52,941	78,272	63,773	75,449	87,760	83,604	30,663
West Virginia	Albright	16,188	12,657	12,640	11,358	16,663	22,775	6,587
West Virginia	Fort Martin	69,974	71,152	87,146	79,304	99,101	90,055	20,081
West Virginia	Harrison	9,944	16,469	6,298	6,934	6,835	6,330	-3,614
West Virginia	John E Amos	72,121	99,941	102,933	97,988	108,715	91,106	18,985
West Virginia	Kammer	122,193	119,369	126,273	108,618	104,231	42,912	-79,281
West Virginia	Kanawha River	7,786	13,453	16,114	17,237	13,789	14,785	6,999
West Virginia	Mitchell	61,623	53,152	57,239	59,330	55,046	53,975	-7,648
West Virginia	Mountaineer (1301)	28,719	37,573	40,967	38,953	44,676	38,350	9,631
West Virginia	Mt Storm	97,793	112,307	96,767	111,335	104,604	113,072	15,279
West Virginia	Phil Sporn	58,441	64,742	61,345	76,714	67,138	54,166	-4,275
West Virginia	Pleasants	47,318	47,495	44,555	47,537	44,131	41,062	-6,256
West Virginia	Rivesville	1,845	1,270	1,469	2,618	3,398	5,871	4,026
West Virginia	Willow Island	10,007	8,611	9,857	9,998	17,281	18,343	8,336
West Virginia Total		603,952	658,189	663,603	667,923	685,607	592,802	-11,150
Wisconsin	Alma	2,764	3,471	592,881h69.48 0 3h4uTl31				

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
California Total		16,954	6,375	6,063	7,356	8,086	10,492	-6,467
Colorado	Arapahoe	4,738	5,765	5,647	3,222	3,940	4,729	-9
Colorado	Cherokee	19,617	16,712	16,741	16,881	12,439	11,961	-7,656
Colorado	Comanche	6,298	6,720	6,275	6,674	7,079	6,978	680
Colorado	Craig	14,573	13,837	18,149	17,635	16,761	19,565	4,992
Colorado	Fort St. Vrain	0	61	17	104	203	405	344
Colorado	Hayden	14,298	13,163	12,433	10,300	7,217	7,169	-7,129
Colorado	Martin Drake	8,108	7,201	8,195	6,717	5,624	4,293	-3,815
Colorado	Nucla	681	1,092	1,155	1,067	1,038	1,075	394
Colorado	Pawnee	4,885	3,525	3,818	3,906	5,320	4,892	7
Colorado	Rawhide	3,743	3,949	3,658	3,942	4,531	3,495	-248
Colorado	Ray D Nixon	3,301	3,671	3,060	3,302	2,582	3,396	95
Colorado	Valmont	3,253	2,181	1,898	2,411	1,014	1,694	-1,559
Colorado Total		83,495	77,877	81,046	76,161	67,748	69,652	-13,904
Connecticut	Bridgeport Harbor - WISVEST	3,232	3,768	4,914	3,346	236	2,845	-387
Connecticut	Devon	1,066	712	1,188	1,563	1,021	991	-75
Connecticut	Middletown	1,750	2,283	4,368	4,106	2,808	3,489	1,739
Connecticut	Montville	345	1,038	1,764	1,760	1,364	1,421	1,076
Connecticut	6,9(6,22							

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons) [2]

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Illinois	Joppa Steam	10,399	11,387	11,935	9,510	8,447	8,770	-1,629
Illinois	Kincaid	16,989	24,874	25,996	32,534	27,114	23,796	6,807
Illinois	Marion	271	5,453	8,740	11,731	9,073	7,543	7,272
Illinois	Meredosia	3,837	4,582	4,865	3,387	3,746	3,977	140
Illinois	Newton	10,360	9,545	10,982	8,778	7,620	6,841	-3,519
Illinois	Powerton	30,692	38,873	44,317	33,633	38,667	33,775	3,083
Illinois	Vermilion	542	160	865	1,979	1,962	2,094	1,552
Illinois	Waukegan	6,321	7,918	11,625	9,627	7,651	6,567	246
Illinois	Will County	15,989	14,479	16,538	12,658	10,984	11,317	-4,672
Illinois	Wood River	5,705	7,255	1,933	6,583	6,677	5,964	259
Illinois Total		261,724	286,459	308,931	286,608	272,896	227,060	-34,664
Indiana	A B Brown	6,713	6,441	7,271	6,775	8,232	6,865	152
Indiana	Bailly	26,306		22,870	23,487	25,168	20,825	-5,481
Indiana	Cayuga	10,249	9,857	11,711	9,945	10,143	10,315	66
Indiana	Clifty Creek	61,624	63,277	59,800	54,459	33,119	31,883	-29,741
Indiana	Dean H Mitchell	5,428	3,853	3,249	3,783	3,397	3,145	-2,283
Indiana	Edwardsport	1,148	1,663	2,516	2,183	2,919	2,857	1,709
Indiana	Elmer W Stout	5,748	6,022	5,723	6,655	8,025	6,433	685
Indiana	F B Culley	5,850	6,427	6,643	8,224	7,670	7,387	1,537
Indiana	Frank E Ratts	4,328	2,761	3,418	4,235	3,668	4,522	194
Indiana	Gibson	52,975	44,693	50,927	47,588	49,450	47,817	-5,158
Indiana	H T Pritchard	1,599	1,760	3,062	3,541	3,812	4,443	2,844
Indiana	Merom	12,882	18,559	16,596	16,173	16,110	16,192	3,310
Indiana	Michigan City	16,559	18,532	15,868	11,553	7,273	7,838	-8,721
Indiana	Petersburg	22,253	22,263	19,926	23,163	20,197	22,496	243
Indiana	R Gallagher	6,875	7,000	5,782	7,286	6,923	7,514	639
Indiana	R M Schahfer	20,739	22,777	26,360	27,702	29,289	21,074	335
Indiana	Rockport	34,068	33,019	37,415	39,147	37,946	36,995	2,927
Indiana	State Line	7,100	5,442	7,429	1,558	8,155	9,586	2,486
Indiana	Tanners Creek	32,397	36,537	40,230	29,140	33,807	32,657	260
Indiana	Wabash River	5,959	9,211	9,465	10,754	9,878	11,414	5,455
Indiana	Warrick	10,992	18,771	24,131	22,393	18,391	18,151	7,159
Indiana	Whitewater Valley	2,329	2,391	1,243	1,638	1,725	1,449	-880
Indiana Total		354,121	341,256	381,635	361,382	345,296	331,858	-22,263
Iowa	Ames	948	995	896	1,066	1,040	1,045	97
Iowa	Burlington	1,659	1,538	1,443	1,312	1,400	1,453	-206
Iowa	Council Bluffs	8,287	10,392	11,404	14,192	13,277	13,715	5,428
Iowa	George Neal North	20,620	16,810	15,964	17,600	17,117	16,066	-4,554

