

# **Pollution on the Rise**

**Local Trends in Power Plant Pollution**

**U.S. PIRG Education Fund**

**January 2005**

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## **ACKNOWLEDGEMENTS**

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This report is made possible with funding from The Pew Charitable Trusts. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of The Pew Charitable Trusts.

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# EXECUTIVE SUMMARY

Power plants are the nation's largest industrial source of air pollution, fueling global warming and causing other serious public health and environmental problems. This report examines U.S. Environmental Protection Agency (EPA) data on power plant emissions of carbon dioxide (CO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and nitrogen oxides (NO<sub>x</sub>) from 1995 to 2003 and finds that emissions are on the rise at many plants.

## **Environmental and Public Health Effects of Power Plant Pollution**

Many of the nation's power plants were built decades ago and use few, if any, modern pollution controls. As a result, power plants release 39 percent of CO<sub>2</sub> emissions, the leading global warming pollutant, 67 percent of soot-forming SO<sub>2</sub> emissions, 22 percent of smog-forming NO<sub>x</sub> emissions, and 41 percent of mercury emissions. These pollutants contribute to serious environmental and public health problems:

*Global Warming:* Carbon dioxide from power plants traps heat in the Earth's atmosphere, warming the planet. The 1990s were the hottest decade on record, and 2004 was one of the warmest years ever, according to the United Nations. The effects of global warming, such as extensive melting of glaciers and sea ice in the Arctic and the 2003 heat wave in Europe where thousands died, are already evident in the U.S. and worldwide.

*Asthma:* Fine particle soot and ozone smog from power plants are respiratory irritants that trigger asthma attacks and contribute to other respiratory problems.

*Heart Attacks, Lung Disease, and Early Death:* The fine particles in soot from power plants can bypass respiratory defenses and lodge deep in the lungs, resulting in cardiovascular and respiratory problems that cut short the lives of tens of thousands of Americans every year. Short-term exposure to ozone smog also is associated with increases in mortality.

*Learning Disabilities:* Mercury from power plants deposits in fresh and ocean waters and accumulates in the tissue of commonly eaten fish, such as tuna. Pregnant women who eat mercury-contaminated fish can put their children at risk of learning disabilities, developmental delays, and other serious problems. EPA scientists estimate that one in six U.S. women of childbearing age has elevated levels of mercury in her body.

## **Findings: Power Plant Pollution on the Rise**

To identify trends in power plant pollution, this report analyzes CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> emissions data from EPA's acid rain database since 1995, the first year the Clean Air Act capped SO<sub>2</sub> emissions from the electricity-generating sector. Comparable data on mercury emissions are not available. Key findings and major lessons learned include the following:

**In the absence of mandatory limits on carbon dioxide, power plant CO<sub>2</sub> emissions continue to rise.**

Currently, there are no federal limits on CO<sub>2</sub> emissions; instead, the federal government relies on voluntary partnerships with industry to reduce emissions. As a result, CO<sub>2</sub> emissions from power plants continue to climb in the U.S.

- Annual CO<sub>2</sub> emissions from power plants increased by 9 percent nationwide from 1995 to 2003, with increases at 59 percent of the nation's dirtiest plants. The 206 million ton increase in annual emissions is equivalent to adding 36 million average cars to the roads.

*Lesson 1: A mandatory limit on CO<sub>2</sub> is necessary to reduce global warming emissions from power plants; we cannot continue to rely on voluntary measures.*

**Federal caps on soot- and smog-forming emissions are not enough to ensure all communities breathe healthy air.**

Federal law and regional initiatives cap SO<sub>2</sub> and NO<sub>x</sub> emissions from power plants but allow dirtier plants to buy pollution “credits” rather than clean up. As a result, communities living in the shadows and downwind of these polluting power plants are actually breathing dirtier air.

- More than half (54 percent) of the nation's dirtiest power plants increased their annual soot-forming SO<sub>2</sub> emissions from 1995 to 2003, even while annual SO<sub>2</sub> emissions from power plants decreased by 10 percent nationwide; and
- Thirty-eight (38) percent of the nation's dirtiest power plants increased their annual smog-forming NO<sub>x</sub> emissions from 1995 to 2003, even while annual NO<sub>x</sub> emissions from power plants declined by 29 percent nationwide.

*Lesson 2: National pollution caps often fail to address localized pollution problems and must work hand-in-hand with other clean air safeguards, such as the New Source Review program, which ensures that older plants eventually meet modern emissions standards.*

**Conclusions and Recommendations**

Power plant emissions of CO<sub>2</sub> will continue to increase unless federal policymakers cap global warming emissions, but national caps on SO<sub>2</sub> and NO<sub>x</sub> alone are not enough to protect the health of local communities.

Tighter national caps on SO<sub>2</sub> and NO<sub>x</sub> should be accompanied by rigorous enforcement of New Source Review and other Clean Air Act programs that ensure that every plant installs modern pollution controls. Unfortunately, the Bush administration is working to delay and dilute SO<sub>2</sub> and NO<sub>x</sub> reductions called for in the Clean Air Act, repeal New Source Review for power plants, and repeal or significantly weaken other plant-specific clean air programs to rely instead on pollution caps, while ignoring global warming altogether. These policies will prolong and exacerbate illness and suffering from air pollution.

Instead, EPA and federal and state lawmakers should:

- Enforce existing Clean Air Act programs, including New Source Review, designed to ensure that every community has healthy air;
- As a first step, pass a national cap that limits CO<sub>2</sub> emissions economy-wide to 2000 levels by 2010;
- Strengthen and finalize EPA's proposed Clean Air Interstate Rule (CAIR) to cap SO<sub>2</sub> and NO<sub>x</sub> emissions from power plants in the eastern U.S. at 1.8 million tons and 1 million tons, respectively, by the end of the decade, as the law requires; and
- Strengthen the Clean Air Act's existing programs to further reduce all four major power plant pollutants.

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# INTRODUCTION

Power plants are the nation's largest industrial source of air pollution, fueling global warming and causing other serious public health and environmental problems. In parts of the U.S., global warming has already disrupted the economy, environment, and quality of life; continued warming will magnify and extend these problems to other regions. With research finding adverse health effects from air pollution at levels once considered safe, more people than ever live in areas that fail to meet national health standards.<sup>1</sup>

Power plants contribute 39 percent of the nation's carbon dioxide (CO<sub>2</sub>) emissions, the leading global warming pollutant, 67 percent of soot-forming sulfur dioxide (SO<sub>2</sub>) emissions, 22 percent of smog-forming nitrogen oxide (NO<sub>x</sub>) emissions, and 41 percent of mercury emissions.<sup>2</sup>

There are two distinct types of power plants in the United States – those built prior to 1977 that use ancient or no pollution controls and newer, much cleaner plants. The dirtier plants release the lion's share of the pollution, including 91 percent of power plant CO<sub>2</sub> emissions, 99 percent of power plant SO<sub>2</sub> emissions, and 98 percent of power plant NO<sub>x</sub> emissions in 2002.<sup>3</sup> Comparable data are not available for mercury emissions.

The Clean Air Act employs two basic tools to reduce power plant emissions: (1) require each and every plant to meet specific emissions standards when they are built or modernized; and (2) cap emissions from the entire electricity-generating sector to achieve overall emissions reductions without specifying where those emissions reductions occur.

Safeguards for local air quality, such as the New Source Review (NSR) program, require each and every power plant to meet specific emissions standards. The NSR program requires plants to use the “best available control technologies” (BACT) if they are located in areas without air quality problems and more aggressive “lowest achievable emission rates” (LAER) in areas that violate national air quality standards. In 1977, when Congress created the NSR program, it allowed existing facilities to meet the law's new plant-by-plant requirements when the facility made a modification, since it would be less costly to install pollution controls when a plant was already undergoing construction.<sup>4</sup>

Nearly three decades after Congress enacted the NSR program, however, many power plants built prior to 1977 have avoided installing modern pollution controls to meet BACT or LAER standards.<sup>5</sup> These are the power plants that are responsible for the vast majority of the nation's power plant pollution.

In 1990, Congress established the Acid Rain Program to cap SO<sub>2</sub> emissions from the electricity-generating sector. As the nation's first “cap-and-trade” program, the program allows dirtier plants to forego cleanup by buying pollution “credits” from cleaner facilities.<sup>6</sup> Regional initiatives adopted in the 1990s also seek to reduce NO<sub>x</sub> emissions from power plants, largely using the cap-and-trade approach.<sup>7</sup>

In some respects, the Acid Rain Program and these regional initiatives have been a success, helping to cut power plant SO<sub>2</sub> emissions by 10 percent and NO<sub>x</sub> emissions by 29 percent since 1995. However, the caps are not tight enough to protect public health or the environment, and some of the

nation's dirtiest plants continue to increase their emissions, leaving local and downwind communities exposed to high levels of pollution.

In addition, the Bush administration has firmly rejected mandatory limits on CO<sub>2</sub> emissions. In early 2001, President Bush broke his first-term campaign promise to cap CO<sub>2</sub> emissions from power plants.<sup>8</sup> The administration's voluntary, economy-wide program sets the goal of reducing greenhouse gas "intensity," emissions per unit of economic output, by 18 percent from 2002 to 2012. In the 1990s, greenhouse gas intensity fell by 16 percent, while actual emissions grew by 14 percent.<sup>9</sup> The administration's voluntary program keeps the nation on the same path of intensity reductions and emissions increases, despite the critical need for swift action to minimize the effects of global warming.

This report examines trends in power plant pollution since 1995, the first year the Acid Rain Program capped SO<sub>2</sub> emissions from the electricity-generating sector.

### **Cleaning Up the Dirtiest Power Plants**

In 1999, after a three-year investigation of compliance with the New Source Review (NSR) program, the U.S. Environmental Protection Agency (EPA) concluded that violations of the NSR regulations were common, finding that plant owners were making enormous modifications without applying for or obtaining NSR permits. As a result, the Clinton administration initiated enforcement actions against eight utilities for NSR violations at more than 50 power plants.<sup>10</sup> By early 2000, utilities were beginning to settle the enforcement actions, agreeing to install emissions control equipment and make other environmental improvements.

However, in 2002 and 2003, the Bush administration issued two final rules that seek to eliminate the teeth of the NSR program and the primary means to cut pollution from the nation's dirtiest power plants. These changes have stymied enforcement actions, and the fate of the rules rests with the courts.<sup>11</sup>

# ENVIRONMENTAL AND PUBLIC HEALTH EFFECTS OF POWER PLANT POLLUTION

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## Global Warming

Human activities over the last century – particularly the burning of fossil fuels – have changed the composition of the atmosphere in ways that threaten to dramatically alter the global climate in the years to come.

Global warming is caused by the greenhouse effect, a natural phenomenon in which gases in the Earth's atmosphere, including water vapor and carbon dioxide, trap heat from the sun near the planet's surface. Without a natural greenhouse effect, temperatures on Earth would be too cold for life to survive.

Over the last century, however, the chemical makeup of the Earth's atmosphere has been changing, largely as a result of humans burning fossil fuels, which releases large amounts of carbon dioxide and other greenhouse gases into the atmosphere. Since the industrial revolution, atmospheric concentrations of CO<sub>2</sub> have increased by 31 percent.<sup>12</sup> Concentrations of other greenhouse gases have increased as well.

These atmospheric changes have intensified the greenhouse effect, allowing less of the sun's heat to escape the Earth's atmosphere. Global average temperatures increased during the 20th century by more than 0.6° C (1° F), with the rate of change for the period since 1976 roughly three times that for the past 100 years as a whole.<sup>13</sup> According to the United Nations' World Meteorological Organization, 2004 was the fourth hottest year ever recorded, and the 1990s were the warmest decade since measurements began in 1861.<sup>14</sup> If current

trends continue, temperatures could rise by an additional 1.4° C to 5.8° C from 1990 to 2100.<sup>15</sup>

The consequences of the increase in global temperatures will vary from place to place because the Earth's climate is extraordinarily complex. According to the United Nations' Intergovernmental Panel on Climate Change, the most authoritative source on global warming, among the changes that could occur include sea level rise of up to three feet by 2100; heat waves; drought; increasingly intense tropical storms; loss of plant and animal species; decreased crop yields; decreased water availability; and the spread of infectious diseases.<sup>16</sup>

The first signs of global warming are already evident in the U.S. and worldwide. For instance, in Montana's Glacier National Park, the largest glaciers are only about one-third the size they were in 1850, and many small mountain glaciers have disappeared completely. The area of the park covered by glaciers declined by 73 percent from 1850 to 1993, and scientists estimate that the park's glaciers will disappear entirely by 2030. Meanwhile, average summer temperatures in the park have increased by about 1.8° F since 1900.<sup>17</sup>

Along the Atlantic coast, nine hurricanes struck the U.S. in 2004, causing extensive damage estimated at more than \$43 billion.<sup>18</sup> According to the National Oceanic and Atmospheric Administration, the intensity of hurricanes increases as levels of atmospheric carbon dioxide increase.<sup>19</sup>

Across the Atlantic, a landmark study recently found that human influences on the climate system more than doubled the risk of a heat wave like the one that killed 22,000 to 35,000 Europeans in 2003.<sup>20</sup>

### **Lessons from the Arctic**

Rapid climate changes in the Arctic “provide an early indication of the environmental and societal significance of global warming,” according a major 2004 international report commissioned by the U.S. and seven other nations with Arctic territory.<sup>21</sup> The already extensive melting of glaciers and sea ice, thawing of permafrost, and shifts in ocean and atmospheric conditions will have profound effects on native communities, wildlife, and local economies. For instance, the average extent of sea-ice cover in the summer has declined by 15 to 20 percent in the last 30 years. Among other impacts, the reduction in sea ice “will drastically shrink marine habitat for polar bears, ice-inhabiting seals, and some seabirds, pushing some species to extinction.”<sup>22</sup> The report concludes that some continued warming is inevitable given the buildup of carbon dioxide but says that the “speed and amount” of warming can be minimized by substantially reducing future emissions.<sup>23</sup>

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### **Asthma**

Fine particle soot and ozone smog from power plants are respiratory irritants that trigger asthma attacks and contribute to other respiratory problems, including shortness of breath, chest pain, wheezing and cough, increased susceptibility to respiratory infections, and irreversible lung damage.<sup>24</sup>

Asthma is the most common chronic disease among children.<sup>25</sup> In 2004, a large study of children and asthma found that more than half (54 percent) of the children with asthma had a severe asthma attack in the past year and more than one-quarter (27 percent) had an asthma attack so bad they thought their life was in danger.<sup>26</sup> While it is well documented that air pollution triggers asthma attacks,<sup>27</sup> preliminary research suggests that ozone may increase children’s risk of developing asthma in the first place.<sup>28</sup>

Ozone triggers an estimated six million asthma attacks each year in the eastern U.S. alone.<sup>29</sup> Fine particle pollution from the nation’s power plants cause an estimated 554,000 asthma attacks each year.<sup>30</sup>

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### **Heart Attacks, Lung Disease, and Early Death**

The fine particles in soot are so small that they can bypass the body’s natural defenses and penetrate some of the most fragile parts of the lung, causing serious respiratory and cardiovascular problems. Both short-term (few hours or days) and chronic exposure to particle pollution are associated with heart and lung disease and death.<sup>31</sup> Fine particle pollution from the nation’s power plants alone causes an estimated 38,200 non-fatal heart attacks and 23,600 premature deaths, including 2,800 from lung cancer, every year.<sup>32</sup> EPA estimates that particle pollution takes an average of 14 years off the lives of people who die prematurely from particle exposure.<sup>33</sup>

In the largest study to date on the long-term health effects of air pollution, a 2002 study found that long-term exposure to fine particle pollution increases the risk of dying from lung cancer and heart disease.<sup>34</sup> Over many years, the danger is comparable to the health risks associated with long-term

exposure to second-hand smoke.<sup>35</sup> The study is a follow up to the landmark 1995 American Cancer Society study, which helped to establish the link between long-term particle exposure and premature death. The new study expands the previous work by analyzing data from 500,000 adults who were followed from 1982 to 1998 and lived in all 50 states. The relationship between fine particles and adverse health effects was linear and without a discernible lower “safe” threshold.<sup>36</sup>

Another major study, which also is an extension of the 1995 American Cancer Society study, found in 2004 that long-term exposure to fine particle pollution increases the risk of dying from ischemic heart disease (heart failure resulting from decreased oxygen supply to the heart muscle), arrhythmias, heart failure, and cardiac arrest. Previous studies linked long-term fine particle exposure to cardiopulmonary mortality but not to specific diseases.<sup>37</sup>

In addition, new evidence links short-term exposure to ozone with increases in premature deaths. A landmark 2004 study of 95 large urban areas covering 40 percent of the nation’s population from 1987 to 2000 found that increases in ozone were associated with increases in premature deaths, including deaths from heart and lung diseases.<sup>38</sup> The study followed on the heels of a large European study that found similar effects.<sup>39</sup>

Evidence also is mounting as to the adverse cardiovascular effects of exposure to mercury, another power plant pollutant. Elevated mercury levels have been associated with an increased risk of heart attacks, leading researchers to conclude that “[h]igh mercury content may diminish the cardioprotective effect of fish intake.”<sup>40</sup>

### **Acid Rain and Haze Remain Major Problems**

When SO<sub>2</sub> and NO<sub>x</sub> contact water in the atmosphere, they form acids that deposit in soil and surface waters and can damage forests, lakes, streams, and ecosystems.

Acid rain has contributed to the decline of red spruce trees throughout the eastern U.S. and sugar maple trees in central and western Pennsylvania.<sup>41</sup> For instance, since the 1960s, more than half of the large canopy red spruce trees in New York’s Adirondack Mountains and Vermont’s Green Mountains have died.<sup>42</sup> Acid rain also has reduced species diversity and the abundance of aquatic life in many lakes and streams. Nearly 25 percent of surveyed lakes in the Adirondacks, for example, do not support any fish,<sup>43</sup> and 30 percent of trout streams in Virginia are marginal or unsuitable for brook trout.<sup>44</sup>

Recent studies show that deeper cuts in power plant emissions – up to 80 percent beyond 1990 Clean Air Act Amendment requirements – are needed to allow forests, lakes, and ecosystems to recover.<sup>45</sup>

Particle pollution from power plants also scatters natural light, forming the haze that obscures city skylines and scenic vistas. Poor air quality in some national parks and wilderness areas rivals that in major U.S. cities. Regional haze has reduced annual average visibility in our national parks to about one-third to one-quarter of natural conditions in the west and east, respectively. For example, the average natural visual range in Virginia’s Shenandoah National Park and in the Great Smoky Mountains of Tennessee and North Carolina is about 80-90 miles, while average summertime visibility has been reduced to just 12 miles.<sup>46</sup>

In addition to the health effects mentioned above, air pollution is associated with pre-term birth, low birth weight, birth defects, and infant mortality.<sup>47</sup>

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## **Learning Disabilities**

Mercury emissions from coal-fired power plants and other industrial sources deposit in soil and surface waters, where bacteria convert the mercury to a highly toxic form that bioaccumulates in fish, including tuna and other commonly eaten fish. Mercury is a neurotoxin and is particularly damaging to the developing brain. EPA scientists estimate that one in six U.S. women of childbearing age has levels of mercury in

her blood that are sufficiently high to put 630,000 of the four million babies born each year at risk of learning disabilities as well as developmental delays, difficulty with fine motor coordination, and other problems.<sup>48</sup>

In a 2000 review of the health effects of mercury, the National Academy of Sciences Committee on the Toxicological Effects of Methylmercury concluded that mercury exposure among women who consume large amounts of fish and seafood during pregnancy “is likely to be sufficient to result in an increase in the number of children who have to struggle to keep up in school and who might require remedial classes or special education.”<sup>49</sup>

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# REPORT FINDINGS: POWER PLANT POLLUTION ON THE RISE

More than 1,200 power plants report emissions to EPA, which compiles the information in its acid rain database. To examine trends in power plant pollution, this report analyzes the data for CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> emissions since 1995, the first year the Acid Rain Program capped SO<sub>2</sub> emissions from the electricity-generating sector. Mercury is not included in this report because EPA does not collect mercury emissions data as part of its acid rain database. To better inform the public and policymakers, power plants should be required to continuously monitor and report their mercury emissions.

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## Global Warming Pollution

Power plants contribute 39 percent of the nation's CO<sub>2</sub> emissions.<sup>50</sup> Absent mandatory limits, CO<sub>2</sub> emissions from power plants continue to increase. In 2003, power plants released 2.5 billion tons of CO<sub>2</sub> into the atmosphere, a nine percent increase over 1995 levels. The 206 million ton increase in annual CO<sub>2</sub> emissions from 1995 to 2003 is the emissions equivalent of adding 36 million average cars to the roads.

Power plants in Texas, Ohio, Florida, Indiana, Pennsylvania, Illinois, Kentucky, West Virginia, Alabama, and Georgia released the most CO<sub>2</sub> emissions in 2003 (see Table 1). Appendix A shows state emissions and trends for carbon dioxide.

CO<sub>2</sub> emissions increased at 59 percent of the nation's dirtiest plants from 1995 to 2003 (see Appendix B). In 36 states, at

least half of the dirtiest power plants increased their annual CO<sub>2</sub> emissions over the nine-year period. Power plants in Texas increased their annual CO<sub>2</sub> emissions by 62 million tons from 1995 to 2003, the emissions equivalent of adding 10.8 million average cars to the roads.