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Iowa	George Neal South	11,757	10,550	10,481	8,106	8,898	7,727	-4,030
Iowa	Lansing	2,452	2,670	2,413	3,569	5,014	4,363	1,911
Iowa	Louisa	4,723	6,783	5,905	6,343	6,309	6,648	1,925
Iowa	Milton L Kapp	2,093	1,910	1,829	2,115	1,795	1,326	-767
Iowa	Muscatine	4,094	4,375	4,400	3,921	3,263	4,122	28
Iowa	Ottumwa	14,829	12,767	8,416	9,570	8,853	9,341	-5,488
Iowa	Prairie Creek	3,556	2,152	2,127	2,241	2,624	2,262	-1,294
Iowa	Riverside	820	1,015	1,165	1,053	936	1,335	515
Iowa	Sixth Street	2,867	1,538	1,740	1,780	1,762	1,764	-1,103
Iowa	Sutherland	3,936	2,299	3,960	4,410	4,178	4,117	181
Iowa Total		82,641	75,794	72,143	77,278	76,467	75,284	-7,357
Kansas	Gordon Evans	2,270	858	1,930	2,524	3,427	3,098	828
Kansas	Holcomb	3,052	3,650	3,067	4,279	4,194	3,715	663
Kansas	Jeffrey Energy	27,073	31,264	25,947	25,190	25,716	29,347	2,274
Kansas	La Cygne	29,069	34,165	30,016	28,228	35,230	34,136	5,067
Kansas	Lawrence	16,018	7,099	7,162	4,950	5,455	5,878	-10,140
Kansas	Nearman Creek	3,890	3,858	4,297	4,633	3,373	4,382	492
Kansas	Quindaro	3,028	3,144	3,034	3,419	3,933	2,299	-729
Kansas	Riverton	1,766	1,602	1,129	1,165	1,301	1,199	-567
Kansas	Tecumseh	2,862	3,958	2,842	2,976	2,452	3,581	719
Kansas Total		89,028	89,598	79,424	77,364	85,082	87,635	-1,393
Kentucky	BIG SANDY Total	24,085	21,405	23,281	21,977	20,707	18,044	-6,041
Kentucky	CANE RUN Total	13,059	9,029	7,752	8,113	8,175	7,713	-5,346
Kentucky	COLEMAN Total	12,095	12,385	8,050	6,939	7,157	7,749	-4,346
Kentucky	COOPER Total	3,660	3,704	3,593	4,036	4,355	3,909	249
Kentucky	D B WILSON Total	8,748	8,646	7,317	9,553	9,876	8,717	-31
Kentucky	DALE Total	2,704	2,080	1,947	2,150	2,120	1,811	-893
Kentucky	E W BROWN Total	5,896	8,792	7,926	8,706	8,722	9,850	3,954
Kentucky	EAST BEND Total	8,480	7,216	10,406	7,733	10,114	8,671	191
Kentucky								

1,811
75 Tc (-4,346) Tj -456.72E1r 4978 0 TD 0.0538 Tc 50.52 0 s13eek 50.52 0 TD (8,722) Tj 16.52 0 TD (8,722) Tj 3 TD (1,811) Tj 52.2 0 TD 0.031.28 -11.04 TD 0 Tc (Kentucky) Tj (-893) Tj -42i55 Tc6 Tc -0.0767 Tw (Eg
0 Tw (5,896) 76Kansa3Tj 50.52 TD 0.0538 (61Tj 1(Kentucky) Tj 69.36 087TD 0.03734 77,036)0734 Tw (EAST BEND Total) Tj 89.76 0 T5 Tj 61.08 0 41Tw (8,480) 4j 50.52R D GREEN 216

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Kentucky	TRIMBLE COUNTY Total	7,829	6,711	8,002	7,391	7,987	7,187	-642
Kentucky Total		371,344	366,524	360,778	316,636	304,900	242,370	-128,974
Louisiana	BIG CAJUN 2 Total	12,863	21,645	18,765	18,439	20,870	21,486	8,623
Louisiana	DOLET HILLS Total	12,978	9,926	11,457	9,987	8,428	10,868	-2,110
Louisiana	LITTLE GYPSY Total	8,403	5,979	5,201	6,606	6,379	6,387	-2,016
Louisiana	LOUISIANA 1 Total	3,007	3,801	3,003	2,948	2,863	1,948	-1,059
Louisiana	MICHOUD Total	6,880	1,774	5,893	6,877	10,668	9,608	2,728
Louisiana	NINEMILE POINT Total	14,440	9,045	13,771	12,143	15,807	13,348	-1,092
Louisiana	R S NELSON Total	7,678	7,031	8,542	9,092	10,653	9,202	1,524
Louisiana	RODEMACHER Total	5,297	9,122	8,062	9,514	10,004	10,097	4,800
Louisiana	STERLINGTON Total	1,352	451	630	1,828	2,005	2,754	1,402
Louisiana	TECHE Total	1,099	1,326	1,851	2,076	2,158	2,002	903
Louisiana	WATERFORD 1 & 2 Total	2,146	1,426	1,991	2,210	2,876	2,079	-67
Louisiana	WILLOW GLEN Total	4,858	4,224	4,232	4,424	4,885	4,775	-83
Louisiana Total		81,001	75,750	83,398	86,144	97,597	94,554	13,553
Maine	William F Wyman	1,381	1,177	2,463	2,898	4,200	2,625	1,244
Maine Total		1,381	1,177	2,463	2,898	4,200	2,625	1,244
Maryland	Brandon Shores	24,713	22,987	23,340	22,984	22,532	19,683	-5,030
Maryland	C P Crane	12,223	15,954	18,104	18,843	14,137	11,950	-273
Maryland	Chalk Point	16,811	16,260	14,841	20,223	6,084	12,977	-3,834
Maryland	Dickerson	13,171	12,165	12,370	13,595	10,956	7,119	-6,052
Maryland	Herbert A Wagner	9,257	13,723	16,416	19,266	9,089	7,655	-1,602
Maryland	Morgantown	20,339	23,615	22,425	23,981	22,150	18,989	-1,350
Maryland	R P Smith	525	615	690	692	792	1,388	863
Maryland Total		97,039	105,319	108,186	119,584	85,738	79,761	-17,278
Massachusetts	Brayton Point	11,285		14,732	14,636	14,510	13,636	2,351
Massachusetts	Canal	4,055	4,028	7,831	8,827	7,898	5,840	1,785
Massachusetts	Mount Tom	2,146	2,031	2,579	2,165	2,001	2,296	150
Massachusetts	Mystic	4,370	2,576	4,397	5,422	3,424	1,820	-2,550
Massachusetts	New Boston	1,775	2,019	2,315	1,590	863	467	-1,308
Massachusetts	Salem Harbor	6,347	4,865	6,908	7,116	6,009	5,320	-1,027
Massachusetts	Somerset	1,760	1,277	1,547	1,427	1,111	1,437	-323
Massachusetts Total		31,738	16,796	40,309	41,183	35,817	30,816	-922
Michigan	B C Cobb	4,036	3,876	3,315	4,968	4,572	4,387	351
Michigan	Belle River	12,682	13,397	14,494	14,493	12,929	14,201	1,519
Michigan	Dan E Karn	11,444	11,855	11,203	11,935	10,252	8,625	-2,819
Michigan	Eckert Station	3,722	2,514	5,564	15,308	3,267	3,933	211
Michigan	Erickson	3,894	5,267	4,544	4,159	2,271	1,973	-1,921

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Michigan	Greenwood	263	124	294	1,105	1,106	1,236	973
Michigan	J C Weadock	4,187	3,618	3,831	4,130	3,698	3,608	-579
Michigan	J H Campbell	21,220	26,028	26,827	34,337	34,477	21,266	46
Michigan	J R Whiting	8,988	6,236	4,743	4,064	4,189	3,609	-5,379
Michigan	Michigan Power	0	190	200	183	129	193	3
Michigan	Monroe	67,897	48,509	50,528	51,388	50,935	47,086	-20,811
Michigan	Presque Isle	11,854	10,898	11,398	12,468	11,885	12,661	807
Michigan	River Rouge	9,439	10,009	10,680	11,802	11,147	5,576	-3,863
Michigan	St Clair	19,895	21,671	21,411	25,009	23,528	19,131	-764
Michigan	Trenton Channel	9,375	10,374	7,585	9,177	8,621	7,610	-1,765
Michigan Total		188,896	174,566	176,617	204,527	183,006	155,095	-33,991
Minnesota	Allen S King	21,697	24,415	22,813	15,574	18,479	13,213	-8,484
Minnesota	Black Dog	6,576	6,438	7,292	7,416	7,079	6,961	385
Minnesota	Clay Boswell	15,481	12,793	13,738	14,106	12,383	14,046	-1,435
Minnesota	High Bridge	4,470	5,131	5,490	6,338	4,669	5,328	858
Minnesota	Hoot Lake	1,414	1,535	1,799	1,677	1,365	1,844	430
Minnesota	Riverside	10,816	10,067	13,841	15,689	14,215	13,373	2,557
Minnesota	Sherburne County	25,658	23,747	25,107	24,863	22,285	26,997	1,339
Minnesota	Syl Laskin	1,009	1,249	1,545	1,710	1,510	1,850	841
Minnesota Total		87,121	85,375	91,625	87,372	81,987	83,612	-3,509
Mississippi	Baxter Wilson	16,338	5,749	10,831	15,722	13,876	14,684	-1,654
Mississippi	Gerald Andrus	8,305	9,447	7,146	9,920	10,034	9,200	895
Mississippi	Jack Watson	6,504	12,743	14,818	16,530	18,261	18,418	11,914
Mississippi	R D Morrow	4,364	6,457	6,478	6,987	5,606	6,034	1,670
Mississippi	Victor J Daniel Jr	7,521	9,507	9,129	6,255	9,443	10,236	2,715
Mississippi Total		43,032	43,903	48,402	55,413	57,221	58,572	15,540
Missouri	Asbury	7,564	5,694	7,197	6,397	4,592	5,877	-1,687
Missouri	Iatan	9,453	7,516	7,040	7,718	6,430	6,056	-3,397
Missouri	James River	3,429	4,026	3,927	4,337	4,607	4,961	1,532
Missouri	Labadie	17,696	14,313	15,860	15,092	10,426	9,178	-8,518
Missouri	Lake Road	783	1,748	3,542	3,500	3,099	2,731	1,948
Missouri	Meramec	6,633	6,166	6,234	7,020	7,812	7,765	1,132
Missouri	Montrose	6,665	5,938	6,370	6,211	6,514	6,132	-533
Missouri	New Madrid	45,987	48,017	54,239	55,610	52,221	35,861	-10,126
Missouri	Rush Island	12,327	8,071	6,857	7,106	5,692	5,390	-6,937
Missouri	Sibley	16,536	18,993	19,152	22,628	18,863	13,359	-3,177
Missouri	Sikeston	5,139	4,084	4,396	13,770	578	2,362	-2,777
Missouri	Sioux	19,365	25,240	27,266	23,553	24,170	25,266	5,901

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Missouri	Southwest	1,751	2,055	2,320	2,921	2,547	2,362	611
Missouri	Thomas Hill	21,384	24,547	26,089	28,376	31,290	26,774	5,390
Missouri Total		174,712	176,408	190,489	204,238	178,841	154,074	-20,638
Montana	Colstrip	26,453	22,068	32,851	37,949	38,375	32,301	5,848
Montana	J E Corette	3,402	2,629	1,649	958	1,504	1,622	-1,780
Montana Total		29,855	24,697	34,500	38,906	39,879	33,923	4,068
Nebraska	Gerald Gentleman Station	19,088	17,427	20,520	18,450	17,844	16,831	-2,257
Nebraska	Gerald Whelan Energy	1,076	1,098	704	734	895	984	-92
Nebraska	Nebraska City	10,618	8,742	7,382	11,387	10,650	9,254	-1,364
Nebraska	North Omaha	9,099	11,673	10,940	9,713	6,748	5,992	-3,107
Nebraska	Platte	1,062	1,293	1,118	1,276	1,448	1,555	493
Nebraska	Sheldon	6,900	7,206	7,200	6,642	6,119	7,108	208
Nebraska Total		47,843	47,439	47,864	48,202	43,704	41,724	-6,119
Nevada	Fort Churchill	2,179	2,472	2,132	2,505	2,619	2,651	472
Nevada								