**Table 1. Ten States Experiencing the Most CO<sub>2</sub> Emissions from Power Plants, 2003**

Rank	State	2003 Emissions (tons)
1	Texas	253,984,102
2	Ohio	137,142,616
3	Florida	136,441,856
4	Indiana	128,961,200
5	Pennsylvania	114,621,138
6	Illinois	101,640,326
7	Kentucky	95,771,990
8	West Virginia	92,270,902
9	Alabama	90,028,512
10	Georgia	83,030,903

Two power plants, the John Amos plant in Putnam County, West Virginia and the Centralia plant in Lewis County, Washington, increased their annual CO<sub>2</sub> emissions by more than 6.3 million tons from 1995 to 2003, the emissions equivalent of adding at least one million average cars to the roads. The Monticello plant in Titus County, Texas increased its annual CO<sub>2</sub> emissions by more than five million tons between 1995 and 2003, the equivalent of adding 886,000 average cars to the roads. Table 2 shows the 50 plants that increased their net annual CO<sub>2</sub> emissions the most from 1995 to 2003. See Appendix B for plant-by-plant CO<sub>2</sub> data for the dirtiest plants by state.

**Table 2. 50 Power Plants with the Largest Total Increases in Annual CO2 Emissions, 1995-2003**

Rank	State	Facility	County	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Increase (tons)	% Change	Emissions Equivalent (Average Cars)*
1	WV	John E Amos	Putnam	11,256,524	17,650,106	6,393,582	57%	1,116,783
2	WA	Centralia	Lewis	6,946,854	13,334,862	6,388,008	92%	1,115,809
3	TX	Monticello	Titus	10,916,304	15,986,195	5,069,891	46%	885,571
4	IL	Kincaid Station	Christian	2,918,670	7,645,767	4,727,097	162%	825,694
5	MO	Meramec	St Louis	1,728,293	6,123,092	4,394,799	254%	767,651
6	AL	E C Gaston	Shelby	9,285,950	13,634,871	4,348,921	47%	759,637
7	GA	Wansley (6052)	Heard	8,173,760	12,352,684	4,178,924	51%	729,943
8	WV	Mountaineer (1301)	Mason	5,500,830	9,477,985	3,977,155	72%	694,700
9	SC	Winyah	Georgetown	4,609,621	8,450,427	3,840,806	83%	670,883
10	IN	Warrick	Warrick	2,584,160	6,420,380	3,836,220	148%	670,082
11	LA	Big Cajun 2	Pointe Coupee	10,339,156	14,076,341	3,737,185	36%	652,783
12	FL	Curtis H. Stanton Energy Center	Orange	2,645,121	6,343,444	3,698,323	140%	645,995
13	IN	Wabash River	Vigo	2,352,261	5,961,069	3,608,808	153%	630,360
14	TX	Big Brown	Freestone	6,820,531	10,291,124	3,470,593	51%	606,217
15	GA	Yates	Coweta	3,214,223	6,664,384	3,450,161	107%	602,648
16	PA	Bruce Mansfield	Beaver	11,818,383	15,265,479	3,447,096	29%	602,113
17	AL	Barry	Mobile	10,496,463	13,941,717	3,445,254	33%	601,791
18	MI	J H Campbell	Ottawa	7,955,303	11,390,422	3,435,119	43%	600,021
19	IL	Baldwin Energy Complex	Randolph	10,277,062	13,653,779	3,376,717	33%	589,820
20	KS	Jeffrey Energy Center	Pottawatomie	14,820,304	18,129,747	3,309,443	22%	578,069
21	TX	Coletto Creek	Goliad	1,108,403	4,294,737	3,186,334	287%	556,565
22	FL	Fort Myers	Lee	1,479,753	4,646,535	3,166,782	214%	553,150
23	OR	Boardman	Morrow	1,861,637	4,951,428	3,089,791	166%	539,702
24	TX	Welsh Power Plant	Titus	9,412,130	12,354,996	2,942,866	31%	514,038
25	MN	Sherburne County	Sherburne	16,050,242	18,964,310	2,914,068	18%	509,008
26	IN	R M Shahfer Generating Station	Jasper	9,160,428	12,068,557	2,908,129	32%	507,970
27	AZ	Navajo Generating Station	Coconino	15,964,166	18,824,771	2,860,605	18%	499,669
28	MA	Mystic	Middlesex	1,112,016	3,933,468	2,821,452	254%	492,830
29	OH	Gen J M Gavin	Gallia	16,255,356	19,024,546	2,769,190	17%	483,701
30	WY	Laramie River	Platte	12,228,380	14,990,230	2,761,850	23%	482,419
31	SC	Cross	Berkeley	6,121,414	8,865,038	2,743,624	45%	479,236
32	NC	G G Allen	Gaston	3,661,778	6,280,173	2,618,395	72%	457,362
33	TX	Sam Seymour	Fayette	10,540,286	13,144,924	2,604,638	25%	454,959
34	KS	Lawrence Energy Center	Douglas	2,655,743	5,191,461	2,535,718	95%	442,920
35	IL	Marion	Williamson	3,538	2,531,852	2,528,314	71462%	441,627
36	MS	Daniel Electric Generating Plant	Jackson	5,157,509	7,670,510	2,513,001	49%	438,952
37	IL	Powerton	Tazewell	6,838,923	9,318,682	2,479,759	36%	433,146
38	FL	Crist Electric Generating Plant	Escambia	5,174,693	7,619,432	2,444,739	47%	427,029
39	NC	Riverbend	Gaston	395,414	2,797,357	2,401,943	607%	419,553
40	MO	Hawthorn	Jackson	2,362,439	4,735,497	2,373,058	100%	414,508
41	NE	Gerald Gentleman Station	Lincoln	9,335,630	11,651,121	2,315,491	25%	404,453
42	NE	North Omaha	Douglas	1,756,692	4,061,114	2,304,422	131%	402,519
43	MT	Colstrip	Rosebud	15,256,141	17,559,528	2,303,387	15%	402,338
44	IL	Joliet 29	Will	5,183,887	7,444,710	2,260,823	44%	394,904
45	MO	Sioux	St Charles	3,834,762	6,033,364	2,198,602	57%	384,035
46	KS	La Cygne	Linn	9,673,844	11,862,601	2,188,757	23%	382,316
47	AL	James H Miller Jr	Jefferson	18,073,241	20,226,269	2,153,028	12%	376,075
48	CO	Craig	Moffat	8,583,339	10,662,644	2,079,305	24%	363,197
49	AZ	Coronado Generating Station	Apache	4,664,519	6,722,843	2,058,324	44%	359,533
50	AR	Independence	Independence	10,084,094	12,140,178	2,056,084	20%	359,141

\* Refer to the methodology section for a description of how we calculated emissions equivalencies.

## Fine Particle Soot Pollution

Power plants contribute 67 percent of soot-forming SO<sub>2</sub> emissions.<sup>51</sup> Though federal law caps SO<sub>2</sub> emissions from power plants, more than half (216 of 400, or 54 percent) of the nation's dirtiest power plants increased their annual SO<sub>2</sub> emissions from 1995 to 2003, even while annual SO<sub>2</sub> emissions from power plants decreased by 10 percent nationwide.

Power plants in Ohio led the nation in SO<sub>2</sub> emissions, releasing 1.2 million tons in 2003 and the only state to exceed one million tons. Power plants in Pennsylvania were close behind, emitting 967,000 tons of SO<sub>2</sub> in 2003. Other states topping the list for the most SO<sub>2</sub> emissions from power plants in 2003 include Indiana, Texas, Georgia, West Virginia, Kentucky, Florida, North Carolina, and Alabama (see Table 3).

Rank	State	2003 Emissions (tons)
1	Ohio	1,175,903
2	Pennsylvania	967,183
3	Indiana	804,828
4	Texas	577,688
5	Georgia	540,714
6	West Virginia	539,857
7	Kentucky	529,674
8	Florida	475,312
9	North Carolina	462,041
10	Alabama	458,622

In 33 states, at least one-third of the state's dirtiest plants increased their annual CO<sub>2</sub> emissions from 1995 to 2003. Appendix C shows SO<sub>2</sub> emissions trends for each state.

Some states experienced overall decreases in SO<sub>2</sub> power plant emissions while a majority of their dirtiest power plants

actually increased their emissions. In Ohio, for example, annual power plant SO<sub>2</sub> emissions dropped two percent between 1995 and 2003, but 12 of the state's 21 dirtiest power plants increased their annual emissions by a combined 215,000 tons. Similarly, in Florida, annual power plant SO<sub>2</sub> emissions fell 21 percent between 1995 and 2003, but 14 of the state's 23 dirtiest power plants increased their annual SO<sub>2</sub> emissions by a total of 93,000 tons. The communities living near and downwind of the power plants with increased emissions are breathing dirtier air.

The E C Gaston plant in Shelby County, Alabama increased its annual emissions of SO<sub>2</sub> by 75,000 tons from 1995 to 2003, the emissions equivalent of building 27 typical new power plants in the state. The Warrick plant in Warrick County, Indiana increased its annual SO<sub>2</sub> emissions by 71,000 tons, the emissions equivalent of building 25 typical new power plants. And the W H Sammis plant in Jefferson County, Ohio increased its annual SO<sub>2</sub> emissions by 67,000 tons, the emissions equivalent of building 24 typical new power plants. Table 4 lists the 50 plants that increased their net annual SO<sub>2</sub> emissions the most from 1995 to 2003. See Appendix D for plant-by-plant SO<sub>2</sub> data for the dirtiest plants by state.

Many of the power plants that have increased their annual SO<sub>2</sub> emissions since 1995 are in communities that violate or contribute to violations of the national health standard for fine particle soot. In 2004, EPA determined that 95 million Americans live in 225 counties with unsafe levels of fine particulate matter (PM<sub>2.5</sub>).<sup>52</sup> As shown in Table 5, 70 of the 216 power plants that increased their annual SO<sub>2</sub> emissions from 1995 to 2003 are located in PM<sub>2.5</sub> nonattainment areas. These 70 plants increased their annual SO<sub>2</sub> emissions by a total of 879,000 tons.

**Table 4. 50 Power Plants with the Largest Total Increases in Annual SO2 Emissions, 1995-2003**

Rank	State	Facility	County	1995	2003	Emissions	% Change	Emissions
				Emissions (tons)	Emissions (tons)	Increase (tons)		Equivalent (Typical New Power Plants)*
1	AL	E C Gaston	Shelby	55,738	130,405	74,667	134%	27
2	IN	Warrick	Warrick	37,682	108,677	70,995	188%	25
3	OH	W H Sammis	Jefferson	97,519	164,398	66,879	69%	24
4	WV	John E Amos	Putnam	72,121	114,018	41,897	58%	15
5	GA	Wansley (6052)	Heard	53,801	93,982	40,181	75%	14
6	OH	Miami Fort	Hamilton	44,476	81,515	37,039	83%	13
7	WV	Fort Martin Power Station	Monongalia	69,974	102,522	32,548	47%	12
8	IN	Wabash River	Vigo	34,087	64,607	30,520	90%	11
9	KY	E W Brown	Mercer	27,794	56,747	28,953	104%	10
10	GA	Yates	Coweta	20,269	44,933	24,664	122%	9
11	PA	Homer City	Indiana	127,383	151,678	24,295	19%	9
12	OH	Walter C Beckjord	Clermont	42,141	64,871	22,730	54%	8
13	NY	Northport	Suffolk	10,927	32,962	22,035	202%	8
14	KS	Jeffrey Energy Center	Pottawatomie	45,600	67,611	22,011	48%	8
15	OH	Muskingum River	Washington	117,556	139,120	21,564	18%	8
16	NC	Roxboro	Person	82,454	103,937	21,483	26%	8
17	FL	P L Bartow	Pinellas	13,112	33,922	20,810	159%	7
18	NC	Riverbend	Gaston	1,686	22,180	20,494	1216%	7
19	MD	C P Crane	Baltimore	12,162	32,261	20,099	165%	7
20	WV	Mountaineer (1301)	Mason	28,719	48,036	19,317	67%	7
21	MD	Morgantown	Charles	66,555	85,340	18,785	28%	7
22	PA	Keystone	Armstrong	145,095	163,494	18,399	13%	7
23	SC	Winyah	Georgetown	18,401	35,370	16,969	92%	6
24	NC	G G Allen	Gaston	21,274	37,975	16,701	79%	6
25	OH	J M Stuart	Adams	107,639	124,199	16,560	15%	6
26	OH	Conesville	Coshocton	116,770	133,189	16,419	14%	6
27	FL	Crystal River	Citrus	86,243	101,685	15,442	18%	6
28	VA	Chesterfield Power Station	Chesterfield	65,590	80,551	14,961	23%	5
29	NY	Dynegy Roseton	Orange	3,988	18,880	14,892	373%	5
30	IL	Vermilion Power Station	Vermilion	2,623	17,371	14,748	562%	5
31	GA	Hammond	Floyd	21,695	35,923	14,228	66%	5
32	TX	Big Brown	Freestone	72,166	86,340	14,174	20%	5
33	ND	Leland Olds	Mercer	30,805	44,723	13,918	45%	5
34	MI	Trenton Channel	Wayne	12,834	26,648	13,814	108%	5
35	IN	Tanners Creek	Dearborn	39,589	53,175	13,586	34%	5
36	NC	Cliffside	Cleveland	21,563	34,977	13,414	62%	5
37	IL	Coffeen	Montgomery	31,228	44,323	13,095	42%	5
38	OH	Gen J M Gavin	Gallia	23,478	36,560	13,082	56%	5
39	VA	Yorktown Power Station	York	23,417	35,804	12,387	53%	4
40	PA	Bruce Mansfield	Beaver	19,549	31,923	12,374	63%	4
41	PA	Armstrong Power Station	Armstrong	21,907	34,141	12,234	56%	4
42	IN	Harding Street Station (EW Stout)	Marion	38,869	51,017	12,148	31%	4
43	IL	E D Edwards	Peoria	43,046	55,036	11,990	28%	4
44	OK	Northeastern	Rogers	22,687	34,021	11,334	50%	4
45	LA	Big Cajun 2	Pointe Coupee	42,035	52,724	10,689	25%	4
46	NJ	Hudson Generating Station	Hudson	6,529	17,196	10,667	163%	4
47	MS	Gerald Andrus	Washington	1,960	12,568	10,608	541%	4
48	WI	Nelson Dewey	Grant	4,127	14,554	10,427	253%	4
49	IL	Joliet 29	Will	13,107	23,294	10,187	78%	4
50	MD	Herbert A Wagner	Anne Arundel	13,219	23,154	9,935	75%	4

\* Refer to the methodology section for a description of how we calculated emissions equivalencies.

**Table 5. Power Plants Located in PM2.5 Nonattainment Areas with Increases in Annual SO2 Emissions, 1995-2003**

State	County	Facility Name	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Increase (tons)	% Change	Emissions Equivalent (Typical New Power Plants) <sup>o</sup>
AL	Shelby	E C Gaston	55,738	130,405	74,667	134%	27
DE	New Castle	Edge Moor	11,176	12,315	1,139	10%	0
GA	Bartow	Bowen	160,653	164,884	4,231	3%	2
GA	Cobb	Jack McDonough	19,586	23,890	4,304	22%	2
GA	Coweta	Yates	20,269	44,933	24,664	122%	9
GA	Floyd	Hammond	21,695	35,923	14,228	66%	5
GA	Heard	Wansley (6052)	53,801	93,982	40,181	75%	14
IL	Cook	Crawford	6,303	7,906	1,603	25%	1
IL	Cook	Fisk	3,334	4,318	984	30%	0
IL	Grundy	Collins Station	3,083	4,060	977	32%	0
IL	Will	Joliet 29	13,107	23,294	10,187	78%	4
IL	Will	Joliet 9	3,274	6,085	2,811	86%	1
IN	Dearborn	Tanners Creek	39,589	53,175	13,586	34%	5
IN	Floyd	R Gallagher	51,630	53,341	1,711	3%	1
IN	Lake	State Line Generating Station (IN)	6,186	8,011	1,825	30%	1
IN	Marion	Harding Street Station (EW Stout)	38,869	51,017	12,148	31%	4
IN	Morgan	Eagle Valley (H T Pritchard)	7,866	16,935	9,069	115%	3
IN	Warrick	F B Culley Generating Station	3,242	5,847	2,605	80%	1
IN	Warrick	Warrick	37,682	108,677	70,995	188%	25
KY	Boone	East Bend	11,378	14,960	3,582	31%	1
KY	Jefferson	Cane Run	8,885	16,272	7,387	83%	3
KY	Mercer	E W Brown	27,794	56,747	28,953	104%	10
MD	Anne Arundel	Herbert A Wagner	13,219	23,154	9,935	75%	4
MD	Baltimore	C P Crane	12,162	32,261	20,099	165%	7
MD	Charles	Morgantown	66,555	85,340	18,785	28%	7
MD	Prince Georges	Chalk Point	45,454	52,279	6,825	15%	2
MD	Washington	R. Paul Smith Power Station	1,654	3,749	2,095	127%	1
MI	Monroe	J R Whiting	13,302	13,922	620	5%	0
MI	St. Clair	St. Clair	38,250	45,647	7,397	19%	3
MI	Wayne	River Rouge	12,567	15,484	2,917	23%	1
MI	Wayne	Trenton Channel	12,834	26,648	13,814	108%	5
MO	St. Charles	Sioux	47,856	49,383	1,527	3%	1
MO	St. Louis	Meramec	12,924	15,451	2,527	20%	1
NJ	Hudson	Hudson Generating Station	6,529	17,196	10,667	163%	4
NJ	Mercer	Mercer Generating Station	8,402	12,487	4,085	49%	1
NY	Orange	Dynergy Danskammer	8,210	11,257	3,047	37%	1
NY	Orange	Dynergy Roseton	3,988	18,880	14,892	373%	5
NY	Queens	Ravenswood Generating Station	909	3,972	3,063	337%	1
NY	Queens	Astoria Generating Station	1,625	2,680	1,055	65%	0
NY	Rockland	Bowline Generating Station	1,931	2,356	425	22%	0
NY	Rockland	Lovett Generating Station	6,917	9,662	2,745	40%	1
NY	Suffolk	Northport	10,927	32,962	22,035	202%	8
NY	Suffolk	Port Jefferson Energy Center	6,276	6,633	357	6%	0
OH	Adams	J M Stuart	107,639	124,199	16,560	15%	6
OH	Adams	Killen Station	22,735	23,725	990	4%	0
OH	Clermont	Walter C Beckjord	42,141	64,871	22,730	54%	8
OH	Coshocton	Conesville	116,770	133,189	16,419	14%	6
OH	Cuyahoga	Lake Shore	*	2,091	658	46%	0
OH	Gallia	Gen J M Gavin	23,478	36,560	13,082	56%	5

Table 5, continued

State	County	Facility Name	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Increase (tons)	% Change	Emissions Equivalent (Typical New Power Plants) <sup>o</sup>
OH	Hamilton	Miami Fort	44,476	81,515	37,039	83%	13
OH	Jefferson	W H Sammis	97,519	164,398	66,879	69%	24
OH	Lorain	Avon Lake Power Plant	27,824	36,007	8,183	29%	3
OH	Montgomery	O H Hutchings	2,643	7,994	5,351	202%	2
OH	Washington	Muskingum River	117,556	139,120	21,564	18%	8
PA	Allegheny	Cheswick	42,900	45,433	2,533	6%	1
PA	Armstrong	Armstrong Power Station	21,907	34,141	12,234	56%	4
PA	Armstrong	Keystone	145,095	163,494	18,399	13%	7
PA	Beaver	Bruce Mansfield	19,549	31,923	12,374	63%	4
PA	Berks	Titus	13,641	15,892	2,251	17%	1
PA	Chester	Cromby	4,912	5,443	531	11%	0
PA	Delaware	Eddystone	6,749	9,416	2,667	40%	1
PA	Indiana	Homer City	127,383	151,678	24,295	19%	9
VA	Alexandria	Potomac River	12,541	15,166	2,625	21%	1
WV	Harrison	Harrison Power Station	9,944	13,145	3,201	32%	1
WV	Kanawha	Kanawha River	7,786	15,687	7,901	101%	3
WV	Marion	Rivesville Power Station	1,845	5,356	3,511	190%	1
WV	Mason	Mountaineer (1301)	28,719	48,036	19,317	67%	7
WV	Monongalia	Fort Martin Power Station	69,974	102,522	32,548	47%	12
WV	Pleasants	Willow Island Power Station	10,007	12,140	2,133	21%	1
WV	Putnam	John E Amos	72,121	114,018	41,897	58%	15
<b>Total</b>			<b>2,135,485</b>	<b>3,015,530</b>	<b>878,612</b>		<b>314</b>

\* This plant first reported emissions in 1996.

<sup>o</sup> Refer to the methodology section for a description of how we calculated emissions equivalencies.

## Ozone Smog Pollution

Power plants contribute 22 percent of smog-forming NOx emissions.<sup>53</sup> NOx also contributes to fine particle pollution. Though regional initiatives limit NOx emissions from power plants, 38 percent (188 of 500) of the nation's dirtiest power plants increased their annual NOx emissions from 1995 to 2003, even while annual NOx emissions from power plants declined by 29 percent nationwide.

Power plants in Ohio also led the nation for the most NOx emissions in 2003. The other states topping the list include Indiana, Florida, Texas, West Virginia, Kentucky, Pennsylvania, Alabama, Illinois, and Missouri (see Table 6). Power plants in these 10 states as well as four others (Tennessee, North Carolina, Michigan, and Georgia) released more than 100,000 tons of NOx in 2003.