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
New York	Bowline Point	3,445	1,138	1,584	4,273	3,622	1,803	-1,642
New York	Brooklyn Navy Yard	0	38	119	94	87	100	62
New York	C R Huntley	11,427	10,355	12,272	14,594	9,512	10,919	-508
New York	Charles Poletti	3,660	1,699	3,398	3,446	2,014	3,385	-275
New York	Danskammer	4,219	4,331	5,561	6,438	4,709	5,390	1,171
New York	Dunkirk	6,058	5,927	5,848	6,714	6,726	6,352	294
New York	East River	46,666	1,775	1,618	1,211	1,749	1,302	-45,364
New York	Goudey	1,550	2,234	2,803	2,734	2,556	2,606	1,056
New York	Greenidge	2,098	1,767	1,792	2,223	2,458	2,979	881
New York	Northport	3,706	3,718	4,122	5,209	5,326	7,191	3,485
New York	Port Jefferson	1,053	1,145	1,235	1,628	887	1,798	745
New York	Ravenswood	2,960	3,246	3,589	3,424	3,829	3,854	894
New York	Richard M Flynn	405	153	172	148	188	214	-191
New York	Rochester 7 (Russell Station)	3,392	2,419	2,830	2,990	2,868	2,849	-543
New York	Roseton	2,076	1,420	2,353	4,714	4,482	3,775	1,699
New York	Waterside	1,067	792	613	649	766	859	-208
New York Total		102,234	46,960	55,197	67,460	59,720	61,923	-40,349
North Carolina	ASHEVILLE Total	14,323	15,435	11,872	6,301	6,377	5,925	-8,398
North Carolina	BELEWS CREEK Total	80,774	82,287	105,688	95,239	68,252	34,555	-46,219
North Carolina	BUCK Total	1,323	4,789	4,639	3,434	3,975	4,283	2,960
North Carolina	CAPE FEAR Total	5,171	6,300	5,509	5,643	5,365	4,283	-888
North Carolina	CLIFFSIDE Total	9,067	9,367	8,561	9,623	8,597	9,437	370
North Carolina	DAN RIVER Total	2,219	2,687	2,405	2,001	2,560	2,574	355
North Carolina	G G ALLEN Total	10,977	15,323	14,085	9,655	12,087	13,054	2,077
North Carolina	L V SUTTON Total	10,302	13,825	11,683	7,443	6,782	6,358	-3,944
North Carolina	LEE Total	4,437	6,404	7,549	8,891	5,460	5,841	1,404
North Carolina	MARSHALL Total	44,925	39,334	30,092	28,643	26,668	27,074	-17,851
North Carolina	MAYO Total	15,271	9,248	14,575	12,563	13,656	9,965	-5,306
North Carolina	RIVERBEND Total	4,305	4,361	4,213	3,593	3,505	5,488	1,183
North Carolina	ROXBORO Total	59,545	59,592	58,509	51,808	34,724	28,513	-31,032
North Carolina	W H WEATHERSPOON Total	1,221	2,588	3,096	3,277	3,097	2,889	1,668
North Carolina Total		263,860	271,540	282,476	248,114	201,107	160,239	-103,621
North Dakota	Antelope Valley	12,035	11,446	10,878	14,305	13,290	14,262	2,227
North Dakota	Coal Creek	37,697	29,555	28,888	26,312	12,862	10,667	-27,030
North Dakota	Coyote	17,365	13,476	9,958	12,947	14,362	12,742	-4,623
North Dakota	Leland Olds	16,615	15,813	14,245	14,001	12,955	11,816	-4,799
North Dakota	Milton R Young	29,371	30,056	24,220	25,602	22,098	25,730	-3,641
North Dakota	R M Heskett	1,137	862	701	831	853	721	-416

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
North Dakota	Stanton	4,832	5,269	4,898	4,334	3,172	1,647	-3,185
North Dakota Total		119,052	106,477	93,788	98,332	79,592	77,585	-41,467
Ohio	Ashtabula	4,808	4,777	3,228	2,043	1,981	2,778	-2,030
Ohio	Avon Lake	18,819	17,999	16,096	16,772	19,066	11,679	-7,140
Ohio	Bay Shore	16,056	15,389	12,975	12,322	11,267	11,464	-4,592
Ohio	Cardinal	52,708	40,720	46,464	45,944	33,214	28,677	-24,031
Ohio	Conesville	24,064	24,159	25,922	25,891	23,781	28,892	4,828
Ohio	Eastlake	14,570	16,255	16,216	18,313	16,912	15,598	1,028
Ohio	Gen J M Gavin	24,064	24,064	4	5	,	9	4	5	T	c	3
							Ohio	

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Oregon Total		3,841	4,370	3,429	8,229	9,199	8,511	4,670
Pennsylvania	Armstrong	4,865	15,674	4,095	4,415	3,432	4,455	-410
Pennsylvania	Bruce Mansfield	23,941	6,151	26,008	30,099	23,407	28,949	5,008
Pennsylvania	Brunner Island	16,682	24,144	16,652	14,719	12,508	14,429	-2,253
Pennsylvania	Cheswick	6,780	2,642	7,805	4,911	5,244	6,385	-395
Pennsylvania	Conemaugh	25,091	479	24,604	23,900	20,764	20,538	-4,553
Pennsylvania	Cromby	2,810	6,574	2,957	3,094	1,611	2,112	-698
Pennsylvania	Eddystone	4,102	0	5,901	6,379	4,627	5,880	1,778
Pennsylvania	Elrama	9,094	0	7,677	8,381	7,023	7,257	-1,837
Pennsylvania	Grays Ferry Cogen	n/a	n/a	n/a	195	131	139	-56
Pennsylvania	Hatfield's Ferry	25,831	25,133	24,723	21,583	20,067	23,234	-2,597
Pennsylvania	Homer City	46,300	34,074	29,756	30,013	26,584	26,505	-19,795
Pennsylvania	Keystone	23,325	28,173	24,800	22,635	20,432	18,192	-5,133
Pennsylvania	Martins Creek	5,964	6,827	6,504	6,597	5,059	5,838	-126
Pennsylvania	Mitchell	2,979	1,922	3,260	3,196	2,831	3,496	517
Pennsylvania	Montour	22,370	17,614	18,216	19,875	15,934	16,298	-6,072
Pennsylvania	New Castle	5,340	3,951	4,862	4,043	3,466	3,657	-1,683
Pennsylvania	Portland	2,540	3,595 10,543	3,462	2,968	2,619	2,535	-5
Pennsylvania	Seward	4,396	4,584	3,952	3,490	2,061	1,881	-2,515
Pennsylvania	Shawville	9,285	8,456	9,759	9,268	7,464	7,163	-2,122
Pennsylvania	Sunbury	11,112	11,614	10,543	10,045	7,575	6,503	-4,609
Pennsylvania	Titus	2,803	2,595	2,569	2,599	1,842	2,147	-656
Pennsylvania Total		368 255,610	3,490 204,200	238,105	232,406	194,680	207,593	-48,212
Rhode Island	Manchester Street	79	412	428	373	368	316	237
Rhode Island Total		79	412	428	373	368	316	237
South Carolina	CANADYS STEAM Total	9,090	4,642	3,396	4,487	2,929	4,565	-4,525
South Carolina	COPE STATION 11,614	3,196						

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
South Dakota	Big Stone	14,344	16,297	22,716	22,540	23,579	16,983	2,639
South Dakota Total		14,344	16,297	22,716	22,540	23,579	16,983	2,639
Tennessee	ALLEN Total	38,673	28,105	29,190	26,389	16,215	18,707	-19,966
Tennessee	BULL RUN Total	17,445	13,018	17,835	16,588	13,528	15,596	-1,849
Tennessee	CUMBERLAND Total	175,058	138,999	161,505	119,060	82,671	52,099	-122,959
Tennessee	GALLATIN Total	12,037	12,819	12,314	11,289	12,983	10,625	-1,412
Tennessee	JOHN SEVIER Total	13,072	12,247	11,196	10,360	11,777	10,762	-2,310
Tennessee	JOHNSONVILLE Total	19,579	20,613	18,701	18,003	20,369	22,648	3,069
Tennessee	KINGSTON Total	33,206	31,179	27,426	27,476	26,055	25,494	-7,712
Tennessee Total		309,070	256,980	278,167	229,166	183,599	155,931	-153,139
Texas	Barney M. Davis	2,861	2,708	3,541	3,880	2,814	3,109	248
Texas	Big Brown	12,607	14,882	14,201	12,994	12,913	19,171	6,564
Texas	Blackhawk Station	n/a	n/a	n/a	8	694	828	820
Texas	Cedar Bayou	1,654	7,422	7,036	6,860	4,376	4,324	2,670
Texas	Cleburne Cogeneration	n/a	n/a	167	244	189	193	26
Texas	Coleto Creek	7,525	9,695	6,771	6,193	5,572	5,590	-1,935
Texas	Decker Creek	1,105	1,447	1,517	1,610	1,422	1,603	498
Texas	Decordova	6,855	6,295	6,127	5,863	7,728	7,377	522
Texas	Eagle Mountain	1,343	1,219	1,336	2,281	1,467	1,336	-7
Texas	Fort Phantom	479	1,547	975	1,259	1,027	1,108	629
Texas	Gibbons Creek	8,192	6,335	5,639	4,238	5,555	4,774	-3,418
Texas	Graham	5,353	3,957	4,311	5,856	5,579	5,373	20
Texas	Handley	2,753	3,306	4,770	4,871	3,328	3,683	930
Texas	Harrington Station	17,478	13,581	11,851	14,152	12,686	12,409	-5,069
Texas	Holly Street	4,439	523	443	873	705	851	-3,588
Texas	J K Spruce	5,778	8,873	8,367	8,403	6,170	4,103	-1,675
Texas	J T Deely	9,512	11,005	10,975	8,845	10,045	7,889	-1,623
Texas	Jones Station	0	2,925	2,769	3,288	3,085	3,213	288
Texas	Knox Lee	886	988	1,098	1,510	1,964	1,491	605
Texas	Lake Creek	166	968	1,127	1,691	1,308	1,824	1,658
Texas	Lake Hubbard	2,934	2,090	2,882	3,567	2,471	2,339	-595
Texas	Laredo	703	603	670	707	727	635	-68
Texas	Lewis Creek	2,579	2,018	1,964	2,221	2,865	2,724	145
Texas	Limestone	27,481	27,087	27,424	24,267	24,867	20,636	-6,845
Texas	Lon C Hill	2,957	2,076	2,922	3,409	2,472	2,301	-656
Texas	Monticello	15,636	20,510	21,887	20,803	20,495	20,325	4,689
Texas	Morgan Creek	6,628	8,873	7,346	8,766	8,718	9,981	3,353
Texas	Mountain Creek	2,482	2,530	2,631	3,804	2,939	2,906	424