Rank	State	2003 Emissions (tons)
1	Ohio	355,192
2	Indiana	261,453
3	Florida	252,620
4	Texas	211,130
5	West Virginia	203,142
6	Kentucky	185,394
7	Pennsylvania	174,280
8	Alabama	155,058
9	Illinois	145,856
10	Missouri	144,836

In 37 states, at least 20 percent of the state's dirtiest power plants increased their annual NOx emissions from 1995 to 2003. Appendix E shows NOx emissions trends for each state.

Some states experienced overall decreases in NOx power plant emissions while a large percentage of their dirtiest power plants

actually increased their emissions. In Indiana, for example, annual power plant NOx emissions dropped 26 percent between 1995 and 2003, but 10 of the state's 22 dirtiest power plants increased their annual emissions by a total of more than 16,000 tons. Similarly, in Florida, annual power plant NOx emissions fell 15 percent between 1995 and 2003, but 17 of the state's 27 dirtiest power plants increased their annual emissions by a combined 23,000 tons. The communities in the shadows and downwind of the power plants with increased emissions are living with worse air quality as a result.

The E C Gaston plant in Shelby County, Alabama increased its annual NOx emissions by 11,500 tons, the emissions equivalent of adding 601,000 average cars to the state's roads. The Winyah plant in Georgetown County, South Carolina increased its annual NOx emissions by 10,700 tons, the emissions equivalent of adding 559,000 average cars to the state's roads. An additional 56 power plants increased their annual NOx emissions by the emissions equivalent of adding at least 100,000 average cars to the roads. Table 7 shows the 50 plants with the greatest net increases in annual NOx emissions from 1995 to 2003. See Appendix F for plant-by-plant NOx data for the dirtiest plants by state.

In addition, many of the power plants that increased their annual NOx emissions from 1995 to 2003 are located in communities that violate or contribute to violations of the national health standard for ozone smog. In 2004, EPA determined that 159 million Americans live in 474 counties with unsafe levels of ozone smog.<sup>54</sup> As shown in Table 8, 51 of the 188 power plants that increased their annual NOx emissions from 1995 to 2003 are located in 8-hour ozone nonattainment areas. These 51 power plants increased their annual NOx emissions by a total of 98,000 tons.

**Table 7. 50 Power Plants with the Largest Total Increases in Annual NOx Emissions, 1995-2003**

Rank	State	Facility	County	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Increase (tons)	% Change	Emissions Equivalent (Average Cars)*
1	AL	E C Gaston	Shelby	18,632	30,112	11,480	62%	601,047
2	SC	Winyah	Georgetown	10,973	21,647	10,674	97%	558,859
3	MS	Watson Electric Generating Plant	Harrison	6,564	16,014	9,450	144%	494,759
4	KS	La Cygne	Linn	29,069	38,035	8,966	31%	469,398
5	WV	Mitchell (WV)	Marshall	21,017	29,663	8,646	41%	452,675
6	MT	Colstrip	Rosebud	25,902	33,852	7,950	31%	416,220
7	WV	John E Amos	Putnam	37,590	45,421	7,831	21%	410,000
8	LA	Big Cajun 2	Pointe Coupee	12,878	19,807	6,929	54%	362,791
9	UT	Intermountain	Millard	20,575	27,188	6,613	32%	346,225
10	OR	Boardman	Morrow	3,841	10,080	6,239	162%	326,649
11	OK	Northeastern	Rogers	10,734	16,811	6,077	57%	318,152
12	WA	Centralia	Lewis	14,618	20,522	5,904	40%	309,099
13	OH	Eastlake	Lake	14,551	20,050	5,499	38%	287,911
14	CO	Craig	Moffat	14,574	19,665	5,091	35%	266,565
15	GA	Yates	Coweta	5,890	10,919	5,029	85%	263,314
16	IA	Council Bluffs	Pottawattamie	8,287	13,290	5,003	60%	261,937
17	OH	Conesville	Coshocton	24,061	29,050	4,989	21%	261,220
18	IN	Warrick	Warrick	10,992	15,721	4,729	43%	247,597
19	IN	Wabash River	Vigo	5,958	10,422	4,464	75%	233,707
20	MO	Meramec	St Louis	6,624	10,803	4,179	63%	218,796
21	NV	North Valmy	Humboldt	2,783	6,936	4,153	149%	217,408
22	NY	Northport	Suffolk	3,706	7,521	3,815	103%	199,723
23	FL	Curtis H. Stanton Energy Center	Orange	5,189	8,895	3,706	71%	194,016
24	NE	Gerald Gentleman Station	Lincoln	19,088	22,781	3,693	19%	193,372
25	WI	Pulliam	Brown	4,659	8,338	3,679	79%	192,607
26	KS	Jeffrey Energy Center	Pottawatomie	27,073	30,706	3,633	13%	190,204
27	FL	Martin	Martin	3,916	7,364	3,448	88%	180,518
28	FL	Crist Electric Generating Plant	Escambia	13,696	17,127	3,431	25%	179,639
29	FL	Anclote	Pasco	5,867	9,220	3,353	57%	175,524
30	IL	Kincaid Station	Christian	16,986	20,317	3,331	20%	174,408
31	MS	R D Morrow	Lamar	4,364	7,613	3,249	74%	170,099
32	MS	Daniel Electric Generating Plant	Jackson	7,521	10,746	3,225	43%	168,853
33	IL	Marion	Williamson	3,543	6,636	3,093	87%	161,932
34	NC	Riverbend	Gaston	2,475	5,508	3,033	123%	158,775
35	TN	Johnsonville	Humphreys	19,695	22,687	2,992	15%	156,670
36	AZ	Coronado Generating Station	Apache	11,222	14,152	2,930	26%	153,419
37	GA	Kraft	Chatham	1,215	4,108	2,893	238%	151,471
38	IN	Eagle Valley (H T Pritchard)	Morgan	1,597	4,428	2,831	177%	148,199
39	CO	Comanche (470)	Pueblo	6,298	9,112	2,814	45%	147,325
40	LA	Rodemacher Power Station	Rapides	5,297	8,071	2,774	52%	145,241
41	PA	Bruce Mansfield	Beaver	20,798	23,510	2,712	13%	141,990
42	VA	Yorktown Power Station	York	6,148	8,807	2,659	43%	139,194
43	OH	O H Hutchings	Montgomery	1,246	3,830	2,584	207%	135,304
44	MN	Riverside (1927)	Hennepin	10,816	13,344	2,528	23%	132,372
45	IA	Louisa	Louisa	4,723	7,239	2,516	53%	131,733
46	WV	Albright Power Station	Preston	3,124	5,600	2,476	79%	129,613
47	KY	E W Brown	Mercer	5,907	8,351	2,444	41%	127,963
48	WI	Alma	Buffalo	1,398	3,803	2,405	172%	125,916
49	NY	Dynegy Roseton	Orange	2,076	4,344	2,268	109%	118,728
50	OK	Grand River Dam Authority	Mayes	14,995	17,247	2,252	15%	117,880

\* Refer to the methodology section for a description of how we calculated emissions equivalencies.

**Table 8. Power Plants Located in 8-Hour Ozone Nonattainment Areas with Increases in Annual NOx Emissions, 1995-2003**

State	Facility	County	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Increase (tons)	% Change	Emissions Equivalent (Average Cars) <sup>o</sup>
AL	E C Gaston	Shelby	18,632	30,112	11,480	62%	601,047
AZ	Agua Fria Generating Station	Maricopa	636	1,004	368	58%	19,251
CO	Rawhide Energy Station	Larimer	3,743	4,494	751	20%	39,304
GA	Yates	Coweta	5,890	10,919	5,029	85%	263,314
IN	Eagle Valley (H T Pritchard)	Morgan	1,597	4,428	2,831	177%	148,199
IN	Harding Street Station (EW Stout)	Marion	5,748	6,353	605	11%	31,649
IN	Noblesville	Hamilton	791	843	52	7%	2,696
IN	State Line Generating Station (IN)	Lake	6,842	8,370	1,528	22%	79,984
IN	Wabash River	Vigo	5,958	10,422	4,464	75%	233,707
IN	Warrick	Warrick	10,992	15,721	4,729	43%	247,597
MA	Brayton Point	Bristol	10,400	10,847	447	4%	23,398
MA	Canal Station	Barnstable	4,055	4,890	835	21%	43,696
MD	R. Paul Smith Power Station	Washington	524	986	462	88%	24,209
MI	Greenwood	St. Clair	263	568	305	116%	15,979
MI	Harbor Beach	Huron	828	1,020	192	23%	10,063
MI	Monroe	Monroe	31,414	33,483	2,069	7%	108,335
MI	Wyandotte	Wayne	443	545	102	23%	5,325
MO	Meramec	St. Louis	6,624	10,803	4,179	63%	218,796
NC	Buck	Rowan	1,305	3,104	1,799	138%	94,162
NC	Dan River	Rockingham	1,280	2,951	1,671	131%	87,497
NC	Riverbend	Gaston	2,475	5,508	3,033	123%	158,775
NH	Newington	Rockingham	2,183	3,068	885	41%	46,325
NH	Schiller	Rockingham	1,661	1,793	132	8%	6,916
NJ	Hudson Generating Station	Hudson	6,344	7,210	866	14%	45,319
NV	Clark	Clark	*	575	552	2398%	28,880
NV	Reid Gardner	Clark	10,043	11,930	1,887	19%	98,801
NV	Sunrise	Clark	*	647	560	643%	29,293
NY	Charles Poletti	Queens	*	2,201	431	24%	22,576
NY	Dynegy Roseton	Orange	2,076	4,344	2,268	109%	118,728
NY	Lovett Generating Station	Rockland	3,912	4,079	167	4%	8,733
NY	Northport	Suffolk	3,706	7,521	3,815	103%	199,723
NY	Port Jefferson Energy Center	Suffolk	1,053	1,270	217	21%	11,356
NY	Ravenswood Generating Station	Queens	2,960	3,363	403	14%	21,099
OH	Eastlake	Lake	14,551	20,050	5,499	38%	287,911
OH	Lake Shore	Cuyahoga	*	1,327	797	150%	41,702
OH	Muskingum River	Washington	23,290	25,441	2,151	9%	112,592
OH	Niles	Trumbull	5,660	5,825	165	3%	8,660
OH	O H Hutchings	Montgomery	1,246	3,830	2,584	207%	135,304
OH	Walter C Beckjord	Clermont	16,249	16,729	480	3%	25,131
PA	Bruce Mansfield	Beaver	20,798	23,510	2,712	13%	141,990
PA	Eddystone	Delaware	4,103	5,957	1,854	45%	97,047
PA	Martins Creek	Northampton	5,960	6,646	686	12%	35,937
PA	Portland	Northampton	2,543	2,977	434	17%	22,712
SC	W S Lee	Anderson	1,934	2,646	712	37%	37,267
TX	Cedar Bayou	Chambers	1,654	2,012	358	22%	18,743
TX	Cogen Lyondell	Harris	*	1,833	949	107%	49,707
TX	Sweeny Cogeneration Facility	Brazoria	*	1,475	318	28%	16,665
VA	Yorktown Power Station	York	6,148	8,807	2,659	43%	139,194
WI	Manitowoc	Manitowoc	540	649	109	20%	5,681

Table 8, continued

State	Facility	County	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Increase (tons)	% Change	Emissions Equivalent (Average Cars) <sup>o</sup>
WV	John E Amos	Putnam	37,590	45,421	7,831	21%	410,000
WV	Mitchell (WV)	Marshall	21,017	29,663	8,646	41%	452,675
<b>Total</b>			<b>317,661</b>	<b>420,164</b>	<b>98,053</b>		<b>5,133,649</b>

\* The Sunrise, Clark, Charles Poletti and Lake Shore facilities did not report emissions until 1996; the Sweeny Cogeneration Facility went online in 1997; and the Cogen Lyondell facility first reported emissions in 2002.

<sup>o</sup> Refer to the methodology section for a description of how we calculated emissions equivalencies.

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## RECOMMENDATIONS

Power plant emissions of CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> will continue to increase unless we cap global warming emissions and enforce clean air protections already in the law. Specifically, national caps on SO<sub>2</sub> and NO<sub>x</sub> alone will not protect the health of local communities. Rather, tighter national caps should be accompanied by rigorous enforcement of New Source Review and other Clean Air Act programs that ensure that every plant installs modern pollution controls.

The Bush administration has firmly rejected mandatory limits on CO<sub>2</sub> emissions and instead relies on voluntary partnerships with industry to reduce emissions. The serious increases in CO<sub>2</sub> emissions from power plants documented in this report show that this voluntary approach has failed. A mandatory limit on CO<sub>2</sub> emissions is critical to minimize the effects of global warming.

Unfortunately, the Bush administration is working to delay and dilute SO<sub>2</sub> and NO<sub>x</sub> reductions called for in the Clean Air Act, repeal New Source Review for power plants, and repeal or significantly weaken

other plant-specific clean air programs to rely instead on pollution caps, while ignoring global warming altogether. These policies will prolong and exacerbate illness and suffering from air pollution.

Instead, EPA and federal and state lawmakers should:

- Enforce existing Clean Air Act programs, including New Source Review, designed to ensure that every community has healthy air;
- As a first step, pass a national cap that limits CO<sub>2</sub> emissions economy-wide to 2000 levels by 2010;
- Strengthen and finalize EPA's proposed Clean Air Interstate Rule (CAIR) to cap SO<sub>2</sub> and NO<sub>x</sub> emissions from power plants in the eastern U.S. at 1.8 million tons and 1 million tons, respectively, by the end of the decade, as the law requires; and
- Strengthen the Clean Air Act's existing programs to further reduce all four major power plant pollutants.

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# METHODOLOGY

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## Data Source and Parameters

This report analyzes CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> emissions from power plants that reported emissions to EPA's acid rain database from 1995-2003. The data, available from EPA,<sup>55</sup> covers 1,200 power plants in 48 states (excluding Alaska and Hawaii) and the District of Columbia, regardless of fuel burned or control configuration. We used 1995 as the baseline year because it was the first year EPA required power plants to report their CO<sub>2</sub> emissions and the first year the Clean Air Act capped SO<sub>2</sub> emissions from the electricity-generating sector.

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## Plant-by-Plant Analyses

To make the data manageable, we limited our plant-by-plant analyses to the top emitting power plants for each pollutant in 2003. For each pollutant, we captured roughly 99 percent of 2003 emissions, amounting to 700 plants for CO<sub>2</sub>, 400 plants for SO<sub>2</sub>, and 500 plants for NO<sub>x</sub>. In the body of the report, we refer to these plants as the "dirtiest" plants.

To calculate emissions increases or decreases, we subtracted a plant's earliest available emissions data (1995-2003) from the plant's 2003 emissions. In most cases, this simply involved subtracting the reported 1995 emissions from the 2003 emissions. If a power plant did not report emissions in 1995, we made the same calculation using the earliest year available. If a power plant came online in 1995, we calculated the emissions change based on the 1996 reported data unless the plant came online in January of 1995. We applied this methodology as well for plants coming

online mid-year in 1997, 1998, 1999, 2000, and 2001. If a plant came online after January of 2002, we did not calculate an emissions change for that plant between 2002 and 2003, assuming conservatively that the 2002 data represents an incomplete reporting period.

To determine when a plant came online, we referred to the Energy Information Administration's data on existing electric generating units in the U.S. for 2003.<sup>56</sup>

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## State Analyses

The state-by-state data in the report are not limited to the top emitting power plants but include all power plants in the acid rain database from 1995-2003. As a result, the sum of the plant-by-plant emissions will not add up to the statewide figures.

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## Emissions Equivalencies

EPA estimates that an average passenger car on the road in 2000 emitted 11,450 pounds of CO<sub>2</sub> and 38.2 pounds of NO<sub>x</sub> each year.<sup>57</sup> To calculate average car emissions equivalencies for CO<sub>2</sub> emissions, we used the following equation: (Tons of CO<sub>2</sub> emissions x 2,000 pounds)/11,450 pounds of CO<sub>2</sub> per car per year. To calculate average car emissions equivalencies for NO<sub>x</sub>, we used the following equation: (Tons of NO<sub>x</sub> emissions x 2,000 pounds)/38.2 pounds of NO<sub>x</sub> per car per year.

To calculate typical new power plant equivalencies for SO<sub>2</sub> emissions, we used an estimate of 2,800 tons per year provided by MSB Associates. This was based on MSB's

estimates that a typical new power plant is 500 MW/h in size ( $4.38 \times 10^9$  KWh/year), operates at 85 percent capacity, has a heat input of 10,000 BTU/KWh, and emits 0.15 lbs of SO<sub>2</sub>/Million BTU ( $7.5 \times 10^{-11}$  tons/BTU). To arrive at 2,800 tons, MSB multiplied  $4.38 \times 10^9$  KWh/year by 10,000

BTU/KWh, multiplied the product by 0.85, and then multiplied the total by  $7.5 \times 10^{-11}$  tons/BTU, for a final total of 2,792 tons per year. To calculate typical new power plant equivalencies, we used the following equation: Tons of SO<sub>2</sub> emissions/2,800 tons of SO<sub>2</sub> per power plant per year.

## APPENDIX A. STATE TRENDS IN POWER PLANT CARBON DIOXIDE EMISSIONS, 1995-2003

Rank, 2003	State	1995	2003	Emissions	% Change	# of Dirty Power Plants Increasing CO2 Emissions	Total # of Dirty Power Plants	Emissions	Emissions
		Emissions (tons)	Emissions (tons)	Change, 1995-2003				Increase (tons)	Equivalent (Average Cars)*
1	Texas	191,932,713	253,984,102	62,051,389	32%	40	92	34,128,680	5,961,342
2	Ohio	131,253,325	137,142,616	5,889,291	4%	13	22	10,939,425	1,910,817
3	Florida	206,645,425	136,441,856	-70,203,569	-34%	32	46	25,632,760	4,477,338
4	Indiana	123,282,473	128,961,200	5,678,727	5%	14	22	17,419,168	3,042,649
5	Pennsylvania	141,620,885	114,621,138	-26,999,747	-19%	11	28	6,970,458	1,217,547
6	Illinois	82,652,988	101,640,326	18,987,338	23%	19	24	27,384,204	4,783,267
7	Kentucky	100,046,600	95,771,990	-4,274,610	-4%	10	20	6,110,568	1,067,348
8	West Virginia	81,572,841	92,270,902	10,698,061	13%	9	14	15,709,871	2,744,082
9	Alabama	75,079,806	90,028,512	14,948,706	20%	10	17	12,087,824	2,111,410
10	Georgia	73,302,450	83,030,903	9,728,453	13%	8	12	12,813,254	2,238,123
11	Missouri	64,864,808	80,161,125	15,296,317	24%	15	18	14,759,107	2,578,010
12	Michigan	66,561,119	74,975,885	8,414,766	13%	17	22	10,654,502	1,861,048
13	North Carolina	61,209,616	71,877,865	10,668,249	17%	10	15	14,101,773	2,463,192
14	Tennessee	66,079,743	59,107,578	-6,972,165	-11%	6	8	4,150,953	725,057
15	Arizona	36,664,010	53,977,114	17,313,104	47%	9	17	8,986,214	1,569,644
16	New York	54,000,913	53,240,992	-759,921	-1%	15	29	7,366,653	1,286,752
17	Wisconsin	47,032,042	50,846,196	3,814,154	8%	13	17	4,881,671	852,694
18	Oklahoma	42,623,108	50,676,283	8,053,175	19%	8	18	3,912,068	683,331
19	Wyoming	49,042,500	48,359,785	-682,715	-1%	2	7	2,798,839	488,880
20	Louisiana	41,519,341	46,872,628	5,353,287	13%	8	20	6,626,562	1,157,478
21	Colorado	34,470,650	45,498,489	11,027,839	32%	12	16	9,885,986	1,726,810
22	Kansas	35,576,062	45,021,957	9,445,895	27%	9	11	10,458,539	1,826,819
23	Minnesota	34,252,317	43,210,209	8,957,892	26%	12	13	7,799,605	1,362,376
24	South Carolina	27,501,278	40,592,366	13,091,088	48%	9	13	11,238,002	1,962,970
25	Iowa	41,271,557	39,962,448	-1,309,109	-3%	13	16	5,444,829	951,062
26	Utah	37,476,749	39,216,927	1,740,178	5%	2	7	2,399,942	419,204
27	Virginia	28,781,346	38,724,882	9,943,536	35%	9	11	7,182,802	1,254,638
28	North Dakota	36,792,194	37,345,094	552,900	2%	5	7	1,979,985	345,849
29	New Mexico	32,338,461	32,666,635	328,174	1%	4	7	837,350	146,262
30	Maryland	32,612,487	32,130,216	-482,271	-1%	5	7	4,359,568	761,497
31	California	22,139,431	31,329,045	9,189,614	42%	12	28	4,157,799	726,253
32	Arkansas	27,535,504	30,820,774	3,285,270	12%	3	7	2,480,616	433,295
33	Mississippi	18,196,499	26,234,243	8,037,744	44%	6	11	7,547,339	1,318,313
34	Nebraska	19,027,344	24,626,106	5,598,762	29%	6	7	5,538,714	967,461
35	Massachusetts	19,139,278	23,847,341	4,708,063	25%	6	13	5,554,664	970,247
36	Nevada	20,453,871	23,374,251	2,920,380	14%	5	9	2,507,844	438,051
37	Montana	17,034,892	19,606,707	2,571,815	15%	3	3	2,564,365	447,924
38	Washington	6,946,854	14,693,855	7,747,001	112%	2	4	6,834,629	1,193,822
39	New Jersey	10,351,850	12,955,741	2,603,891	25%	6	9	4,688,470	818,947
40	Oregon	1,861,637	9,212,490	7,350,853	395%	4	5	4,082,831	713,158
41	New Hampshire	4,859,100	8,478,390	3,619,290	74%	3	5	1,775,411	310,115
42	Connecticut	6,194,220	7,252,454	1,058,234	17%	2	8	911,303	159,180
43	Delaware	7,095,370	6,324,846	-770,524	-11%	1	3	154,106	26,918
44	Maine	848,139	5,515,324	4,667,185	550%	3	6	369,859	64,604
45	South Dakota	3,133,453	4,118,370	984,917	31%	1	1	860,286	150,268
46	Rhode Island	270,330	1,797,309	1,526,979	565%	0	3	n/a	n/a
47	Idaho	173,035	525,426	352,391	204%	1	1	20,079	3,507
48	Vermont	209,528	371,716	162,188	77%	1	1	162,188	28,330
49	Dist. of Columbia	218,461	71,890	-146,571	-67%	n/a	n/a	n/a	n/a
<b>Total</b>		<b>2,263,748,603</b>	<b>2,469,514,494</b>	<b>205,765,891</b>	<b>9%</b>	<b>414</b>	<b>700</b>	<b>359,231,663</b>	<b>62,747,889</b>

\* Refer to the methodology section for a description of how we calculated emissions equivalencies.