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Utah	Intermountain	20,575	22,622	26,492	28,908	28,258	30,919	10,344
Utah Total		70,989	72,475	70,989	75,213	72,444	75,484	4,495
Virginia	REMO POWER STATION Tot	6,376	5,153	6,286	6,073	5,831	4,655	-1,721
Virginia	CHESAPEAKE Total	10,293	11,255	12,909	12,386	10,732	10,106	-187
Virginia	CHESTERFIELD Total	23,203	26,126	23,421	23,127	18,166	16,598	-6,605
Virginia	CLINCH RIVER Total	26,377	27,696	35,086	31,546	20,090	14,863	-11,514
Virginia	CLOVER Total	4,742	7,256	7,726	9,754	10,030	10,917	6,175
Virginia	GLEN LYN Total	4,756	5,693	5,504	6,288	7,021	5,917	1,161
Virginia	POSSUM POINT Total	21,629	3,913	4,264	4,917	5,116	5,276	-16,353
Virginia	POTOMAC RIVER Total	19,135	7,059	4,998	5,921	6,893	5,694	-13,441
Virginia	YORKTOWN Total	6,522	7,342	5,901	8,647	9,977	7,119	597
Virginia Total		123,033	101,493	106,095	108,660	93,856	81,145	-41,888
Washington	Centralia	14,618	21,357	16,098	23,351	21,828	20,115	5,497
Washington	River Road Generation	n/a	n/a	0	26	79	91	65
Washington Total		14,618	21,357	16,098	23,376	21,907	20,206	5,562
West Virginia	Albright	3,124	2,451	2,338	2,352	3,389	4,666	1,542
West Virginia	Fort Martin	25,561	21,936	30,011	24,649	30,422	26,330	769
West Virginia	Harrison	37,105	34,460	33,850	35,827	34,708	33,584	-3,521
West Virginia	John E Amos	37,592	58,681	71,025	47,551	55,607	43,970	6,378
West Virginia	Kammer	29,642	28,419	30,744	23,840	19,992	15,362	-14,280
West Virginia	Kanawha River	7,942	13,116	17,102	17,546	11,268	7,508	-434
West Virginia	Mitchell	21,018	21,396	23,663	25,551	24,573	24,735	3,717
West Virginia	Mountaineer (1301)	14,940	16,728	19,236	18,181	20,467	17,798	2,858
West Virginia	Mt Storm	44,211	46,601	43,586	44,761	38,641	38,633	-5,578
West Virginia	Phil Sporn	29,851	31,837	28,661	29,165	20,066	19,869	-9,982
West Virginia	Pleasants	18,567	15,911	15,271	15,894	14,057	13,224	-5,343
West Virginia	Rivesville	790	479	615	1,251	1,524	2,686	1,896
West Virginia	Willow Island	4,821	4,421	5,541	5,911	9,293	9,409	4,588
West Virginia Total		275,164	296,436	321,643	292,478	284,007	257,774	-17,390
Wisconsin	Alma	1,385	1,853	2,474	3,338	2,300	3,419	2,034
Wisconsin	Blount Street	1,337	1,121	1,097	1,089	1,135	1,545	208
Wisconsin	Columbia	18,211	17,487	16,576	17,345	15,367	14,846	-3,365
Wisconsin	Edgewater	14,990	15,428	15,794	17,049	15,722	15,881	891
Wisconsin	Genoa	3,274	3,226	5,511	3,446	4,151	3,595	321
Wisconsin	J P Madgett	2,724	2,350	3,988	5,205	5,511	4,983	2,259
Wisconsin	Nelson Dewey	5,637	4,830	6,379	5,125	5,622	5,417	-220
Wisconsin	Pleasant Prairie	24,417	25,929	24,059	20,289	23,804	20,510	-3,907
Wisconsin	Port Washington	1,916	1,936	2,511	2,386	2,061	2,857	941

State	Plant Name	1995 NOx (tons)	1996 NOx (tons)	1997 NOx (tons)	1998 NOX (tons)	1999 NOx (tons)	2000 NOx (tons)	Total NOx Change
Wisconsin	Pulliam	4,661	5,673	7,273	7,634	7,694	7,984	3,323
Wisconsin	South Oak Creek	9,602	9,748	11,309	11,285	11,130	12,039	2,437
Wisconsin	Valley (WEPCO)	3,952	3,613	4,556	4,254	4,172	4,083	131
Wisconsin	Weston	6,969	7,016	7,318	7,831	5,982	6,487	-482
Wisconsin Total		99,075	100,210	108,845	106,274	104,652	103,646	4,571
Wyoming	Dave Johnston	20,301	20,958	21,385	19,309	17,566	16,593	-3,708
Wyoming	Jim Bridger	40,483	36,345	34,625	38,569	37,981	35,368	-5,115
Wyoming	Laramie River	20,745	21,978	17,782	18,972	17,689	18,144	-2,601
Wyoming	Naughton	15,247	16,403	16,052	16,631	13,760	12,845	-2,402
Wyoming	Neil Simpson II	210	787	882	779	815	808	598
Wyoming	Wyodak	5,729	6,657	6,095	5,914	5,565	5,054	-675
Wyoming Total		102,715	103,128	96,821	100,173	93,376	88,812	-13,903
Grand Total		5,820,273	5,683,655	5,904,263	5,807,127	5,324,597	4,957,137	-877,393

Wyoming T e318 Tc (-877,393) Tje f 54 re f 539-522 55526 re f 564.6 359.64 0.6.68 1.92 11.04 re f 4 re f 539-522,li84 0.6.68 1.92 1

Appendix 5: Counties Likely to Fail to Meet 1997 Fine Particulate Matter Health Standard

State	County	2000 Population	Estimated Children

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
MA	Hampden	456,228	6,163	17,316
MI	Wayne	2,061,162	29,913	83,498
MS	Bolivar	40,633	681	1,625
MS	Forrest	72,604	989	2,916
MS	Hinds	250,800	3,433	9,733
MS	Jones	64,958	879	2,502
MS	Lauderdale	78,161	1,071	3,001
MS	Lowndes	61,586	911	2,425
MS	Rankin	115,327	1,501	4,307
MO	Jefferson	198,099	3,043	7,810
MO	St. Louis	1,016,315	12,805	38,894
MO	St. Louis City	348,189	4,817	13,381
MT	Lincoln	18,837	265	739
NJ	Essex	793,633	10,156	29,374
NJ	Hudson	608,975	6,968	21,520
NJ	Union	522,541	6,139	19,362
NY	Bronx	1,332,650	18,680	47,644
NY	Kings	2,465,326	33,002	89,745
NY	New York	1,537,195	15,029	58,619
NC	Alamance	130,800	1,456	4,638
NC	Buncombe	206,330	2,424	7,558
NC	Cabarrus	131,063	1,636	4,724
NC	Catawba	141,685	1,758	5,184
NC	Cumberland	302,963	4,494	11,380
NC	Davidson	147,246	1,878	5,527
NC	Durham	223,314	2,586	7,886
NC	Forsyth	306,067	3,570	11,176
NC	Gaston	190,365	2,579	7,246
NC	Guilford	421,048	4,809	15,058
NC	Haywood	54,033	585	1,981
NC	McDowell	42,151	521	1,565
NC	Mecklenburg	695,454	8,557	24,760
NC	Mitchell	15,687	177	573
NC	Montgomery	26,822	344	953
NC	Wake	627,846	7,451	22,287
NC	Wayne	113,329	1,592	4,416
OH	Butler	332,807	4,520	12,999
OH	Cuyahoga	1,393,978	17,469	53,744
OH	Franklin	1,068,978	13,323	39,911
OH	Hamilton	845,303	11,562	33,278
OH	Jefferson	73,894	892	2,886
OH	Lawrence	62,319	899	2,538
OH	Lorain	284,664	4,002	11,121
OH	Lucas	455,054	6,262	17,671
OH	Mahoning	257,555	3,252	9,947
OH	Montgomery	559,062	7,332	22,238

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
OH	Portage	152,061	1,942	5,884
OH	Scioto	79,195	1,138	3,185
OH	Stark	378,098	4,833	14,562
OH	Summit	542,899	6,885	20,944
OH	Trumbull	225,116	2,896	8,824
PA	Allegheny	1,281,666	14,405	48,790
PA	Berks	373,638	4,510	13,853
PA	Cambria	152,598	1,909	6,036
PA	Lancaster	470,658	6,467	18,021
PA	Philadelphia	1,517,550	19,433	56,313
PA	Washington	202,897	2,469	7,949
PA	Westmoreland	369,993	4,393	14,386
PA	York	381,751	4,853	14,592
SC	Greenville	379,616	4,426	13,763
SC	Greenwood	66,271	804	2,476
SC	Lexington	216,014	2,755	8,039
SC	Richland	320,677	3,701	11,815
SC	Spartanburg	253,791	3,081	9,608
TN	Blount	105,823	1,215	3,917
TN	Davidson	569,891	6,414	20,644
TN	Hamilton	307,896	3,670	11,445
TN	Knox	382,032	4,406	14,470
TN	Madison	91,837	1,182	3,375
TN	Maury	69,498	961	2,738
TN	Montgomery	134,768	1,853	5,036
TN	Roane	51,910	592	1,931
TN	Shelby	897,472	12,521	34,325
TN	Sullivan	153,048	1,709	5,785
TN	Sumner	130,449	1,756	4,891
TX	Harris	3,400,578	48,789	127,560
VA	Bristol	17,367	184	651
VA	Richmond City	197,790	2,055	7,310
VA	Roanoke City	94,911	1,079	3,614
WV	Berkeley	75,905	911	2,770
WV	Brooke	25,447	280	996
WV	Cabell	96,784	990	3,593
WV	Hancock	32,667	370	1,303
WV	Kanawha	200,073	2,251	7,739
WV	Marshall	35,519	421	1,363
WV	Ohio	47,427	514	1,844
WV	Wood	87,986	1,024	3,349
		82,061,307	1,090,876	3,108,797

Appendix 6: Counties Likely to Fail to Meet 1997 Health Standard for Ground-Level Ozone

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
AL	Clay	14,254	175	543
AL	Jefferson	662,047	8,176	25,636
AL	Lawrence	34,803	449	1,311
AL	Madison	276,700	3,393	10,780
AL	Mobile	399,843	5,695	15,756
AL	Montgomery	223,510	2,966	8,539
AL				

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
CT	New London	259,088	3,355	9,695
CT	Tolland	136,364	1,717	5,134
DE	Kent	126,697	1,769	4,908
DE	New Castle	500,265	6,101	18,785
DE	Sussex	156,638	1,687	5,324
DC	Washington	572,059	5,244	19,826
FL	Escambia	294,410	3,960	11,189
FL	Hillsborough	998,948	12,755	36,395
FL	Pinellas	921,482	9,203	33,490
GA	Bibb	153,887	2,165	6,139
GA	Dawson	15,999	215	589
GA	De Kalb	665,865	7,511	23,085
GA	Douglas	92,174	1,323	3,548
GA	Fayette	91,263	1,313	3,521
GA	Fulton	816,006	9,515	28,767
GA	Gwinnett	588,448	7,682	20,723
GA				

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
KY	Edmonson	11,644	150	444
KY	Fayette	260,512	2,766	9,308
KY	Graves	37,028	447	1,397
KY	Greenup	36,891	464	1,438
KY	Hancock	8,392	134	356
KY	Henderson	44,829	596	1,743
KY	Jefferson	693,604	8,252	26,061
KY	Kenton	151,464	2,074	5,789
KY	Livingston	9,804	108	363
KY	McCracken	65,514	794	2,500
KY	McLean	9,938	125	383
KY	Oldham	46,178	644	1,758
KY	Pulaski	56,217	696	2,187
KY	Simpson	16,405	225	647
LA	Ascension	76,627	1,167	2,882
LA	Bossier	98,310	1,340	3,655
LA	Caddo	252,161	3,463	9,579
LA	Calcasieu	183,577	2,622	7,132
LA	East Baton Fayette	260,512	8,252	2,561

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
MA	Bristol	534,678	6,955	20,272
MA	Essex	723,419	9,226	27,395
MA	Hampden	456,228	6,163	17,316
MA	Hampshire	152,251	1,633	5,759
MA	Middlesex	1,465,396	16,400	54,819
MA	Worcester	750,963	9,928	28,689
MI	Allegan	105,665	1,604	4,070
MI	Benzie	15,998	184	573
MI	Berrien	162,453	2,249	6,302
MI	Cass	51,104	695	1,968
MI	Genesee	436,141	6,319	17,245
MI	Macomb	788,149	9,621	30,517
MI	Mason	28,274	383	1,097
MI	Muskegon	170,200	2,450	6,615
MI	St. Clair	164,235	2,314	6,312
MI	Wayne	2,061,162	29,913	83,498
MS	Adams	34,340	484	1,347
MS	De Soto	107,199	1,411	3,845
MS	Hancock	42,967	557	1,584
MS	Jackson	131,420	1,932	5,189
MS	Lee	75,755	1,071	2,950
MO	Cedar	13,733	166	514
MO	Clay	184,006	2,375	6,919
MO	Jefferson	198,099	3,043	7,810
MO	Platte	73,781	954	2,749
MO	St. Charles	283,883	4,240	10,873
MO	Ste. Genevieve	17,842	253	687
MO	St. Louis	1,016,315	12,805	38,894
NV	Clark	1,375,765	16,479	45,836
NJ	Atlantic	252,552	3,110	9,300
NJ	Camden	508,932	7,545	20,040
NJ	Cumberland	146,438	2,062	5,566
NJ	Gloucester	254,673	3,705	9,854
NJ	Hudson	608,975	6,968	21,520
NJ	Hunterdon	121,989	1,623	4,791
NJ	Mercer	350,761	4,211	12,911
NJ	Middlesex	750,162	8,657	27,618
NJ	Monmouth	615,301	8,240	23,698
NJ	Morris	470,212	5,771	17,857
NJ	Ocean	510,916	6,291	19,112
NJ	Passaic	489,049	6,738	19,025
NY	Chautauqua	139,750	1,911	5,441
NY	Dutchess	280,150	3,447	10,364
NY	Erie	950,265	11,823	36,354
NY	Niagara	219,846	2,943	8,545