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
AL	Decatur Energy Center*	Morgan	0	0	0	0	0	0	0	348,880	253,430	n/a	n/a
AL	Plant H. Allen Franklin*		0	0	0	0	0	0	0	628,686	688,005	n/a	n/a
AL	Tenaska Central Alabama Gen Station	Autauga	0	0	0	0	0	0	0	0	221,114	n/a	n/a
AL	E B Harris Generating Plant	Autauga	0	0	0	0	0	0	0	0	379,391	n/a	n/a
AL	E C Gaston	Shelby	9,285,950	11,050,490	11,413,392	12,609,741	13,010,925	13,811,099	13,139,165	13,258,499	13,634,871	4,348,921	47%
AL	Barry	Mobile	10,496,463	11,750,134	12,259,660	11,084,687	11,980,916	12,435,918	13,683,577	14,700,456	13,941,717	3,445,254	33%
AL	James H Miller Jr	Jefferson	18,073,241	19,374,109	21,214,721	20,953,699	21,365,768	22,337,062	19,967,916	19,619,478	20,226,269	2,153,028	12%
AL	Charles R Lowman	Washington	4,077,946	3,772,495	4,029,933	4,161,691	4,003,034	4,028,993	4,171,010	4,105,956	4,688,688	610,742	15%
AL	McWilliams	Covington	0	23,481	89,972	217,894	294,659	191,304	204,630	858,051	470,989	447,508	1906%
AL	Greene County	Greene	3,554,769	3,905,917	3,897,567	4,924,843	4,107,037	4,647,240	4,419,423	4,124,220	3,941,457	386,688	11%
AL	Colbert	Colbert	8,050,806	8,577,051	7,366,686	7,723,744	7,718,010	8,196,720	7,155,042	7,240,749	8,380,626	329,820	4%
AL	Gadsden	Etowah	616,056	735,303	668,591	685,792	645,148	737,571	723,228	742,982	886,015	269,959	44%
AL	Widows Creek	Jackson	11,326,101	10,230,663	9,015,912	8,871,778	11,432,515	11,905,974	10,109,281	10,866,389	11,399,168	73,067	1%
AL	Washington County Cogen (Olin)^	Washington	0	0	0	0	288,730	529,676	558,215	544,827	552,515	22,839	4%
AL	General Electric Company^	Lowndes	0	0	0	0	131,048	332,136	313,828	346,933	326,219	-5,917	-2%
AL	Theodore Cogeneration	Mobile	0	0	0	0	0	0	734,791	677,771	688,726	-46,065	-6%
AL	Gorgas	Walker	9,598,474	9,969,265	9,197,059	9,098,808	8,874,049	9,503,886	8,492,183	8,277,878	8,995,027	-603,447	-6%
AR	Hot Spring Energy Facility*	Hot Spring	0	0	0	0	0	0	0	400,257	474,717	n/a	n/a
AR	Union Power Station	Union	0	0	0	0	0	0	0	0	1,485,127	n/a	n/a
AR	Independence	Independence	10,084,094	12,832,863	11,117,813	11,720,401	13,282,750	12,310,474	13,056,276	12,237,935	12,140,178	2,056,084	20%
AR	Flint Creek Power Plant	Benton	3,157,682	3,368,770	4,189,104	4,171,398	4,064,432	4,292,162	4,115,909	3,890,115	3,524,292	366,610	12%
AR	Pine Bluff Energy Center^	Jefferson	0	0	0	0	0	0	168,420	795,234	853,156	57,922	7%
AR	White Bluff	Jefferson	12,005,521	12,850,284	11,396,066	11,055,317	11,690,979	11,920,913	11,542,741	10,335,627	11,596,499	-409,023	-3%
AR	Lake Catherine	Hot Spring	826,006	790,260	418,520	770,229	1,201,869	1,061,320	996,783	805,571	347,432	-478,574	-58%
AZ	Redhawk Generating Facility*	Maricopa	0	0	0	0	0	0	0	821,532	1,575,209	n/a	n/a
AZ	Duke Energy Arlington Valley*	Maricopa	0	0	0	0	0	0	0	304,664	630,983	n/a	n/a
AZ	Gila River Power Station	Maricopa	0	0	0	0	0	0	0	0	1,532,107	n/a	n/a
AZ	Harquahala Generating Project	Maricopa	0	0	0	0	0	0	0	0	230,959	n/a	n/a
AZ	Mesquite Generating Station	Maricopa	0	0	0	0	0	0	0	0	952,702	n/a	n/a
AZ	Navajo Generating Station	Coconino	15,964,166	14,341,710	17,156,377	19,800,996	19,499,180	20,137,721	19,662,126	20,458,265	18,824,771	2,860,605	18%
AZ	Coronado Generating Station	Apache	4,664,519	4,691,427	4,788,183	5,391,429	6,096,634	7,113,187	6,779,921	5,704,593	6,722,843	2,058,324	44%
AZ	Cholla	Navajo	6,361,723	5,941,289	7,799,519	7,666,799	8,017,733	8,441,969	8,892,279	8,350,689	7,864,471	1,502,748	24%
AZ	Apache Station	Cochise	2,560,248	2,220,366	2,755,456	2,868,575	3,288,501	3,597,610	3,304,904	3,068,831	3,356,127	795,879	31%
AZ	Springerville Generating Station	Apache	6,046,977	7,558,387	5,973,462	6,180,918	6,276,798	6,245,526	6,570,416	6,451,073	6,678,784	631,807	10%
AZ	West Phoenix Power Plant	Maricopa	0	0	0	0	0	0	196,526	226,570	569,297	372,770	190%
AZ	Irvington Generating Station	Pima	605,128	752,843	833,681	666,422	1,076,731	1,426,410	1,421,694	1,227,078	956,989	351,861	58%
AZ	Kyrene Generating Station	Maricopa	7,774	7,873	8,388	44,436	39,928	350,412	314,993	349,884	277,200	269,506	3467%
AZ	Agua Fria Generating Station	Maricopa	132,046	182,090	217,584	468,044	661,539	1,087,357	1,111,366	422,794	274,760	142,714	108%
AZ	South Point Energy Center, LLC^	Mohave	0	0	0	0	0	0	647,435	1,232,000	1,209,166	-22,834	-2%
AZ	Griffith Energy LLC^	Mohave	0	0	0	0	0	0	164,591	695,713	516,584	-179,129	-26%
AZ	Desert Basin Generating Station^	Pinal	0	0	0	0	0	0	363,632	1,564,885	1,293,959	-270,926	-17%
CA	La Paloma Generating Plant*	Kern	0	0	0	0	0	0	0	189,572	1,572,357	n/a	n/a
CA	Bella Energy Center, LLC*	Contra Costa	0	0	0	0	0	0	0	1,482,004	2,175,135	n/a	n/a
CA	High Desert Power Project	San Bernardino	0	0	0	0	0	0	0	0	1,025,113	n/a	n/a
CA	Elk Hills Power	Kern	0	0	0	0	0	0	0	0	824,374	n/a	n/a
CA	Moss Landing	Monterey	1,768,766	2,446,022	3,405,559	2,949,784	3,556,874	4,452,297	4,651,445	3,332,966	3,062,015	1,293,249	73%
CA	Sunrise Power Company^	Kern	0	0	0	0	0	0	207,886	205,403	748,874	543,470	265%
CA	Haynes Generating Station	Los Angeles	1,085,731	553,525	471,165	829,022	1,797,531	2,238,622	1,999,778	1,467,089	1,558,204	472,473	44%
CA	AES Huntington Beach	Orange	643,877	402,801	497,334	547,002	550,980	839,734	874,126	928,951	1,091,873	447,996	70%
CA	Scattergood Generating Station	Los Angeles	1,055,827	616,295	646,443	796,911	1,222,419	1,344,717	1,116,932	777,999	1,487,540	431,713	41%
CA	El Centro	Imperial	318	223,714	187,943	225,075	219,320	425,101	297,993	281,422	352,259	351,941	110673%
CA	Ormond Beach Generating Station	Ventura	912,389	791,353	973,311	668,290	941,653	2,445,546	3,564,570	1,431,520	1,169,561	257,172	28%
CA	Carson Cogeneration	Sacramento	0	0	0	0	88,124	343,241	366,254	263,970	253,636	165,512	188%
CA	Sacramento Power Authority Cogen^	Sacramento	0	0	74,142	479,125	534,005	564,696	568,647	588,780	554,213	75,088	16%
CA	SCA Cogen II^	Sacramento	0	0	1,803,726	334,751	388,316	465,687	538,390	445,005	394,284	59,533	18%
CA	Potrero Power Plant	San Francisco	471,672	555,353	436,497	678,061	511,184	617,773	623,373	352,250	510,769	39,097	8%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
CA	Los Medanos Energy Center, LLC^	Contra Costa	0	0	0	0	0	0	434,386	1,515,131	1,535,688	20,557	1%
CA	Coolwater Generating Station	San Bernardino	922,837	885,137	789,984	857,942	1,421,538	1,652,392	1,809,626	1,019,578	789,438	-133,399	-14%
CA	Calpine Sutter Energy Center^	Sutter	0	0	0	0	0	0	674,284	1,511,377	1,300,642	-210,735	-14%
CA	Duke Energy South Bay	San Diego	1,113,785	1,257,464	1,353,310	1,462,008	1,123,822	1,413,186	1,241,894	798,199	871,012	-242,774	-22%
CA	Harbor Generating Station	Los Angeles	569,194	178,464	221,181	294,480	263,224	506,932	345,040	414,555	323,982	-245,212	-43%
CA	Contra Costa Power Plant	Contra Costa	609,855	850,582	825,884	1,134,042	1,390,199	1,664,108	1,938,634	1,180,634	353,311	-256,545	-42%
CA	Mandalay Generating Station	Ventura	716,236	739,600	820,555	357,971	741,305	1,486,659	1,182,925	585,664	389,374	-326,862	-46%
CA	El Segundo	Los Angeles	1,168,007	758,092	720,753	841,114	1,346,263	1,447,083	1,797,462	1,465,275	793,063	-374,944	-32%
CA	Pittsburg Power Plant (CA)	Contra Costa	1,758,578	1,723,476	2,383,037	3,008,883	2,261,328	4,288,462	6,271,888	2,509,562	1,333,615	-424,963	-24%
CA	AES Redondo Beach	Los Angeles	1,403,533	1,732,812	1,600,006	1,320,872	823,303	1,983,637	3,806,576	1,270,236	678,946	-724,587	-52%
CA	AES Alamitos	Los Angeles	3,122,394	2,062,370	2,678,533	1,830,417	2,193,106	3,957,192	5,314,635	2,629,082	2,386,915	-735,479	-24%
CA	Etiwanda Generating Station	San Bernardino	955,419	456,898	689,665	494,477	734,908	1,696,714	1,262,120	622,732	206,114	-749,305	-78%
CA	Cabrillo Power I (Encina)	San Diego	2,467,073	3,218,455	1,564,703	1,897,446	1,904,263	2,165,749	2,587,197	1,599,749	1,703,520	-763,554	-31%
CO	Front Range Power Plant	El Paso	0	0	0	0	0	0	0	0	623,601	n/a	n/a
CO	Craig	Moffat	8,583,339	8,345,928	10,594,910	10,094,903	9,537,560	10,466,665	10,695,496	10,665,230	10,662,644	2,079,305	24%
CO	Fort St. Vrain^	Weld	0	73,046	99,364	62,618	816,550	1,365,757	1,906,388	2,308,040	1,791,509	1,692,145	1703%
CO	Cherokee	Adams	3,913,836	4,816,898	5,236,332	5,394,279	5,059,395	5,424,678	5,256,124	4,760,723	5,468,411	1,554,575	40%
CO	Comanche (470)	Pueblo	4,733,286	5,040,764	5,277,724	4,952,655	4,991,905	4,892,206	5,193,993	5,693,376	6,002,038	1,268,752	27%
CO	Pawnee	Morgan	3,599,281	3,140,855	3,780,852	3,746,993	4,695,495	4,691,603	5,240,962	3,968,366	4,673,512	1,074,231	30%
CO	Martin Drake	El Paso	1,714,292	1,575,904	1,834,005	1,884,028	1,857,794	2,183,126	2,262,644	2,193,004	2,321,713	607,421	35%
CO	Rawhide Energy Station	Larimer	2,184,156	2,455,415	2,282,401	2,229,845	2,647,172	2,430,904	2,673,805	2,511,670	2,761,266	577,110	26%
CO	Nucla	Montrose	508,906	856,499	970,915	827,455	890,005	831,311	869,057	922,997	842,991	334,085	66%
CO	Ray D Nixon	El Paso	1,599,359	1,611,538	1,627,249	1,723,551	1,221,127	1,793,609	1,844,762	1,891,496	1,881,900	282,541	18%
CO	Valmont	Boulder	1,304,170	1,398,705	1,377,547	1,590,360	762,390	1,323,363	1,424,890	1,362,314	1,565,445	261,275	20%
CO	Arapahoe	Denver	1,319,402	1,803,168	1,875,259	1,604,848	1,821,341	1,954,788	1,814,511	2,186,585	1,463,818	144,416	11%
CO	Fountain Valley Combustion Turbine^	El Paso	0	0	0	0	0	0	25,517	273,472	283,603	10,132	4%
CO	Cameo	Mesa	411,762	398,105	463,315	453,664	410,120	454,742	454,802	434,629	410,712	-1,050	-0.3%
CO	Manchief Station^	Morgan	0	0	0	0	0	1,851	615,304	527,435	298,424	-316,880	-51%
CO	Hayden	Routt	4,563,036	4,006,359	4,207,095	3,892,536	3,877,204	3,926,480	4,235,576	4,433,177	3,943,756	-619,280	-14%
CT	Bridgeport Energy	Fairfield	0	0	0	0	592,197	775,731	978,111	1,383,329	1,273,358	681,161	115%
CT	Bridgeport Harbor Station	Fairfield	2,698,967	3,086,486	3,626,007	2,306,188	1,658,507	2,274,684	2,620,973	1,884,300	2,929,109	230,142	9%
CT	Devon	New Haven	0	661,195	1,001,099	1,141,838	1,011,931	748,644	676,632	393,384	303,679	-357,516	-54%
CT	Lake Road Generating Company^	Windham	0	0	0	0	0	0	58,775	1,515,714	942,428	-573,286	-38%
CT	Middletown	Middlesex	1,084,978	1,467,426	2,466,318	2,456,742	1,864,924	2,105,937	1,434,685	469,445	437,601	-647,377	-60%
CT	Norwalk Harbor Station	Fairfield	0	1,028,805	1,673,002	1,707,288	1,388,135	1,276,428	825,869	273,488	319,054	-709,751	-69%
CT	New Haven Harbor	New Haven	1,350,521	1,747,585	2,351,206	1,891,323	1,884,048	1,499,161	1,593,897	1,372,521	638,085	-712,436	-53%
CT	Montville	New London	1,059,754	901,067	1,424,115	1,380,947	1,093,785	1,067,130	624,869	338,400	303,876	-755,878	-71%
DE	Hay Road	New Castle	293,371	353,945	239,319	169,715	257,895	137,300	346,027	1,014,802	447,477	154,106	53%
DE	Edge Moor	New Castle	2,677,884	2,884,397	2,512,940	2,697,686	2,242,836	2,177,031	2,486,129	2,218,387	2,551,475	-126,409	-5%
DE	Indian River	Sussex	4,011,654	3,725,648	3,571,364	3,618,046	2,601,574	3,500,870	2,992,527	2,696,376	3,004,493	-1,007,161	-25%
FL	Besoto County Generating Co, LLC*	De Soto	0	0	0	0	0	0	0	109,192	257,821	n/a	n/a
FL	Oleander Power Project*	Brevard	0	0	0	0	0	0	0	273,732	603,310	n/a	n/a
FL	Stanton A	Orange	0	0	0	0	0	0	0	0	304,951	n/a	n/a
FL	Bayside Power Station	Hillsborough	0	0	0	0	0	0	0	0	1,364,159	n/a	n/a
FL	Curtis H. Stanton Energy Center	Orange	2,645,121	4,461,627	6,420,602	5,928,290	6,083,921	6,718,589	6,863,533	6,098,474	6,343,444	3,698,323	140%
FL	Fort Myers	Lee	1,479,753	1,492,596	1,889,274	2,928,592	2,648,306	2,433,894	2,596,195	2,922,799	4,646,535	3,166,782	214%
FL	Crist Electric Generating Plant	Escambia	5,174,693	4,276,699	4,606,496	6,685,309	6,611,153	6,457,296	5,459,601	5,527,317	7,619,432	2,444,739	47%
FL	Crystal River	Citrus	14,857,411	16,491,391	18,618,708	17,330,544	16,199,684	15,433,230	15,361,823	15,194,400	16,840,042	1,982,631	13%
FL	Sanford	Volusia	2,222,598	2,202,768	2,455,555	3,501,942	3,172,172	2,958,916	2,724,810	2,677,937	3,797,467	1,574,869	71%
FL	Anclote	Pasco	2,741,017	3,288,992	3,733,221	4,365,726	4,320,648	3,808,903	3,890,229	4,027,324	4,124,182	1,383,165	50%
FL	Northside	Duval	3,384,558	1,503,394	2,020,547	3,150,991	2,894,666	2,113,458	2,443,255	3,339,118	4,725,066	1,340,508	40%
FL	P. L. Bartow	Pinellas	1,377,058	1,804,923	1,967,297	2,257,782	2,217,378	1,662,081	1,939,488	2,066,827	2,388,142	1,011,084	73%
FL	Manatee	Manatee	3,883,789	3,057,365	3,505,039	5,204,653	4,744,813	4,837,988	5,783,664	5,579,381	4,747,109	863,320	22%
FL	C. D. McIntosh	Polk	2,835,439	2,448,512	2,626,516	2,328,717	2,743,322	3,569,381	4,076,162	3,680,655	3,694,086	858,647	30%
FL	Putnam	Putnam	993	1,457,880	1,438,332	1,432,209	1,299,645	1,359,729	1,066,582	1,250,222	735,122	734,129	73930%
FL	Cane Island	Osceola	48,045	3,862	1,247	279,126	415,246	385,498	407,315	926,261	704,748	656,703	1367%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
FL	S O Purdom	Wakulla	114,450	135,297	122,787	110,574	107,314	232,716	737,219	751,213	734,789	620,339	542%
FL	Polk^	Polk	0	234,871	1,058,919	1,475,314	1,640,573	1,678,771	1,540,842	1,956,097	1,593,055	534,136	50%
FL	Auburndale Cogeneration Facility	Polk	0	3,426	865	809	469,787	497,970	471,386	455,217	528,282	524,856	15320%
FL	Suwannee River	Suwannee	13,939	1,109,073	267,295	338,668	332,094	352,831	431,908	506,018	536,261	522,322	3747%
FL	St. Johns River Power	Duval	10,030,142	10,740,497	10,735,241	10,974,347	10,595,267	10,809,674	11,425,483	10,471,000	10,539,650	509,508	5%
FL	Intercession City	Osceola	89,554	253,513	405,232	497,915	458,652	487,923	577,962	655,526	576,194	486,640	543%
FL	Orlando Cogen	Orange	62,092	426,523	432,693	383,397	409,922	416,237	437,001	422,528	462,561	400,469	645%
FL	Indian River (55318)	Brevard	0	635,299	885,277	1,282,356	1,337,204	1,010,301	1,292,723	947,326	1,022,717	387,418	61%
FL	Scholz Electric Generating Plant	Jackson	218,055	247,359	223,468	410,318	487,544	458,562	387,952	443,190	526,017	307,962	141%
FL	Debary	Volusia	75,052	147,860	263,972	357,830	344,347	371,547	308,936	395,365	364,118	289,066	385%
FL	Turkey Point	Miami-Dade	2,401,075	2,462,647	2,584,300	3,169,739	2,981,937	2,712,479	2,501,444	2,403,137	2,652,992	251,917	10%
FL	Cape Canaveral	Brevard	2,605,430	2,893,946	2,669,832	3,624,085	2,885,953	2,684,978	3,015,466	2,590,619	2,817,933	212,503	8%
FL	Lansing Smith Generating Plant	Bay	2,778,759	2,926,434	2,745,455	2,757,779	2,769,537	2,846,535	2,636,314	3,005,839	2,965,625	186,866	7%
FL	Hines Energy Complex^	Polk	0	0	0	0	847,477	1,164,775	1,063,354	1,302,122	1,307,718	142,942	12%
FL	Mulberry Cogeneration Facility	Polk	87,378	252,039	226,783	220,430	233,966	171,537	224,098	194,877	224,699	137,321	157%
FL	Cutler	Miami-Dade	156,781	155,645	143,068	191,215	321,377	266,715	169,791	234,147	291,535	134,754	86%
FL	Deerhaven	Alachua	1,610,384	1,746,303	1,814,411	1,779,523	1,398,388	1,896,848	1,833,004	1,684,325	1,720,615	110,231	7%
FL	Reliant Energy Osceola^	Osceola	0	0	0	0	0	0	8,289	299,562	377,883	78,321	26%
FL	Tiger Bay^	Polk	0	0	162,867	580,617	551,917	608,203	633,480	1,933,571	623,899	43,283	7%
FL	Shady Hills Generating Station	Pasco	0	0	0	0	0	0	0	432,229	469,237	37,007	9%
FL	Port Everglades	Broward	3,851,057	2,683,385	3,061,557	4,051,993	4,362,052	4,266,057	4,346,538	3,834,267	3,848,641	-2,416	-0.1%
FL	Payne Creek Generating Station^	Hardee	0	0	0	0	0	0	34,126	1,092,472	1,038,136	-54,335	-5%
FL	Arvah B Hopkins	Leon	808,595	715,169	774,902	834,783	934,666	906,892	540,655	503,893	586,876	-221,719	-27%
FL	Brandy Branch^	Duval	0	0	0	0	0	0	227,429	568,240	251,736	-316,505	-56%