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
NY	Orange	341,367	5,037	13,142
NY	Putnam	95,745	1,288	3,672
NY	Queens	2,229,379	23,619	77,038
NY	Richmond	443,728	5,549	15,982
NY	Suffolk	1,419,369	18,427	53,739
NY	Westchester	923,459	10,801	34,863
NC	Alexander	33,603	428	1,230
NC	Buncombe	206,330	2,424	7,558
NC	Caldwell	77,415	989	2,965
NC	Caswell	23,501	276	864
NC	Chatham	49,329	560	1,769
NC	Cumberland	302,963	4,494	11,380
NC	Davie	34,835	416	1,249
NC	Duplin	49,063	627	1,708
NC	Durham	223,314	2,586	7,886
NC	Edgecombe	55,606	847	2,194
NC	Forsyth	306,067	3,570	11,176
NC	Franklin	47,260	611	1,752
NC	Granville	48,498	576	1,713
NC	Guilford	421,048	4,809	15,058
NC	Haywood	54,033	585	1,981
NC	Johnston	121,965	1,497	4,200
NC	Lenoir	59,648	834	2,324
NC	Lincoln	63,780	796	2,281
NC	Mecklenburg	695,454	8,557	24,760
NC	Person	35,623	458	1,320
NC	Pitt	133,798	1,742	4,979
NC	Rowan	130,340	1,671	4,900
NC	Wake	627,846	7,451	22,287
OH	Allen	108,473	1,513	4,230
OH	Ashtabula	102,728	1,472	4,077
OH	Butler	332,807	4,520	12,999
OH	Clark	144,742	1,930	5,688
OH	Clermont	177,977	2,686	7,005
OH	Clinton	40,543	573	1,585
OH	Cuyahoga	1,393,978	17,469	53,744
OH	Delaware	109,989	1,401	3,879
OH	Franklin	1,068,978	13,323	39,911
OH	Geauga	90,895	1,250	3,494
OH	Greene	147,886	1,950	5,787
OH	Hamilton	845,303	11,562	33,278
OH	Knox	54,500	697	2,087
OH	Lake	227,511	2,865	8,829
OH	Lawrence	62,319	899	2,538
OH	Licking	145,491	1,831	5,297
OH	Madison	40,213	521	1,600

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
OH	Medina	151,095	2,088	5,694
OH	Miami	98,868	1,352	3,862
OH	Montgomery	559,062	7,332	22,238
OH	Portage	152,061	1,942	5,884
OH	Stark	378,098	4,833	14,562
OH	Summit	542,899	6,885	20,944
OH	Trumbull	225,116	2,896	8,824
OH	Warren	158,383	2,016	5,744
OH	Washington	63,251	833	2,476
OK	Tulsa	563,299	7,489	21,371
PA	Allegheny	1,281,666	14,405	48,790
PA	Armstrong	72,392	941	2,859
PA	Beaver	181,412	2,277	7,155
PA	Berks	373,638	4,510	13,853
PA	Blair	129,144	1,697	5,098
PA	Bucks	597,635	7,919	23,055
PA	Cambria	152,598	1,909	6,036
PA	Clearfield	83,382	1,061	3,156
PA	Dauphin	251,798	3,146	9,571
PA	Delaware	550,864	6,749	21,084
PA	Erie	280,843	3,858	10,946
PA	Franklin	129,313	1,656	5,005
PA	Greene	40,672	563	1,654
PA	Lackawanna	213,295	2,447	8,047
PA	Lancaster	470,658	6,467	18,021
PA	Lehigh	312,090	3,618	11,576
PA	Mercer	120,293	1,512	4,731
PA	Montgomery	750,097	8,565	27,825
PA	Northampton	267,066	3,239	10,055
PA	Perry	43,602	633	1,749
PA	Philadelphia	1,517,550	19,433	56,313
PA	York	381,751	4,853	14,592
RI	Kent	167,090	2,011	6,273
RI	Washington	123,546	1,568	4,717
SC	Abbeville	26,167	317	961
SC	Aiken	142,552	1,831	5,264
SC	Anderson	165,740	2,025	6,254
SC	Barnwell	23,478	333	869
SC	Cherokee	52,537	657	1,928
SC	Chester	34,068	481	1,354
SC	Darlington	67,394	935	2,616
SC	Edgefield	24,595	279	788
SC	Oconee	66,215		

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma
SC	York	164,614	2,034	6,035
TN	Anderson	71,330	870	2,751
TN	Blount	105,823	1,215	3,917
TN	Davidson	569,891	6,414	20,644
TN	Hamilton	307,896	3,670	11,445
TN	Haywood	19,797	302	780
TN	Jefferson	44,294	495	1,678
TN	Knox	382,032	4,406	14,470
TN	Lawrence	39,926	534	1,543
TN	Putnam	62,315	688	2,278
TN	Rutherford	182,023	2,399	6,571
TN	Sevier	71,170	787	2,497
TN	Shelby	897,472	12,521	34,325
TN	Sullivan	153,048	1,709	5,785
TN	Sumner	130,449	1,756	4,891
TN	Williamson	126,638	1,745	4,671
TN	Wilson	88,809	1,190	3,312
TX	Bexar	1,392,931	21,237	54,181
TX	Brazoria	241,767	3,572	9,147
TX	Collin	491,675	6,629	17,100
TX	Dallas	2,218,899	29,388	80,857
TX	Denton	432,976	5,652	15,206
TX	Ellis	111,360	1,712	4,178
TX	Galveston	250,158	3,554	9,697
TX	Gregg	111,379	1,634	4,469
TX	Harris	3,400,578	48,789	127,560
TX	Jefferson	252,051	3,344	9,493
TX	Marion	10,941	142	426
TX	Smith	174,706	2,350	6,621
TX	Tarrant	1,446,219	19,783	53,644
TX	Travis	812,280	9,427	27,769
VA	Arlington	189,453	1,529	6,560
VA	Caroline	22,121	300	864
VA	Charles City	6,926	88	278
VA	Chesterfield	259,903	3,866	9,985
VA	Fairfax	969,749	11,929	36,191
VA	Fauquier	55,139	752	2,124
VA	Frederick	59,209	776	2,192
VA	Henrico	262,300	2,939	9,371
VA	Loudoun	169,599	2,068	5,710
VA	Madison	12,520	166	494
VA	Prince William	280,813	4,219	10,531
VA	Roanoke	85,778	953	3,138
VA	Stafford	92,446	1,433	3,595
VA	Alexandria	128,283	967	4,305

State	County	2000 Population	Estimated Children With

State	County	2000 Population	Estimated Children With

State	County	2000 Population	Estimated Children With Asthma	Estimated Total Number of People with Asthma