FL	Riviera	Palm Beach	2,882,169	2,283,622	2,186,265	3,250,755	2,942,681	2,071,307	2,539,692	2,021,433	2,027,191	-854,978	-30%
FL	Seminole (136)	Putnam	11,490,299	10,587,367	10,516,509	11,271,767	9,782,239	10,424,329	10,774,236	10,061,013	9,495,744	-1,994,555	-17%
FL	F J Gannon	Hillsborough	6,869,123	7,062,588	6,961,917	6,884,217	6,094,013	5,348,082	6,283,346	5,973,682	3,103,869	-3,765,254	-55%
FL	Big Bend	Hillsborough	16,741,397	12,989,646	12,314,221	11,747,898	10,398,081	11,497,768	10,323,583	10,229,251	11,199,655	-5,541,742	-33%
FL	Martin	Martin	52,043,613	6,872,783	6,428,490	6,815,001	6,124,922	7,617,557	8,007,938	8,171,442	7,780,840	-44,262,773	-85%
FL	Lauderdale	Broward	49,656,112	2,678,287	2,996,814	3,038,082	3,107,148	2,935,000	2,843,909	2,926,003	2,771,732	-46,884,380	-94%
GA	Duke Energy Murray, LLC*	Murray	0	0	0	0	0	0	0	374,563	444,738	n/a	n/a
GA	Chattahoochee Energy Facility	Heard	0	0	0	0	0	0	0	0	321,044	n/a	n/a
GA	Wansley (6052)	Heard	8,173,760	8,784,650	9,354,044	10,036,136	9,958,403	9,883,876	10,891,061	12,056,295	12,352,684	4,178,924	51%
GA	Yates	Coweta	3,214,223	3,911,146	4,659,475	5,344,568	5,896,638	6,736,641	6,088,605	5,656,474	6,664,384	3,450,161	107%
GA	Hammond	Floyd	2,934,826	2,978,460	3,675,158	3,303,202	4,378,698	5,456,479	4,614,454	4,272,064	4,981,806	2,046,980	70%
GA	Kraft	Chatham	476,131	591,575	860,905	1,165,330	1,393,385	1,460,544	1,293,935	1,367,645	1,615,823	1,139,692	239%
GA	Bowen	Bartow	20,282,042	21,019,289	21,267,028	20,074,912	20,165,773	21,220,503	20,013,759	22,011,155	21,354,004	1,071,962	5%
GA	Jack McDonough	Cobb	3,104,587	2,842,849	3,635,157	3,631,528	3,131,060	3,317,348	2,848,926	3,305,578	3,535,482	430,895	14%
GA	Mitchell (GA)	Dougherty	392,099	405,666	451,865	471,472	474,158	621,427	528,865	632,130	648,809	256,710	65%
GA	McIntosh (6124)	Effingham	855,447	852,862	1,001,215	1,390,460	1,265,627	1,382,520	1,325,875	1,202,281	1,093,377	237,930	28%
GA	Harilee Branch	Putnam	9,240,407	7,507,603	8,106,820	8,478,922	7,607,799	8,785,873	8,183,887	8,990,195	7,595,340	-1,645,067	-18%
GA	Scherer	Monroe	23,868,011	21,759,168	22,367,584	22,225,147	23,664,019	23,701,643	20,663,280	21,983,231	21,862,251	-2,005,760	-8%
IA	Louisa	Louisa	3,679,594	4,721,600	4,399,132	4,996,639	4,821,622	4,768,513	5,007,018	5,635,315	4,936,394	1,256,800	34%
IA	Council Bluffs	Pottawattamie	5,778,177	6,060,310	5,760,154	6,705,791	5,964,087	6,235,038	6,561,530	6,419,113	6,625,014	846,837	15%
IA	Burlington (IA)	Des Moines	912,621	1,007,859	1,082,258	1,238,106	1,404,500	1,641,173	1,485,775	1,479,153	1,576,304	663,683	73%
IA	Lansing	Allamakee	1,048,239	1,199,215	1,104,364	1,492,652	2,111,934	1,973,139	1,619,693	1,565,084	1,540,641	492,402	47%
IA	George Neal North	Woodbury	6,153,986	5,619,226	6,065,730	6,823,834	6,754,616	6,315,540	6,442,225	6,129,542	6,491,148	337,162	5%
IA	Muscatine	Muscatine	1,672,973	1,735,073	1,803,777	1,730,570	1,680,806	1,810,091	1,832,857	1,813,660	1,992,641	319,668	19%
IA	Prairie Creek	Linn	1,179,119	1,162,217	1,233,606	1,305,237	1,404,935	1,399,948	1,435,223	1,357,837	1,468,445	289,326	25%
IA	Ottumwa	Wapello	5,334,921	4,763,412	4,678,873	5,774,299	5,406,743	5,690,687	5,422,999	5,551,749	5,618,774	283,853	5%
IA	Milton L Kapp	Clinton	1,194,876	1,152,865	1,115,020	1,261,284	1,128,737	1,452,989	1,314,689	1,347,425	1,472,830	277,954	23%
IA	Ames	Story	346,034	397,131	443,315	522,521	525,136	518,762	570,861	534,929	578,753	232,719	67%
IA	Riverside (1081)	Scott	447,279	572,171	711,740	642,634	605,083	823,509	601,208	775,567	678,302	231,023	52%
IA	Dubuque	Dubuque	302,398	283,249	259,172	477,211	554,335	491,445	508,434	460,501	453,112	150,714	50%
IA	Fair Station	Muscatine	204,279	217,098	257,087	290,925	284,685	278,661	252,495	231,133	266,968	62,689	31%
IA	Sutherland	Marshall	1,120,164	802,167	1,177,930	1,256,753	1,274,466	1,262,161	1,256,098	1,298,008	1,032,954	-87,210	-8%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
IA	Sixth Street	Linn	701,582	544,919	617,591	641,403	652,831	617,677	576,931	694,118	573,266	-128,316	-18%
IA	George Neal South	Woodbury	5,325,956	5,034,478	5,012,886	4,303,388	4,966,528	4,693,835	4,643,727	4,737,683	4,121,075	-1,204,881	-23%
ID	Bathdrum Power, LLC^	Kootenai	0	0	0	0	0	0	202,942	461,967	482,046	20,079	4%
IL	Kincaid Station	Christian	2,918,670	4,290,447	4,162,423	5,058,023	5,665,024	6,437,581	6,780,573	6,618,001	7,645,767	4,727,097	162%
IL	Baldwin Energy Complex	Randolph	10,277,062	10,850,368	10,966,090	11,221,702	9,943,296	10,999,084	11,738,582	13,073,405	13,653,779	3,376,717	33%
IL	Marion	Williamson	3,538	1,162,952	1,603,134	2,046,624	1,927,431	1,857,707	1,903,288	1,629,093	2,531,852	2,528,314	71462%
IL	Powerton	Tazewell	6,838,923	8,057,411	9,899,186	7,279,041	8,656,753	8,591,243	9,934,156	8,049,414	9,318,682	2,479,759	36%
IL	Joliet 29	Will	5,183,887	6,584,082	5,763,828	5,895,845	6,654,710	6,011,061	5,461,796	6,140,288	7,444,710	2,260,823	44%
IL	Coffeen	Montgomery	3,935,531	4,974,930	4,564,651	4,240,587	4,588,316	4,864,797	4,046,793	5,757,373	5,960,755	2,025,224	51%
IL	Newton	Jasper	6,581,012	6,089,066	6,821,168	6,430,830	7,185,585	7,105,279	6,770,428	8,122,255	8,016,145	1,435,133	22%
IL	Wood River Power Station	Madison	1,811,417	2,402,865	699,173	2,613,103	2,514,115	2,133,061	2,380,913	2,378,460	2,967,007	1,155,590	64%
IL	Crawford	Cook	2,114,967	2,512,118	1,694,031	2,726,072	1,821,201	3,195,562	2,346,032	2,972,814	3,257,376	1,142,409	54%
IL	Vermilion Power Station	Vermilion	0	80,289	425,024	944,171	909,321	995,759	1,045,630	1,235,060	1,114,107	1,033,818	1288%
IL	Waukegan	Lake	3,219,770	3,425,604	5,269,305	4,976,266	4,189,626	5,157,540	5,196,040	4,675,356	4,208,177	988,407	31%
IL	Fisk	Cook	864,701	1,107,032	1,878,107	1,939,276	1,370,575	1,798,309	1,461,723	1,503,046	1,810,438	945,737	109%
IL	Havana	Mason	1,878,230	1,956,936	2,712,999	2,328,324	2,454,035	2,614,371	1,875,653	2,934,129	2,736,833	858,603	46%
IL	E D Edwards	Peoria	3,723,316	3,934,465	4,117,703	3,922,522	4,127,445	4,504,811	4,350,053	4,026,880	4,416,867	693,551	19%
IL	Joliet 9	Will	1,396,077	786,530	2,314,927	1,583,150	2,138,884	1,388,029	1,388,755	1,474,252	2,072,156	676,079	48%
IL	Hutsonville	Crawford	386,645	900,150	911,341	505,438	501,563	645,728	673,426	677,543	848,320	461,675	119%
IL	Hennepin Power Station	Putnam	1,546,650	1,969,718	2,163,397	1,971,040	1,657,104	1,896,366	1,865,709	2,283,865	1,997,670	451,020	29%
IL	Lakeside	Sangamon	197,480	224,352	387,868	317,751	268,175	282,640	366,808	266,161	296,950	99,470	50%
IL	Ballman	Sangamon	2,380,254	2,502,517	2,711,810	2,359,833	2,469,871	2,060,327	2,212,957	2,317,210	2,425,031	44,777	2%
IL	Meredosia	Morgan	1,303,854	1,567,298	1,633,338	1,469,465	1,474,773	1,635,180	1,465,129	1,651,468	1,292,919	-10,935	-1%
IL	Joppa Steam	Massac	9,230,780	9,206,128	9,455,121	9,895,263	9,673,917	9,302,167	9,400,501	9,207,652	9,182,371	-48,409	-1%
IL	Duck Creek	Fulton	3,030,129	2,558,584	2,114,377	2,748,160	2,446,331	2,337,346	2,326,324	2,322,122	2,123,672	-906,457	-30%
IL	Will County	Will	5,191,925	4,857,468	6,039,640	5,793,468	4,099,002	5,745,084	5,459,568	6,241,660	3,959,580	-1,232,346	-24%
IL	Collins Station	Grundy	8,194,101	2,124,372	3,014,119	3,464,803	2,131,340	1,843,495	2,050,695	1,689,420	1,164,765	-7,029,336	-86%
IN	Warrick	Warrick	2,584,160	4,429,072	6,031,805	5,662,840	6,181,321	6,154,590	5,766,446	6,246,969	6,420,380	3,836,220	148%
IN	Wabash River	Vigo	2,352,261	9,143,036	6,889,443	5,699,948	4,911,992	5,531,139	4,912,699	5,933,625	5,961,069	3,608,808	153%
IN	R M Schahfer Generating Station	Jasper	9,160,428	9,644,056	10,495,513	11,506,357	11,909,084	11,265,360	10,663,446	10,285,655	12,068,557	2,908,129	32%
IN	Merom	Sullivan	5,903,197	8,120,859	8,188,881	8,393,394	8,474,637	8,615,209	8,416,352	7,850,292	7,412,732	1,509,535	26%
IN	State Line Generating Station (IN)	Lake	1,932,882	2,218,325	2,702,619	378,806	2,636,867	3,311,202	2,979,867	3,271,892	3,366,366	1,433,484	74%
IN	Tanners Creek	Dearborn	4,502,952	5,440,726	6,143,734	4,963,584	6,264,931	5,979,460	5,200,298	5,933,099	5,540,741	1,037,789	23%
IN	Eagle Valley (H T Pritchard)	Morgan	766,675	874,970	1,360,321	1,423,190	1,565,978	1,768,879	1,618,430	1,672,172	1,641,268	874,593	114%
IN	Harding Street Station (EW Stout)	Marion	3,165,699	3,603,887	3,475,718	3,930,877	4,400,212	3,955,757	4,107,516	4,030,027	3,955,304	789,605	25%
IN	F B Culley Generating Station	Warrick	2,623,616	2,910,078	2,800,408	3,557,120	3,285,333	3,286,710	2,766,303	2,703,215	3,072,028	448,412	17%
IN	A B Brown Generating Station	Posey	2,830,781	2,768,866	3,393,515	3,201,373	3,728,809	3,234,855	3,475,105	3,508,264	3,251,073	420,292	15%
IN	Edwardsport	Knox	286,955	399,860	630,896	597,443	780,071	840,477	718,582	591,423	554,597	267,642	93%
IN	Petersburg	Pike	11,960,283	12,723,754	12,337,138	13,356,094	12,867,750	13,784,650	13,289,017	13,484,833	12,180,243	219,960	2%
IN	Whitewater Valley	Wayne	706,037	732,415	630,351	797,274	827,974	686,093	774,853	770,372	767,656	61,619	9%
IN	Michigan City Generating Station	La Porte	2,875,848	3,185,039	2,588,645	2,991,274	2,532,984	3,131,016	2,784,677	2,961,664	2,878,928	3,080	0.1%
IN	Cayuga	Vermillion	6,510,890	5,696,830	7,162,014	6,190,569	6,436,046	6,752,965	6,910,180	5,719,157	6,488,026	-22,865	-0.4%
IN	Whiting Clean Energy, Inc.	Lake	0	0	0	0	0	0	0	320,840	228,940	-91,900	-29%
IN	Frank E Ratts	Pike	1,839,471	1,200,934	1,452,877	1,769,227	1,572,251	1,888,372	1,925,988	1,689,339	1,625,538	-213,933	-12%
IN	R Gallagher	Floyd	3,592,523	3,678,043	2,792,364	3,391,119	3,176,743	3,568,568	3,110,436	3,112,213	3,179,229	-413,294	-12%
IN	Bailly Generating Station	Porter	3,526,968	3,202,115	3,255,353	3,318,754	3,518,437	3,265,062	3,443,628	3,352,674	2,779,907	-747,061	-21%
IN	Gibson	Gibson	21,664,998	19,321,946	21,060,003	22,171,543	22,276,074	22,003,355	19,258,405	19,247,465	20,157,500	-1,507,498	-7%
IN	Clifty Creek	Jefferson	9,961,398	10,367,085	9,214,842	9,210,925	8,893,724	8,686,025	8,331,540	8,245,112	7,319,737	-2,641,662	-27%
IN	Rockport	Spencer	22,266,948	20,533,388	21,404,694	22,027,050	19,470,821	18,684,279	17,829,916	16,837,252	17,627,603	-4,639,345	-21%
KS	Jeffrey Energy Center	Pottawatomie	14,820,304	16,202,486	15,419,397	16,224,370	16,124,844	16,563,669	16,273,041	18,723,049	18,129,747	3,309,443	22%
KS	Lawrence Energy Center	Douglas	2,655,743	2,469,565	2,884,014	1,724,843	3,163,331	3,270,635	4,266,249	5,211,977	5,191,461	2,535,718	95%
KS	La Cygne	Linn	9,673,844	10,289,220	7,535,795	8,546,705	10,273,828	11,346,077	9,402,472	11,346,364	11,862,601	2,188,757	23%
KS	Tecumseh Energy Center	Shawnee	877,896	1,258,340	1,145,951	1,148,394	1,579,811	1,835,461	1,687,278	2,045,947	1,808,422	930,526	106%
KS	Nearman Creek	Wyandotte	1,842,023	1,799,131	2,022,820	2,077,626	1,544,360	2,149,047	2,206,007	1,923,067	2,311,658	469,635	25%
KS	Riverton	Cherokee	192,344	625,947	583,488	566,527	616,423	560,435	631,192	674,557	573,554	381,210	198%
KS	Holcomb	Finney	2,476,631	2,670,929	2,168,499	3,008,112	3,046,387	2,727,366	2,733,983	2,728,827	2,777,928	301,297	12%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
KS	Quindaro	Wyandotte	996,584	736,813	1,126,674	1,058,166	1,253,764	1,057,923	1,091,897	1,179,838	1,195,605	199,021	20%
KS	Judson Large	Ford	82,736	280,307	265,781	265,120	297,917	298,792	229,762	216,254	225,670	142,934	173%
KS	Hutchinson Energy Center	Reno	482,479	80,504	126,891	159,203	141,454	249,580	219,603	135,981	221,964	-260,515	-54%
KS	Gordon Evans Energy Center	Sedgwick	632,105	288,648	432,092	507,734	586,743	658,428	595,704	454,602	295,497	-336,608	-53%
KY	E W Brown	Mercer	2,933,021	4,230,780	3,750,188	4,167,850	4,287,034	5,099,558	4,242,880	4,294,107	4,866,262	1,933,241	66%
KY	Mill Creek	Jefferson	8,100,965	9,541,622	9,078,841	9,232,003	9,904,727	11,068,921	10,365,685	9,562,108	9,439,856	1,338,891	17%
KY	Cane Run	Jefferson	2,505,863	3,273,921	3,592,743	3,778,592	3,731,060	3,850,851	3,653,852	3,228,116	3,644,053	1,138,190	45%
KY	Robert Reid	Webster	21,271	117,787	289,387	267,003	375,815	355,358	469,297	519,541	475,477	454,206	2135%
KY	R D Green	Webster	3,464,501	3,655,773	3,447,715	3,683,665	3,616,377	3,546,370	3,697,169	3,960,962	3,822,580	358,079	10%
KY	William C. Dale	Clark	770,734	790,769	994,673	1,071,326	1,070,027	1,026,926	1,038,182	1,103,578	1,087,102	316,368	41%
KY	Tyrone	Woodford	180,117	168,423	174,074	317,445	331,059	427,951	398,065	373,098	356,077	175,960	98%
KY	East Bend	Boone	4,801,129	4,487,061	5,196,246	4,293,922	4,914,646	4,669,205	4,273,565	3,576,629	4,950,964	149,835	3%
KY	John S. Cooper	Pulaski	1,815,234	1,854,017	1,825,466	1,947,011	2,090,666	1,880,038	2,186,058	2,173,944	1,959,733	144,499	8%
KY	Elmer Smith	Daviess	2,903,537	2,846,105	3,390,229	3,244,018	3,352,380	3,428,143	3,671,955	2,765,016	3,004,836	101,299	3%
KY	Trimble County	Trimble	3,474,540	3,278,669	3,920,505	3,635,852	4,164,156	3,754,089	3,624,423	4,149,860	3,456,096	-18,445	-1%
KY	D B Wilson	Ohio	3,471,460	3,547,489	3,084,165	3,896,702	3,994,632	4,114,438	4,244,660	3,755,010	3,429,468	-41,992	-1%
KY	Coleman	Hancock	3,271,729	3,388,319	3,511,591	3,089,552	3,261,991	3,685,792	3,548,957	3,325,571	3,201,985	-69,745	-2%
KY	Green River	Muhlenberg	1,201,303	946,710	863,624	1,386,075	1,294,357	1,418,113	1,221,116	933,519	844,439	-356,864	-30%
KY	H L Spurlock	Mason	6,947,204	6,849,611	6,853,526	7,662,998	7,841,171	6,456,631	5,762,836	6,329,899	5,695,992	-1,251,212	-18%
KY	Big Sandy	Lawrence	7,367,338	6,186,374	7,570,211	7,566,369	7,766,145	6,857,956	7,182,645	5,393,370	5,961,168	-1,406,170	-19%
KY	HMP&L Station 2	Henderson	3,812,250	2,654,524	2,490,685	2,543,895	2,580,903	2,631,932	2,474,777	2,480,595	2,194,317	-1,617,933	-42%
KY	Shawnee	McCracken	12,586,322	10,525,859	10,435,320	9,187,925	10,030,198	10,634,933	10,574,258	10,968,115	10,912,575	-1,673,747	-13%
KY	Paradise	Muhlenberg	16,071,498	16,798,210	17,134,051	13,632,508	15,065,232	14,595,360	15,931,071	16,350,089	14,262,312	-1,809,186	-11%
KY	Ghent	Carroll	14,175,099	13,937,043	13,309,770	14,173,480	14,735,583	13,769,212	13,830,752	12,221,232	12,039,154	-2,135,945	-15%
LA	R S Cogen*	Calcasieu	0	0	0	0	0	0	0	263,631	1,682,683	n/a	n/a
LA	Ouachita Power, LLC*	Ouachita	0	0	0	0	0	0	0	314,273	656,698	n/a	n/a
LA	Acadia Power Station*	Acadia	0	0	0	0	0	0	0	238,405	663,008	n/a	n/a
LA	Taft Cogeneration Facility*	St Charles	0	0	0	0	0	0	0	195,697	2,405,881	n/a	n/a
LA	Carville Energy Center	Iberville	0	0	0	0	0	0	0	0	710,032	n/a	n/a
LA	Big Cajun 2	Pointe Coupee	10,339,156	11,607,737	12,327,289	12,693,110	13,183,144	14,124,989	13,878,106	13,892,121	14,076,341	3,737,185	36%
LA	Rodemacher Power Station (6190)	Rapides	2,882,671	4,438,165	4,428,841	4,747,034	4,923,508	4,843,732	4,262,734	4,336,230	4,061,517	1,178,846	41%
LA	Louisiana 1	East Baton Rouge	1,465,167	2,514,770	1,416,482	1,396,578	2,037,676	2,203,317	2,177,098	1,961,177	2,106,827	641,660	44%
LA	Waterford 1 & 2	St Charles	1,393,248	1,088,607	1,322,448	1,074,505	1,463,978	1,117,647	2,165,471	1,308,460	1,703,332	310,084	22%
LA	Evangeline Power Station (Coughlin)	Evangeline	283,074	159,896	297,791	521,322	358,789	4,883,137	820,897	1,512,752	559,443	276,369	98%
LA	Dolet Hills Power Station	De Soto	5,376,279	4,755,904	5,450,948	5,215,482	4,447,511	5,186,835	4,965,018	5,157,220	5,635,022	258,743	5%
LA	Teche Power Station	St Mary	496,934	751,817	806,474	862,845	909,558	910,640	883,139	510,502	694,295	197,361	40%
LA	Perryville Power Station^	Ouachita	0	0	0	0	0	0	25,075	341,510	367,827	26,317	8%
LA	Doc Bonin	Lafayette	0	221,446	335,719	359,785	458,323	413,861	276,865	286,379	206,919	-14,527	-7%
LA	Sterlington	Ouachita	525,088	226,502	198,707	575,768	647,556	809,093	687,219	651,647	322,694	-202,394	-39%
LA	R S Nelson	Calcasieu	5,399,045	4,447,367	5,033,568	5,255,842	5,960,445	6,136,209	5,515,919	5,620,390	4,629,739	-769,307	-14%
LA	Michoud	Orleans	2,459,732	802,357	1,642,094	1,584,398	2,345,369	2,410,194	1,619,735	1,716,677	1,445,797	-1,013,935	-41%
LA	Ninemile Point	Jefferson	4,617,366	2,925,535	3,729,272	3,837,350	4,590,949	4,372,680	3,176,245	4,098,006	2,967,843	-1,649,523	-36%
LA	Little Gypsy	St Charles	2,961,098	2,124,097	1,824,041	2,000,949	2,022,154	2,039,012	2,135,618	1,671,698	980,569	-1,980,529	-67%
LA	Willow Glen	Iberville	3,029,466	2,524,889	2,484,428	2,891,815	2,968,308	3,335,416	3,125,494	2,154,413	662,461	-2,367,005	-78%
MA	ANP Bellingham Energy Project*	Norfolk	0	0	0	0	0	0	0	169,463	722,324	n/a	n/a
MA	Fore River Station	Norfolk	0	0	0	0	0	0	0	0	840,854	n/a	n/a
MA	Mystic	Middlesex	1,112,016	1,654,087	3,421,873	4,586,383	2,963,295	1,661,491	1,603,664	1,435,490	3,933,468	2,821,452	254%
MA	Canal Station	Barnstable	2,505,775	2,758,928	4,973,552	5,852,248	5,169,661	4,240,199	4,241,249	4,069,016	4,019,279	1,513,504	60%
MA	ANP Blackstone Energy Company	Worcester	0	0	0	0	0	0	311,659	841,864	857,179	545,520	175%
MA	Kendall Square	Middlesex	136,783	205,705	211,850	210,408	213,656	214,629	271,810	332,363	469,186	332,403	243%
MA	Berkshire Power	Hampden	0	0	0	0	0	305,245	273,191	588,285	525,173	219,927	72%
MA	Mount Tom	Hampden	1,018,199	1,016,662	1,217,580	1,067,076	1,068,052	1,286,132	1,288,359	1,059,680	1,140,057	121,858	12%
MA	Somerset	Bristol	718,780	760,954	892,895	918,174	738,765	938,689	853,980	908,942	624,276	-94,505	-13%
MA	Dighton^	Bristol	0	0	0	0	181,478	382,439	333,332	276,471	210,547	-171,892	-45%
MA	Millennium Power Partners^	Worcester	0	0	0	0	0	65,095	490,712	1,006,197	602,162	-404,035	-40%
MA	Salem Harbor	Essex	3,355,145	3,313,688	4,384,591	4,582,172	3,891,396	3,553,199	3,500,837	2,596,730	2,474,075	-881,070	-26%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
MA	Brayton Point	Bristol	8,996,830	8,284,462	8,665,189	8,281,906	8,808,361	7,925,715	7,353,934	7,435,155	7,023,893	-1,972,937	-22%
MD	Herbert A Wagner	Anne Arundel	2,203,901	3,884,204	3,725,206	4,756,750	3,984,574	3,653,742	3,334,405	3,220,518	3,612,517	1,408,616	64%
MD	Chalk Point	Prince Georges	5,156,964	4,567,198	5,190,639	6,876,647	8,003,847	5,270,061	5,196,515	6,387,632	6,249,667	1,092,703	21%
MD	Morgantown	Charles	6,726,667	7,450,241	7,170,509	7,841,100	7,207,552	7,554,401	7,042,889	7,435,745	7,759,622	1,032,955	15%
MD	C P Crane	Baltimore	2,085,210	2,428,009	2,368,528	2,379,604	2,691,150	2,447,539	2,527,698	2,446,256	2,601,391	516,181	25%
MD	R. Paul Smith Power Station	Washington	235,601	301,714	315,916	321,115	385,540	624,407	608,321	618,455	544,713	309,112	131%
MD	Dickerson	Montgomery	3,592,498	3,562,845	3,665,264	4,172,882	3,563,985	2,962,099	3,144,971	3,182,191	2,761,809	-830,689	-23%
MD	Brandon Shores	Anne Arundel	10,027,980	9,952,698	9,769,550	9,530,383	10,395,000	9,643,560	9,260,989	7,573,937	8,148,887	-1,879,093	-19%
ME	William F Wyman	Cumberland	848,139	695,978	1,461,746	1,729,591	2,441,376	1,731,845	1,010,730	397,061	1,119,511	271,372	32%
ME	Androscoggin Cogeneration Center	Franklin	0	0	0	0	0	519,769	565,951	608,960	571,180	51,411	10%
ME	Bucksport Clean Energy	Hancock	0	0	0	0	0	0	731,450	829,490	778,527	47,076	6%
ME	Rumford Power Associates^	Oxford	0	0	0	0	0	153,306	762,634	782,900	661,740	-100,894	-13%
ME	Westbrook Energy Center^	Cumberland	0	0	0	0	0	0	1,042,637	1,580,945	1,358,157	-222,788	-14%
ME	Maine Independence Station^	Penobscot	0	0	0	0	0	744,689	1,402,914	1,582,011	1,025,612	-377,303	-27%
MI	J H Campbell	Ottawa	7,955,303	8,755,965	8,698,822	10,031,610	10,573,777	8,743,339	10,244,755	10,174,503	11,390,422	3,435,119	43%
MI	River Rouge	Wayne	1,168,436	3,619,472	3,588,457	4,091,713	3,884,703	2,815,041	2,652,877	3,583,457	2,937,019	1,768,583	151%
MI	Eckert Station	Ingham	802,885	843,787	1,049,440	1,628,462	1,901,078	2,117,618	2,139,670	2,254,090	2,256,362	1,453,477	181%
MI	Trenton Channel	Wayne	3,006,525	4,908,790	3,928,241	4,979,437	4,894,310	4,336,480	4,681,082	4,729,991	4,139,487	1,132,962	38%
MI	J R Whiting	Monroe	2,228,575	1,958,472	2,063,218	2,171,661	2,476,597	2,399,410	2,606,032	2,776,931	2,806,584	578,009	26%
MI	J C Weadock	Bay	2,146,093	1,906,398	1,955,213	2,374,575	2,236,730	2,420,670	2,511,939	2,448,270	2,617,878	471,785	22%
MI	Greenwood	St Clair	128,805	91,951	222,406	855,081	843,357	845,675	682,884	883,750	508,489	379,684	295%
MI	Endicott Generating	Hillsdale	228,522	99,359	164,911	489,532	436,612	412,121	467,106	503,534	555,745	327,223	143%
MI	Dan E Karn	Bay	3,821,103	3,972,975	3,603,916	4,140,734	5,192,024	4,950,904	4,886,694	4,774,828	4,051,808	230,705	6%
MI	Wyandotte	Wayne	213,382	306,688	344,805	353,050	392,517	426,323	398,669	365,713	381,543	168,161	79%
MI	Erickson	Eaton	872,025	905,813	976,142	942,557	1,079,843	967,202	755,627	895,322	1,016,246	144,221	17%
MI	Harbor Beach	Huron	95,992	152,571	148,978	311,719	254,736	340,768	234,279	280,819	235,011	139,019	145%
MI	James De Young	Ottawa	108,078	209,694	187,942	204,625	183,333	229,461	234,637	195,473	238,749	130,671	121%
MI	Mistersky	Wayne	0	285,812	390,191	354,090	337,940	321,105	611,404	355,646	381,944	96,132	34%
MI	B C Cobb	Muskegon	2,316,085	2,209,050	1,795,053	2,587,027	2,553,138	2,565,679	2,366,310	2,489,108	2,412,075	95,990	4%
MI	Shiras	Marquette	316,718	307,898	377,560	364,671	407,407	405,442	399,891	364,339	389,194	72,476	23%
MI	Michigan Power Limited Partnership	Mason	0	565,773	594,555	575,372	461,758	590,046	484,856	571,349	596,056	30,283	5%
MI	J B Sims	Ottawa	462,310	374,438	315,529	441,175	341,219	397,682	447,895	300,276	406,769	-55,542	-12%
MI	Presque Isle	Marquette	3,912,764	3,778,670	3,945,561	4,108,087	3,911,274	4,156,469	3,992,925	3,809,444	3,643,884	-268,880	-7%
MI	Belle River	St Clair	9,439,997	10,204,045	10,164,593	10,561,059	10,103,399	10,845,777	10,646,508	9,136,652	9,061,147	-378,850	-4%
MI	St. Clair	St Clair	8,410,570	8,563,376	7,945,159	8,827,569	8,892,158	8,180,019	6,269,418	7,536,790	7,174,818	-1,235,752	-15%
MI	Monroe	Monroe	18,864,045	19,739,014	21,454,630	20,159,924	18,496,262	18,080,981	17,561,424	16,244,583	17,311,006	-1,553,039	-8%
MN	Sherburne County	Sherburne	16,050,242	16,363,805	16,837,989	16,564,341	15,864,260	17,679,631	17,124,687	18,220,647	18,964,310	2,914,068	18%
MN	Taconite Harbor Energy Center	Cook	0	0	0	0	0	0	0	831,857	1,700,791	868,934	104%
MN	High Bridge	Ramsey	1,411,089	1,656,095	1,775,262	2,148,290	1,724,936	1,920,237	2,033,875	2,003,290	2,100,438	689,349	49%
MN	Riverside (1927)	Hennepin	2,244,793	2,372,023	2,591,266	3,104,748	2,744,689	2,874,902	2,843,455	2,923,689	2,855,447	610,654	27%
MN	Hoot Lake	Otter Tail	565,494	577,885	742,737	902,367	870,831	1,022,831	1,072,994	1,044,048	1,166,471	600,977	106%
MN	Syl Laskin	St Louis	363,555	556,975	668,881	797,692	646,863	789,876	868,997	936,817	931,410	567,855	156%
MN	Clay Boswell	Itasca	7,717,152	7,407,377	7,302,633	7,643,730	7,230,445	7,636,335	8,182,762	8,303,021	8,276,151	558,999	7%
MN	Allen S King	Washington	3,372,897	3,626,468	3,822,028	2,783,991	3,465,485	3,800,539	3,401,016	3,579,175	3,817,127	444,230	13%
MN	Black Dog	Dakota	1,647,992	1,269,539	1,662,467	1,908,792	1,795,940	1,940,160	1,366,579	1,885,004	1,981,644	333,652	20%
MN	Northeast Station	Mower	119,205	198,448	171,091	180,449	180,201	182,967	198,530	186,060	216,120	96,915	81%
MN	Silver Lake	Olmsted	175,613	213,824	182,809	215,962	183,044	270,187	223,343	111,668	238,895	63,282	36%
MN	M L Hibbard	St Louis	232,114	246,472	247,944	255,562	291,927	307,989	296,009	284,573	282,804	50,690	22%
MN	Cottage Grove Cogeneration	Washington	0	0	0	322,199	306,597	288,178	201,681	238,625	284,063	-38,137	-12%
MO	Meramec	St Louis	1,728,293	1,973,359	2,580,016	2,886,756	3,846,320	3,957,803	4,432,927	5,471,872	6,123,092	4,394,799	254%
MO	Hawthorn	Jackson	2,362,439	2,714,631	2,652,454	2,183,235	383,763	308,964	1,941,116	4,818,016	4,735,497	2,373,058	100%
MO	Sioux	St Charles	3,834,762	4,440,646	5,167,319	5,681,664	5,337,653	5,396,971	5,673,496	6,278,142	6,033,364	2,198,602	57%
MO	Thomas Hill Energy Center	Randolph	8,289,986	8,341,393	8,814,154	8,819,652	10,265,456	9,240,886	9,733,786	7,474,277	9,418,882	1,128,896	14%
MO	Southwest	Greene	921,607	1,204,805	1,442,901	1,714,131	1,602,940	1,541,559	1,968,179	1,712,776	1,983,049	1,061,442	115%
MO	Sibley	Jackson	2,900,950	3,246,680	3,092,113	3,323,989	3,365,548	3,472,444	3,430,333	3,613,324	3,694,949	793,999	27%
MO	Labadie	Franklin	14,807,531	13,663,316	14,542,156	16,106,090	15,608,008	16,069,898	16,571,261	14,626,118	15,535,558	728,027	5%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
MO	Lake Road	Buchanan	157,258	335,135	617,357	684,511	669,334	582,358	673,841	776,956	775,388	618,130	393%
MO	Iatan	Platte	5,541,471	5,317,875	4,891,882	5,182,100	4,812,489	4,260,446	5,375,043	4,961,637	5,849,882	308,411	6%
MO	Montrose	Henry	3,181,448	3,212,288	3,621,186	3,404,014	3,596,551	3,735,652	3,627,419	3,415,421	3,455,275	273,827	9%
MO	Rush Island	Jefferson	7,423,682	7,902,767	7,505,942	8,497,883	8,021,847	8,272,522	6,838,364	7,372,345	7,680,365	256,683	3%
MO	Sikeston	Scott	1,993,451	1,995,845	2,284,659	1,712,972	2,171,460	2,182,425	2,338,436	2,170,990	2,202,190	208,739	10%
MO	James River	Greene	1,479,388	1,413,382	1,359,226	1,398,631	1,585,703	1,708,765	1,625,546	1,694,580	1,669,055	189,667	13%
MO	Chamois Power Plant	Osage	248,172	410,298	360,753	300,853	292,205	436,501	437,419	458,927	433,292	185,120	75%
MO	Asbury	Jasper	1,499,884	1,252,248	1,546,552	1,399,961	1,433,185	1,477,870	1,184,728	1,521,284	1,539,590	39,706	3%
MO	MEP Pleasant Hill-Aries Power Proj^	Cass	0	0	0	0	0	0	115,501	436,917	344,204	-92,713	-21%
MO	New Madrid Power Plant	New Madrid	8,267,693	7,908,347	8,808,992	9,095,183	8,183,447	8,415,549	7,657,873	8,082,519	7,689,812	-577,881	-7%
MO	State Line (MO)	Jasper	0	0	0	0	0	2,200,711	582,717	601,608	428,338	-1,772,373	-81%
MS	Daniel Electric Generating Plant	Jackson	5,157,509	6,324,449	7,058,229	5,620,310	6,543,247	7,071,914	9,118,926	8,457,422	7,670,510	2,513,001	49%
MS	Red Hills Generation Facility	Choctaw	0	0	0	0	0	0	0	2,732,369	4,491,811	1,759,441	64%
MS	Watson Electric Generating Plant	Harrison	4,277,367	5,183,067	4,845,317	5,581,462	5,876,706	5,834,038	5,311,850	4,919,427	5,666,504	1,389,137	32%
MS	R D Morrow	Lamar	1,965,407	2,858,560	2,874,513	3,025,998	2,477,566	2,645,042	2,569,784	2,761,350	3,247,008	1,281,601	65%
MS	Gerald Andrus	Washington	1,222,493	563,653	2,792,130	2,403,535	3,150,936	2,478,529	2,706,286	1,699,748	1,818,195	595,702	49%
MS	Chevron Cogenerating Station	Jackson	450,181	411,210	446,433	376,493	465,924	432,012	399,704	467,488	458,638	8,457	2%
MS	Duke Energy Hinds^	Hinds	0	0	0	0	0	0	311,488	537,898	508,570	-29,327	-5%
MS	Batesville Generation Facility^	Panola	0	0	0	0	0	295,123	646,976	570,060	597,117	-49,859	-8%
MS	Rex Brown	Hinds	408,626	290,038	237,999	542,302	452,350	381,064	494,288	457,417	262,622	-146,005	-36%
MS	Moselle	Jones	485,852	263,408	352,597	566,067	575,001	477,000	299,949	349,476	297,265	-188,587	-39%
MS	Baxter Wilson	Warren	3,641,041	3,393,911	4,141,390	4,888,992	4,458,314	4,081,548	3,635,639	1,667,699	393,160	-3,247,881	-89%
MT	Colstrip	Rosebud	15,256,141	12,525,968	16,813,101	18,593,847	18,619,409	16,503,215	18,571,621	16,262,887	17,559,528	2,303,387	15%
MT	J E Corette	Yellowstone	1,351,655	1,179,555	913,229	739,694	1,258,516	1,393,914	1,161,004	1,331,694	1,518,551	166,896	12%
MT	Lewis & Clark	Richland	427,096	317,288	307,390	491,698	365,019	503,417	532,899	468,045	521,177	94,081	22%
NC	G G Allen	Gaston	3,661,778	5,545,956	6,627,324	4,508,312	5,619,742	5,914,264	5,487,331	4,917,885	6,280,173	2,618,395	72%
NC	Riverbend	Gaston	395,414	2,098,651	1,987,603	1,888,967	1,781,849	2,666,624	2,374,459	1,887,624	2,797,357	2,401,943	607%
NC	Cliffside	Cleveland	2,784,386	3,847,189	3,746,374	4,341,770	3,827,848	4,167,193	4,049,227	2,841,734	4,541,101	1,756,715	63%
NC	Buck	Rowan	630,484	1,738,805	2,115,938	1,579,343	1,868,804	1,965,627	1,730,127	1,389,551	2,255,869	1,625,385	258%
NC	Roxboro	Person	14,220,431	14,554,168	14,775,907	15,425,770	16,092,702	15,575,045	14,983,859	14,935,713	15,785,336	1,564,905	11%
NC	L V Sutton	New Hanover	1,971,796	2,731,810	2,416,051	3,090,303	2,937,714	2,911,009	2,678,861	2,963,327	3,314,398	1,342,602	68%
NC	Lee	Wayne	994,751	1,489,375	1,701,086	1,991,169	2,034,902	2,497,634	2,438,866	2,498,883	2,259,364	1,264,613	127%
NC	Dan River	Rockingham	477,244	1,079,704	1,102,343	931,356	1,183,270	1,170,227	898,554	634,967	1,392,815	915,571	192%
NC	W H Weatherspoon	Robeson	313,653	663,004	777,718	854,583	859,787	939,474	845,393	958,382	825,478	511,825	163%
NC	Cape Fear	Chatham	1,599,350	1,873,205	1,681,188	1,813,330	1,681,385	1,664,803	1,535,760	1,715,339	1,699,169	99,819	6%
NC	Richmond County Plant^	Richmond	0	0	0	0	0	0	218,294	584,733	386,198	-198,535	-34%
NC	Asheville	Buncombe	2,939,767	3,055,829	2,558,792	2,518,633	2,866,123	3,003,068	2,730,256	2,754,515	2,713,847	-225,920	-8%
NC	Mayo	Person	5,035,618	3,953,151	5,529,689	5,156,271	5,105,715	5,827,689	5,211,732	5,404,044	4,668,628	-366,990	-7%
NC	Marshall	Catawba	13,757,769	14,353,025	13,922,689	13,319,829	12,196,762	13,262,502	11,860,117	12,802,735	13,183,080	-574,690	-4%
NC	Belews Creek	Stokes	12,350,708	13,617,317	16,482,258	15,599,278	14,444,190	11,727,317	13,148,649	15,700,908	9,222,537	-3,128,171	-25%
ND	Leland Olds	Mercer	4,331,629	4,912,511	5,057,616	5,690,783	5,761,437	5,396,335	5,844,232	5,969,285	5,401,555	1,069,926	25%
ND	R M Heskett	Morton	373,012	536,272	487,853	559,118	622,776	533,022	700,082	657,287	729,645	356,633	96%
ND	Antelope Valley	Mercer	8,394,266	8,094,347	8,305,827	8,911,656	8,226,314	8,606,829	7,935,531	7,931,145	8,708,735	314,469	4%
ND	Milton R Young	Oliver	6,300,752	7,161,600	6,542,249	6,344,429	6,827,866	6,714,124	5,997,586	6,165,648	6,457,495	156,743	2%
ND	Stanton	Mercer	1,356,398	1,513,908	1,481,719	1,393,626	1,581,146	1,451,571	1,613,345	1,678,354	1,438,611	82,213	6%
ND	Coal Creek	McLean	11,805,079	10,886,727	10,866,663	11,534,141	10,549,158	10,761,129	10,669,061	10,587,048	11,097,303	-707,776	-6%
ND	Coyote	Mercer	4,231,058	3,912,323	2,806,019	3,796,806	4,005,384	3,687,457	3,988,805	3,948,732	3,511,749	-719,309	-17%
NE	Gerald Gentleman Station	Lincoln	9,335,630	8,575,660	9,977,120	9,705,220	9,434,513	9,162,406	11,269,167	11,414,410	11,651,121	2,315,491	25%
NE	North Omaha	Douglas	1,756,692	3,994,090	4,109,473	4,160,417	3,906,533	3,966,587	3,873,053	3,904,854	4,061,114	2,304,422	131%
NE	Nebraska City	Otoe	4,429,020	3,816,556	3,310,438	4,963,084	5,080,801	4,634,286	4,910,417	4,196,583	4,966,428	537,408	12%
NE	Platte	Hall	539,117	698,955	638,056	678,088	730,975	781,086	832,954	744,373	844,819	305,702	57%
NE	Gerald Whelan Energy Center	Adams	616,615	659,572	553,541	611,848	639,068	694,753	679,360	618,100	673,337	56,722	9%
NE	Sheldon	Lancaster	1,764,655	1,751,983	1,781,191	1,728,735	1,658,956	1,734,114	1,811,525	1,924,504	1,783,624	18,969	1%
NE	Lon D Wright Power Plant	Dodge	574,496	303,351	396,373	326,900	436,407	356,578	456,815	456,106	455,876	-118,621	-21%
NH	Newington Power Facility*	Rockingham	0	0	0	0	0	0	0	483,774	1,020,907	n/a	n/a
NH	AES Granite Ridge	Rockingham	0	0	0	0	0	0	0	0	822,972	n/a	n/a

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
NH	Newington	Rockingham	1,264,754	911,852	1,206,461	1,465,379	1,559,294	529,152	536,691	756,457	2,128,037	863,283	68%
NH	Schiller	Rockingham	473,970	914,332	1,195,196	937,850	921,710	1,175,560	1,103,758	1,159,977	1,246,887	772,917	163%
NH	Merrimack	Merrimack	3,120,376	2,803,193	3,537,151	3,209,209	3,097,220	3,474,018	3,221,997	3,156,784	3,259,587	139,211	4%
NJ	AES Red Oak*	Middlesex	0	0	0	0	0	0	0	172,568	343,683	n/a	n/a
NJ	Bayonne Plant Holding, LLC	Hudson	0	0	0	0	0	0	0	0	230,551	n/a	n/a
NJ	Hudson Generating Station	Hudson	1,592,571	2,222,225	3,142,642	1,954,968	3,140,979	3,855,073	3,286,544	3,531,791	3,162,700	1,570,129	99%
NJ	Bergen	Hudson	304,313	527,137	572,830	428,494	433,704	633,449	903,088	1,296,770	1,628,094	1,323,781	435%
NJ	Deepwater	Salem	562,670	580,258	617,971	1,875,944	1,545,547	568,291	578,745	530,877	1,420,023	857,353	152%
NJ	Mercer Generating Station	Mercer	1,936,756	1,904,493	2,616,596	2,744,252	2,854,388	3,399,438	2,928,756	2,947,225	2,622,677	685,921	35%
NJ	Linden Cogeneration Facility	Union	0	0	0	0	0	0	0	556,347	682,754	126,407	23%
NJ	Sewaren Generating Station	Middlesex	142,764	125,078	107,464	227,349	166,165	160,223	358,488	286,555	267,642	124,878	87%
NJ	B L England	Cape May	2,034,213	2,097,720	1,895,240	1,623,850	1,813,932	1,899,030	1,637,684	1,577,653	1,687,394	-346,819	-17%
NM	Prewitt Escalante Generating Statio	McKinley	1,298,600	2,030,500	2,264,549	1,639,383	2,261,183	2,185,816	1,903,128	1,759,793	1,828,577	529,977	41%
NM	San Juan	San Juan	12,074,907	13,956,090	14,509,543	14,284,771	13,748,364	14,512,418	13,774,437	14,489,489	12,269,238	194,331	2%
NM	Milagro	San Juan	0	389,796	455,877	464,292	410,053	165,490	472,943	482,804	495,439	105,643	27%
NM	Maddox	Lea	328,120	369,241	365,845	443,692	376,536	394,052	397,648	278,825	335,519	7,399	2%
NM	Cunningham	Lea	688,387	651,563	780,409	949,009	987,442	873,270	867,689	777,486	686,581	-1,806	-0.3%
NM	Rio Grande	Dona Ana	654,487	560,158	568,045	641,414	522,011	691,790	517,008	501,799	530,821	-123,666	-19%
NM	Four Corners Steam Elec Station	San Juan	17,279,843	15,962,747	15,994,302	16,881,021	17,483,077	16,939,714	17,220,079	14,930,145	16,293,678	-986,165	-6%
NV	Las Vegas Cogeneration II, LLC	Clark	0	0	0	0	0	0	0	0	296,916	n/a	n/a
NV	Apex Generating Station	Clark	0	0	0	0	0	0	0	0	487,150	n/a	n/a
NV	North Valmy	Humboldt	2,075,920	2,761,013	3,086,418	3,808,791	3,730,046	3,998,874	3,748,822	4,508,896	3,642,867	1,566,947	75%
NV	El Dorado Energy^	Clark	0	0	0	0	0	857,735	1,016,324	1,441,143	1,447,285	430,962	42%
NV	Clark	Clark	0	7,693	151,276	148,896	169,226	466,155	410,685	504,559	295,413	287,720	3740%
NV	Tracy	Storey	693,420	1,035,676	1,130,107	1,435,877	1,238,214	1,683,565	1,923,598	864,455	899,966	206,546	30%
NV	Fort Churchill	Lyon	851,735	854,343	695,297	774,126	744,638	889,606	1,045,754	660,996	867,403	15,668	2%
NV	Reid Gardner	Clark	5,965,154	12,410,507	3,963,257	4,946,877	4,683,718	5,343,704	4,810,063	5,351,857	5,566,481	-398,673	-7%
NV	Mohave	Clark	10,867,642	10,550,311	10,422,494	10,114,689	10,107,992	10,848,287	10,307,584	10,153,106	9,575,854	-1,291,789	-12%
NY	Athens Generating Company	Greene	0	0	0	0	0	0	0	0	607,298	n/a	n/a
NY	Northport	Suffolk	3,946,552	3,908,333	3,995,685	4,535,011	7,322,022	6,468,962	6,029,315	5,724,592	5,931,735	1,985,183	50%
NY	Dynegy Roseton	Orange	1,890,252	1,089,970	1,919,884	3,614,561	3,858,360	3,025,470	2,684,373	1,297,333	3,338,778	1,448,526	77%
NY	Charles Poletti	Queens	0	1,195,860	2,133,259	2,327,340	1,454,585	2,576,554	2,114,022	1,620,808	1,942,574	746,714	62%
NY	Lovett Generating Station	Rockland	1,713,646	2,186,625	2,438,256	2,259,440	2,181,498	2,329,270	1,360,822	1,868,868	2,239,875	526,229	31%
NY	AES Greenidge	Yates	746,210	651,159	747,949	1,060,603	1,212,262	1,303,217	1,202,963	1,285,806	1,190,928	444,718	60%
NY	AES Somerset (Kintigh )	Niagara	4,768,384	5,019,459	4,840,940	5,348,720	4,607,176	5,093,571	5,399,891	5,383,508	5,194,434	426,050	9%
NY	Ravenswood Generating Station	Queens	3,089,414	2,866,784	3,382,204	3,052,408	3,383,600	5,132,053	3,640,143	3,314,030	3,502,699	413,285	13%
NY	AES Cayuga (Milliken)	Tompkins	2,276,888	2,321,476	2,251,027	2,472,125	2,620,254	2,515,682	2,401,891	2,658,788	2,614,817	337,929	15%
NY	AES Westover (Goudey)	Broome	729,513	770,693	979,800	1,055,937	1,112,013	1,084,104	997,232	1,059,269	1,046,591	317,078	43%
NY	Dynegy Danskammer	Orange	2,219,672	2,315,941	2,531,784	2,950,657	2,426,414	2,783,071	2,576,827	2,564,063	2,440,507	220,835	10%
NY	Port Jefferson Energy Center	Suffolk	1,001,986	1,174,231	1,197,398	1,524,511	1,772,475	1,865,621	1,385,573	1,362,193	1,192,366	190,380	19%
NY	WPS Niagara Generation, LLC	Niagara	0	0	0	0	0	279,463	520,552	195,227	392,367	112,904	40%
NY	Brooklyn Navy Yard Cogeneration^	Kings	0	243,693	1,131,327	1,180,988	1,036,797	1,187,920	1,109,654	1,113,406	1,217,976	86,649	8%
NY	S A Carlson	Chautauqua	248,218	267,000	299,014	266,097	246,436	258,289	248,057	335,906	305,193	56,975	23%
NY	Oswego Harbor Power	Oswego	309,574	245,197	432,026	1,047,784	1,262,838	328,145	522,032	439,602	362,772	53,198	17%
NY	Dunkirk	Chautauqua	3,731,759	3,575,035	3,629,180	4,164,674	3,907,229	3,714,121	3,488,967	3,675,372	3,717,872	-13,888	-0.4%
NY	Richard M Flynn (Holtsville)	Suffolk	538,703	462,182	337,512	251,996	551,414	668,292	575,624	585,731	518,023	-20,680	-4%
NY	Indeck-Corinth Energy Center	Saratoga	0	0	0	0	0	0	0	511,505	477,109	-34,396	-7%
NY	Rochester 7 - Russell Station	Monroe	1,763,124	1,137,103	1,281,397	1,486,468	1,557,436	1,561,760	1,753,607	1,689,235	1,676,757	-86,367	-5%
NY	74th Street	New York	504,109	590,735	636,480	673,192	610,345	797,124	452,169	466,013	416,155	-87,954	-17%
NY	E F Barrett	Nassau	1,176,543	1,027,400	1,113,896	927,305	1,091,972	931,671	1,223,069	1,089,196	961,660	-214,883	-18%
NY	Glenwood	Nassau	609,605	361,469	360,428	354,334	457,337	475,078	549,628	549,847	393,353	-216,252	-35%
NY	Huntley Power	Erie	4,242,696	4,483,802	5,021,067	5,389,570	3,876,152	4,203,999	3,766,814	3,502,854	3,720,740	-521,956	-12%
NY	Waterside	New York	1,972,603	1,256,142	901,976	1,079,233	1,229,231	1,290,200	1,103,992	1,281,309	1,159,617	-812,986	-41%
NY	Bowline Generating Station	Rockland	2,397,601	761,012	1,181,347	2,957,361	2,390,959	1,282,970	1,520,584	1,453,553	1,186,465	-1,211,136	-51%
NY	Arthur Kill	Richmond	2,053,619	371,907	901,604	963,280	1,572,756	1,284,817	1,579,840	799,774	478,973	-1,574,646	-77%
NY	East River	New York	2,735,253	1,001,429	901,104	675,930	993,171	761,156	910,502	928,597	744,489	-1,990,764	-73%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
NY	Astoria Generating Station	Queens	6,934,673	4,349,320	2,580,212	3,414,029	3,792,750	2,356,415	2,977,997	2,585,087	2,634,039	-4,300,634	-62%
OH	Gen J M Gavin	Gallia	16,255,356	19,553,770	16,572,260	17,796,699	15,919,260	18,042,121	18,618,579	15,353,814	19,024,546	2,769,190	17%
OH	Muskingum River	Washington	5,818,753	8,298,811	8,442,669	7,207,813	5,907,439	8,261,015	7,633,409	8,163,694	7,553,225	1,734,472	30%
OH	Conesville	Coshocton	9,521,509	9,900,824	10,471,394	10,820,748	9,962,005	11,211,120	8,702,393	10,213,573	10,859,580	1,338,071	14%
OH	Walter C Beckjord	Clermont	5,718,967	6,784,736	7,252,347	8,406,213	8,663,538	8,079,086	6,565,367	7,418,892	6,889,593	1,170,626	20%
OH	W H Sammis	Jefferson	15,687,086	15,399,934	14,598,907	14,902,620	15,786,871	13,404,729	13,481,354	15,854,576	16,694,526	1,007,440	6%
OH	O H Hutchings	Montgomery	413,368	590,129	930,856	835,214	641,712	1,069,300	1,040,478	949,702	1,230,301	816,933	198%
OH	Lake Shore	Cuyahoga	0	250,670	173,613	372,203	324,094	509,278	708,267	1,119,927	868,675	618,005	247%
OH	Bay Shore	Lucas	3,341,941	3,323,987	3,252,467	3,054,412	3,046,292	3,205,809	3,613,839	4,072,748	3,926,401	584,460	17%
OH	Picway	Pickaway	189,595	562,304	594,786	492,768	389,451	483,388	380,101	506,061	492,167	302,572	160%
OH	Miami Fort	Hamilton	7,236,870	8,526,433	8,304,793	8,283,229	9,755,553	9,308,267	6,622,384	7,913,436	7,492,372	255,502	4%
OH	Eastlake	Lake	6,481,590	6,771,008	6,563,787	7,046,931	5,797,059	5,700,596	5,061,132	6,767,417	6,643,547	161,957	2%
OH	Hamilton Municipal Power Plant	Butler	199,286	267,674	276,028	363,689	314,426	217,537	314,603	312,394	317,415	118,129	59%
OH	Killen Station	Adams	4,530,245	6,148,758	4,952,105	5,654,344	5,108,795	4,769,250	4,469,339	3,741,385	4,592,313	62,068	1%
OH	Niles	Trumbull	1,321,423	1,395,902	1,133,753	1,350,093	1,309,919	1,360,394	1,535,028	1,293,782	1,277,916	-43,507	-3%
OH	R E Burger	Belmont	1,860,180	2,391,596	2,297,701	2,014,823	2,121,638	2,110,319	2,133,118	2,175,989	1,783,723	-76,457	-4%
OH	Richard Gorsuch	Washington	1,925,226	1,931,872	1,648,855	1,941,385	2,007,625	2,056,357	1,829,135	1,731,020	1,620,171	-305,055	-16%
OH	Avon Lake Power Plant	Lorain	4,169,159	4,474,691	3,901,078	3,883,492	4,026,399	3,157,461	4,071,967	4,646,516	3,821,833	-347,326	-8%
OH	J M Stuart	Adams	15,509,988	14,481,922	14,953,189	14,742,270	14,731,941	15,028,266	13,700,610	15,575,642	15,149,597	-360,391	-2%
OH	Ashtabula	Ashtabula	1,861,971	2,105,136	1,521,668	1,034,847	960,650	1,549,618	1,575,789	1,643,444	985,019	-876,952	-47%
OH	W H Zimmer	Clermont	9,342,575	11,060,721	9,077,011	9,615,542	9,828,655	8,119,286	8,900,439	9,033,570	8,452,238	-890,337	-10%
OH	Cardinal	Jefferson	11,267,128	9,641,554	10,649,122	10,928,140	9,294,345	10,441,086	9,338,848	8,409,740	9,961,958	-1,305,170	-12%
OH	Kyger Creek	Gallia	8,269,555	8,446,634	7,635,874	7,658,758	7,465,223	7,840,393	7,331,970	6,625,110	6,663,916	-1,605,640	-19%
OK	Oneta Energy Center (Panda Oneta)*	Wagoner	0	0	0	0	0	0	0	163,534	315,855	n/a	n/a
OK	Green Country Energy, LLC*	Tulsa	0	0	0	0	0	0	0	808,645	889,869	n/a	n/a
OK	Tenaska Kiamichi Generating Station	Pittsburg	0	0	0	0	0	0	0	0	1,188,055	n/a	n/a
OK	Northeastern	Rogers	7,483,911	7,995,783	8,931,919	9,583,035	8,271,725	8,564,533	9,083,001	9,467,675	8,889,722	1,405,811	19%
OK	Grand River Dam Authority	Mayes	7,357,927	7,244,317	7,326,535	7,122,376	7,577,674	7,747,373	7,606,277	7,915,705	8,542,779	1,184,852	16%
OK	Seminole (2956)	Seminole	0	1,574,306	1,561,796	2,649,969	2,311,884	2,262,158	2,323,698	2,146,233	2,068,059	493,753	31%
OK	Mustang	Canadian	0	117,335	169,719	401,098	780,816	520,922	601,664	650,766	440,608	323,273	276%
OK	Tulsa	Tulsa	83,957	152,298	180,832	351,175	481,842	274,135	180,681	151,183	315,295	231,338	276%
OK	Horseshoe Lake	Oklahoma	0	498,067	474,324	756,234	491,003	635,544	757,237	887,541	647,604	149,537	30%
OK	Hugo	Choctaw	3,036,986	2,902,437	3,058,637	3,294,814	3,385,528	3,072,067	2,785,235	3,332,939	3,147,774	110,788	4%
OK	McClain Energy Facility^	McClain	0	0	0	0	0	0	279,590	574,550	587,266	12,716	2%
OK	Conoco	Kay	0	412,978	419,839	442,788	390,624	267,330	333,446	368,999	395,472	-17,506	-4%
OK	Sooner	Noble	8,371,137	7,279,368	8,594,347	7,309,675	7,500,982	7,347,487	7,198,036	7,386,334	8,238,923	-132,214	-2%
OK	Chouteau Power Plant^	Mayes	0	0	0	0	0	175,186	481,067	485,435	339,921	-141,146	-29%
OK	Southwestern	Caddo	824,730	651,634	642,323	681,294	597,586	735,431	527,946	611,199	567,866	-256,864	-31%
OK	Comanche (8059)	Comanche	1,027,501	1,017,474	943,745	977,691	1,062,337	993,846	672,545	740,367	722,927	-304,574	-30%
OK	Riverside (4940)	Tulsa	1,813,786	1,556,817	1,258,844	1,642,398	1,662,956	2,204,669	1,819,332	1,499,062	1,151,696	-662,090	-37%
OK	Muskogee	Muskogee	12,623,173	11,687,537	11,282,443	9,568,205	10,293,402	11,949,750	11,064,471	11,499,995	11,921,916	-701,257	-6%
OR	Hermiston Power Plant*	Umatilla	0	0	0	0	0	0	0	655,808	1,055,695	n/a	n/a
OR	Boardman	Morrow	1,861,637	2,049,975	1,836,655	3,968,873	4,329,202	3,998,677	4,941,637	4,126,996	4,951,428	3,089,791	166%
OR	Hermiston^	Umatilla	0	670,116	839,329	1,444,813	1,575,486	1,692,189	1,689,837	1,260,041	1,500,137	660,808	79%
OR	Coyote Springs	Morrow	0	365,265	321,234	756,005	581,663	791,010	834,918	562,121	688,575	323,310	89%
OR	Klamath Cogeneration Project^	Klamath	0	0	0	0	0	0	601,368	999,155	1,008,076	8,921	1%
PA	Bethlehem Power Plant*	Northampton	0	0	0	0	0	0	0	16,800	371,424	n/a	n/a
PA	Ontelaunee Energy Center*	Berks	0	0	0	0	0	0	0	176,100	363,273	n/a	n/a
PA	Bruce Mansfield	Beaver	11,818,383	14,937,834	14,311,790	14,960,050	13,576,930	16,047,349	13,444,272	15,411,599	15,265,479	3,447,096	29%
PA	Homer City	Indiana	13,135,044	13,608,463	13,745,174	14,053,053	13,029,807	12,313,107	12,485,429	11,709,767	13,993,063	858,019	7%
PA	Martins Creek	Northampton	2,255,193	3,062,483	3,009,859	3,104,165	2,454,422	2,838,497	3,143,483	2,528,755	3,062,643	807,450	36%
PA	Armstrong Power Station	Armstrong	1,721,023	2,319,191	2,300,409	2,441,848	1,971,615	2,410,425	2,102,191	2,198,944	2,260,344	539,321	31%
PA	Portland	Northampton	1,535,711	1,844,713	2,038,836	2,088,845	2,097,140	1,895,928	1,287,571	2,011,568	2,022,879	487,168	32%
PA	Mitchell Power Station	Washington	1,446,502	967,151	1,722,710	1,691,772	1,617,249	1,925,952	1,752,092	1,288,267	1,675,735	229,233	16%
PA	Mt. Carmel Cogeneration	Northumberland	0	0	0	0	0	0	0	436,426	614,144	177,718	41%
PA	Cheswick	Allegheny	3,600,522	3,313,022	3,828,041	2,597,900	3,327,520	3,568,262	3,958,748	3,376,491	3,727,784	127,262	4%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
PA	Titus	Berks	1,235,813	1,353,814	1,429,168	1,418,034	1,179,560	1,397,428	940,023	1,239,473	1,344,585	108,772	9%
PA	Conemaugh	Indiana	12,771,045	11,943,156	13,058,388	14,038,575	12,861,237	12,327,874	12,129,341	11,603,128	12,871,213	100,168	1%
PA	Montour	Montour	9,161,832	7,356,670	8,580,820	9,505,611	8,392,818	8,927,542	8,769,611	8,954,560	9,250,082	88,250	1%
PA	Westwood	Schuylkill	0	0	0	0	0	440,887	399,224	353,654	410,787	-30,100	-7%
PA	Hunlock Power Station	Luzerne	487,811	356,027	412,942	356,954	421,020	406,525	382,990	395,220	349,013	-138,798	-28%
PA	AES Ironwood	Lebanon	0	0	0	0	0	0	0	499,780	291,390	-208,390	-42%
PA	Liberty Electric Power Plant	Delaware	0	0	0	0	0	0	0	521,729	311,981	-209,748	-40%
PA	Grays Ferry Cogen Partnership	Philadelphia	0	0	0	681,070	591,198	578,276	409,440	582,871	460,887	-220,183	-32%
PA	Keystone	Armstrong	12,188,857	13,023,822	13,201,321	12,930,816	12,323,856	11,433,550	11,958,429	11,522,016	11,916,374	-272,483	-2%
PA	New Castle	Lawrence	1,922,959	1,747,412	2,039,937	1,975,406	1,720,091	1,986,458	2,248,463	1,949,030	1,618,414	-304,545	-16%
PA	Elrama	Washington	3,007,326	3,508,185	2,898,690	3,338,757	2,793,830	3,087,302	3,515,496	3,469,031	2,687,750	-319,576	-11%
PA	Cromby	Chester	1,769,464	1,405,862	1,359,319	1,543,066	964,342	1,184,499	1,333,715	888,337	1,257,580	-511,884	-29%
PA	Shawville	Clearfield	4,104,230	3,845,746	4,337,960	4,246,858	3,649,677	3,458,122	3,114,275	3,051,848	3,402,212	-702,019	-17%
PA	Seward	Indiana	1,469,263	1,621,869	1,423,802	1,374,253	871,474	876,343	1,067,214	903,788	757,576	-711,687	-48%
PA	Sunbury	Snyder	3,185,755	3,294,196	3,368,533	3,250,899	2,468,584	2,416,537	2,634,502	2,505,104	2,261,858	-923,897	-29%
PA	Brunner Island	York	8,803,702	8,148,511	8,588,371	8,027,261	7,300,234	7,977,150	5,720,846	8,773,249	7,870,160	-933,542	-11%
PA	Hatfields Ferry Power Station	Greene	9,918,197	9,550,372	9,150,091	9,442,960	8,796,357	10,074,184	11,420,027	10,043,622	8,566,912	-1,351,285	-14%
PA	Eddystone	Delaware	17,906,355	4,375,346	3,967,449	4,312,609	3,610,245	4,329,649	5,014,999	3,534,537	4,794,726	-13,111,629	-73%
RI	Rhode Island State Energy Partners*	Providence	0	0	0	0	0	0	0	177,869	610,373	n/a	n/a
RI	Tiverton Power Associates^	Newport	0	0	0	0	0	195,866	759,048	726,798	705,927	-53,121	-7%
RI	Manchester Street^	Providence	270,330	1,635,736	1,736,192	1,487,341	1,301,185	986,479	1,016,846	1,099,782	474,773	-1,160,963	-71%
SC	Winyah	Georgetown	4,609,621	5,873,908	6,856,728	7,147,039	8,389,202	8,447,634	8,356,095	8,675,399	8,450,427	3,840,806	83%
SC	Cross	Berkeley	6,121,414	7,373,774	6,992,030	7,647,547	7,405,600	8,756,646	8,540,910	8,506,559	8,865,038	2,743,624	45%
SC	Cope Station	Orangeburg	0	1,697,012	2,599,369	3,269,087	2,979,298	3,043,113	2,684,020	3,516,202	3,159,707	1,462,695	86%
SC	W S Lee	Anderson	680,416	1,170,825	1,140,814	1,148,008	1,282,704	1,539,976	1,218,830	1,051,189	1,662,339	981,923	144%
SC	Dolphus M Grainger	Horry	349,168	422,344	624,339	709,316	949,214	956,023	955,260	1,052,601	1,238,788	889,620	255%
SC	Jefferies	Berkeley	1,691,478	1,444,273	1,637,520	2,073,811	2,193,195	2,259,942	1,767,434	2,228,863	2,485,491	794,013	47%
SC	Williams	Berkeley	3,430,238	4,470,573	4,834,365	3,493,999	4,855,493	4,697,727	4,178,766	4,695,940	3,669,914	239,676	7%
SC	H B Robinson	Darlington	891,487	1,152,257	858,995	1,029,148	1,080,718	1,025,274	913,324	1,031,209	1,058,762	167,275	19%
SC	Wateree	Richland	4,015,502	4,095,814	3,837,187	4,019,790	4,365,831	4,206,893	4,091,186	4,217,174	4,133,872	118,370	3%
SC	McMeekin	Lexington	1,596,863	1,582,209	1,599,627	1,823,636	1,750,659	1,908,812	1,639,928	1,316,498	1,575,759	-21,104	-1%
SC	Canadys Steam	Colleton	2,542,346	1,367,386	1,130,731	1,850,561	1,210,694	2,362,176	2,440,995	2,254,691	2,481,974	-60,372	-2%
SC	John S. Rainey Generating Station^	Anderson	0	0	0	0	0	0	63,450	988,553	506,665	-481,887	-49%
SC	Urquhart	Aiken	1,557,709	1,161,216	1,158,204	1,331,088	1,537,253	1,506,944	1,365,356	1,129,699	1,016,737	-540,972	-35%
SD	Big Stone	Grant	3,133,447	2,991,297	3,928,980	3,536,832	4,299,876	4,128,290	4,015,391	3,668,330	3,993,733	860,286	27%
TN	Gallatin	Sumner	6,329,766	6,651,293	6,490,743	6,417,473	7,908,462	7,390,039	7,190,521	7,674,385	7,882,576	1,552,810	25%
TN	Johnsonville	Humphreys	7,875,589	8,996,894	8,134,503	7,859,382	8,724,362	9,630,958	8,531,685	9,575,802	8,929,575	1,053,986	13%
TN	Allen	Shelby	4,863,072	4,341,469	5,027,023	5,072,807	3,469,872	5,112,502	4,921,528	5,366,473	5,434,209	571,137	12%
TN	Bull Run	Anderson	5,345,144	4,342,805	5,962,188	5,097,885	4,172,129	4,963,295	5,705,544	6,013,355	5,831,747	486,603	9%
TN	Kingston	Roane	10,892,119	10,724,687	10,582,784	10,856,628	10,830,003	10,723,952	10,420,857	10,950,206	11,200,319	308,200	3%
TN	John Sevier	Hawkins	5,104,874	5,979,097	5,533,332	5,159,768	5,870,026	5,468,726	5,282,460	5,192,854	5,283,091	178,217	3%
TN	Lagoon Creek^	Haywood	0	0	0	0	0	0	53,958	256,350	210,357	-45,993	-18%
TN	Cumberland	Stewart	25,669,179	21,496,531	23,591,360	17,531,370	18,413,027	21,370,347	19,693,187	19,058,149	14,309,120	-11,360,059	-44%
TX	AES Wolf Hollow	Hood	0	0	0	0	0	0	0	0	637,479	n/a	n/a
TX	Cottonwood Energy Project	Newton	0	0	0	0	0	0	0	0	412,060	n/a	n/a
TX	Deer Park Energy Center	Harris	0	0	0	0	0	0	0	0	1,270,506	n/a	n/a
TX	Brazos Valley Energy, LP	Fort Bend	0	0	0	0	0	0	0	0	473,979	n/a	n/a
TX	Forney Power Plant	Kaufman	0	0	0	0	0	0	0	0	1,368,077	n/a	n/a
TX	Corpus Christi Energy Center*	Nueces	0	0	0	0	0	0	0	275,738	7,592,753	n/a	n/a
TX	Freestone Power Generation*	Freestone	0	0	0	0	0	0	0	1,459,861	2,250,635	n/a	n/a
TX	Rio Nogales Power Project, LP**	Guadalupe	0	0	0	0	0	0	0	640,620	675,384	n/a	n/a
TX	Bastrop Clean Energy Center*	Bastrop	0	0	0	0	0	0	0	662,921	641,730	n/a	n/a
TX	Baytown Energy Center*	Harris	0	0	0	0	0	0	0	1,375,393	2,175,768	n/a	n/a
TX	Ennis-Tractebel Power Company*	Ellis	0	0	0	0	0	0	0	423,456	432,014	n/a	n/a
TX	Monticello	Titus	10,916,304	15,108,938	16,340,889	15,672,988	16,184,141	14,960,317	15,360,620	15,619,270	15,986,195	5,069,891	46%
TX	Big Brown	Freestone	6,820,531	7,783,463	7,827,732	7,635,131	7,850,243	10,834,509	9,153,976	9,600,108	10,291,124	3,470,593	51%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
TX	Coloto Creek	Goliad	1,108,403	4,973,419	3,828,119	4,491,076	4,720,563	4,791,472	4,448,798	4,378,288	4,294,737	3,186,334	287%
TX	Welsh Power Plant	Titus	9,412,130	11,365,865	12,285,844	12,371,975	12,695,086	13,121,748	13,006,096	13,245,291	12,354,996	2,942,866	31%
TX	Sam Seymour	Fayette	10,540,286	11,125,152	11,033,481	10,233,106	12,723,703	12,514,443	12,202,033	12,475,799	13,144,924	2,604,638	25%
TX	J T Deely	Bexar	5,023,789	5,942,529	6,435,917	5,947,039	7,216,705	6,344,394	7,066,026	6,576,137	6,886,715	1,862,926	37%
TX	Cedar Bayou	Chambers	892,334	4,021,269	4,334,699	4,218,978	4,282,200	4,836,827	3,350,474	2,481,272	2,534,150	1,641,816	184%
TX	Tolk Station	Lamb	7,859,131	7,083,992	8,192,525	8,155,339	8,860,632	8,921,389	8,728,915	8,487,915	9,416,440	1,557,309	20%
TX	J K Spruce	Bexar	3,502,210	4,920,034	4,838,733	4,487,279	4,328,748	4,536,490	4,765,467	4,440,721	5,055,111	1,552,901	44%
TX	Martin Lake	Rusk	18,403,859	19,273,949	19,404,208	19,427,110	20,486,049	20,026,130	18,398,115	17,719,307	19,473,711	1,069,852	6%
TX	V H Braunig	Bexar	516,504	544,359	811,687	1,267,283	1,144,749	1,937,823	1,694,868	1,108,689	1,522,387	1,005,883	195%
TX	Cogen Lyondell, Inc.	Harris	0	0	0	0	0	0	0	1,031,296	1,949,038	917,742	89%
TX	Pasadena Power Plant^	Harris	0	0	0	195,505	766,374	1,017,730	1,926,412	2,098,142	1,671,830	905,456	118%
TX	Reliant Energy Channelview Cogen^	Harris	0	0	0	0	0	0	304,316	2,371,002	3,189,807	818,805	35%
TX	Harrington Station	Potter	9,400,450	9,394,359	9,230,655	9,672,652	8,653,391	9,248,017	9,277,469	9,687,453	9,940,163	539,713	6%
TX	Cleburne Cogeneration Facility	Johnson	0	0	237,773	850,235	885,902	733,930	744,866	685,701	773,899	536,126	225%
TX	Midlothian Energy^	Ellis	0	0	0	0	0	216,771	1,427,669	2,534,043	1,897,816	470,147	33%
TX	Plant X	Lamb	299,502	594,741	432,537	730,899	459,486	572,725	654,264	567,582	741,374	441,872	148%
TX	Sweeny Cogeneration Facility^	Brazoria	0	0	58,216	2,039,493	1,830,090	2,004,700	2,699,552	2,538,035	2,411,558	372,065	18%
TX	Oklahoma Power Station	Wilbarger	4,588,181	5,581,021	6,243,946	6,238,691	6,041,745	5,017,002	4,123,096	4,711,711	4,940,065	351,884	8%
TX	Channel Energy Center^	Harris	0	0	0	0	0	0	234,636	1,291,355	1,599,105	307,750	24%
TX	Hays Energy Project	Hays	0	0	0	0	0	0	225,105	821,507	1,099,875	278,368	34%
TX	Guadalupe Generating Station	Guadalupe	0	0	0	0	0	0	1,394,957	1,656,496	1,669,106	274,149	20%
TX	J L Bates	Hidalgo	148,442	169,378	224,136	468,880	527,792	375,450	354,060	234,830	393,558	245,116	165%
TX	Sweetwater Generating Plant	Nolan	0	0	0	0	0	0	0	322,288	544,745	222,456	69%
TX	Blackhawk Station^	Hutchinson	0	0	0	12,283	783,514	1,104,193	1,320,745	1,331,962	1,303,615	199,422	18%
TX	Mustang Station	Yoakum	0	0	0	0	0	1,100,049	1,124,862	1,275,852	1,283,406	183,357	17%
TX	Eagle Mountain	Tarrant	442,669	555,086	469,948	817,689	629,095	687,020	601,247	654,338	605,889	163,220	37%
TX	Bosque County Power Plant^	Bosque	0	0	0	0	0	326,702	517,315	768,708	670,409	153,094	30%
TX	Decker Creek	Travis	914,125	1,273,488	1,220,322	970,939	1,221,551	1,352,067	1,220,294	986,076	1,062,468	148,343	16%
TX	Nichols Station	Potter	495,383	729,425	806,213	962,276	780,119	612,502	689,773	526,562	632,295	136,912	28%
TX	Handley Generating Station	Tarrant	1,286,108	1,658,516	2,059,163	2,329,017	1,695,762	2,123,689	1,582,496	1,618,853	1,396,244	110,136	9%
TX	Magic Valley Generating Station^	Hidalgo	0	0	0	0	0	0	218,396	996,327	1,082,893	86,566	9%
TX	Lewis Creek	Montgomery	1,302,996	1,499,054	1,398,951	1,546,423	1,816,949	1,818,204	1,626,482	1,455,838	1,389,042	86,046	7%
TX	San Miguel	Atascosa	3,671,210	3,567,190	3,844,890	4,072,545	4,237,846	3,869,295	4,030,718	3,891,517	3,738,848	67,638	2%
TX	San Jacinto Steam Electric Station^	Harris	663,674	932,060	933,136	909,171	957,996	1,001,773	940,479	980,755	984,324	52,264	6%
TX	Fort Phantom Power Station	Jones	237,611	962,918	720,759	759,872	760,906	836,800	896,013	561,474	283,443	45,832	19%
TX	SRW Cogen Limited Partnership^	Orange	0	0	0	0	0	0	326,917	1,697,943	1,734,912	36,969	2%
TX	Jones Station	Lubbock	1,228,951	1,337,481	1,242,745	1,355,901	1,278,010	1,485,425	1,565,837	1,295,331	1,239,414	10,463	1%
TX	Tenaska Gateway Generating Station^	Rusk	0	0	0	0	0	0	469,900	1,578,864	1,580,623	1,759	0.1%
TX	Newman	El Paso	1,076,118	1,215,855	1,347,025	1,415,000	1,356,771	1,298,936	1,353,245	1,065,017	1,068,448	-7,670	-1%
TX	T C Ferguson	Llano	599,406	895,127	631,287	881,536	734,982	886,780	577,394	424,581	590,558	-8,848	-1%
TX	Odessa-Ector Generating Station^	Ector	0	0	0	0	0	0	662,292	1,972,207	1,960,325	-11,882	-1%
TX	Sabine Cogeneration Facility	Orange	0	0	0	0	0	488,191	435,295	520,569	475,962	-12,229	-3%
TX	Laredo	Webb	499,442	477,881	512,068	523,859	526,455	521,733	407,533	346,926	454,706	-44,736	-9%
TX	La Palma	Cameron	571,416	424,697	486,150	495,337	566,857	376,734	456,970	289,770	508,092	-63,325	-11%
TX	Sandow	Milam	5,614,642	5,687,049	5,665,753	5,515,083	5,580,164	4,283,849	5,392,626	4,602,758	5,544,955	-69,688	-1%
TX	Lost Pines 1^	Bastrop	0	0	0	0	0	0	674,715	1,387,063	1,298,105	-88,958	-6%
TX	Knox Lee Power Plant	Gregg	534,844	616,751	618,447	755,819	875,249	833,323	659,615	460,708	416,769	-118,075	-22%
TX	Gregory Power Facility^	San Patricio	0	0	0	0	0	940,405	1,946,834	1,876,176	1,817,878	-128,956	-7%
TX	Frontera Generation Facility^	Hidalgo	0	0	0	0	250,376	706,478	653,486	607,471	558,189	-148,289	-21%
TX	Holly Street	Travis	471,270	382,213	322,196	650,957	527,050	711,016	518,263	287,268	314,766	-156,504	-33%
TX	Permian Basin	Ward	1,333,519	1,567,439	1,781,844	1,943,173	1,926,617	1,814,467	1,571,828	1,372,962	1,174,498	-159,021	-12%
TX	W A Parish	Fort Bend	19,887,479	20,647,919	21,348,605	22,729,174	23,028,926	19,495,230	17,260,865	20,707,557	19,726,223	-161,256	-1%
TX	AES Deepwater, Inc.	Harris	0	0	0	0	0	0	0	899,152	719,639	-179,513	-20%
TX	O W Sommers	Bexar	736,339	954,455	1,508,457	1,838,539	1,778,802	1,657,749	876,002	607,432	554,734	-181,605	-25%
TX	Lake Hubbard	Dallas	1,370,640	1,144,164	1,387,560	1,752,714	1,659,928	1,732,061	1,339,960	1,170,863	1,185,495	-185,146	-14%
TX	Wilkes Power Plant	Marion	1,262,008	1,293,655	1,017,144	1,242,747	1,402,388	1,475,791	1,300,142	1,040,382	1,058,801	-203,207	-16%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
TX	Twin Oaks Power, LP	Robertson	3,039,741	3,002,327	2,749,627	2,753,905	2,623,992	2,708,874	2,758,438	2,786,458	2,818,036	-221,705	-7%
TX	Sam Bertron	Harris	0	805,969	828,198	874,583	875,290	1,213,544	767,707	549,525	529,508	-276,461	-34%
TX	Lamar Power (Paris)^	Lamar	0	0	0	0	0	336,553	1,989,008	2,265,461	1,680,890	-308,118	-15%
TX	Ray Olinger	Collin	776,967	789,163	655,533	851,414	701,720	784,981	624,852	599,880	468,528	-308,439	-40%
TX	Tenaska Frontier Generation Station^	Grimes	0	0	0	0	0	753,244	1,955,600	1,895,146	1,645,513	-310,087	-16%
TX	Sim Gideon	Bastrop	1,099,589	1,105,076	1,141,868	1,252,187	1,259,990	1,323,358	905,538	818,957	729,436	-370,153	-34%
TX	Hidalgo Energy Facility^	Hidalgo	0	0	0	0	0	409,021	1,092,090	864,220	718,296	-373,795	-34%
TX	Limestone	Limestone	12,711,150	13,487,330	14,481,003	12,954,251	12,728,992	13,081,433	10,185,920	13,002,297	12,312,060	-399,090	-3%
TX	North Lake	Dallas	1,060,886	1,007,412	956,711	1,242,073	1,030,207	1,236,395	916,475	876,241	627,696	-433,190	-41%
TX	Eastman Cogeneration Facility^	Harrison	0	0	0	0	0	0	70,279	1,561,834	1,085,879	-475,955	-30%
TX	Gibbons Creek Steam Electric Station	Grimes	3,850,775	3,495,533	3,090,888	2,498,131	3,345,460	3,417,398	3,435,973	3,215,146	3,359,058	-491,717	-13%
TX	R W Miller	Palo Pinto	950,594	1,257,600	941,581	1,244,350	1,152,305	1,170,866	827,753	480,776	361,438	-589,156	-62%
TX	Stryker Creek	Cherokee	1,374,385	1,566,220	1,301,443	1,518,217	1,601,361	1,529,643	1,157,140	750,521	750,954	-623,431	-45%
TX	Mountain Creek Steam Electric Sta	Dallas	1,257,874	1,462,100	1,531,045	1,759,789	1,419,203	1,558,564	1,139,973	675,290	535,859	-722,015	-57%
TX	Graham	Young	1,378,082	1,291,625	1,305,523	1,493,340	1,391,690	1,433,330	813,958	764,276	567,735	-810,348	-59%
TX	Morgan Creek	Mitchell	1,465,405	1,949,174	1,690,217	1,938,709	1,855,796	2,019,036	1,464,225	673,741	543,934	-921,471	-63%
TX	H W Pirkey Power Plant	Harrison	6,718,376	5,924,834	5,729,225	5,194,442	5,242,266	5,311,704	4,535,731	5,265,724	5,572,579	-1,145,798	-17%
TX	Barney M. Davis	Nueces	1,927,300	1,879,931	2,043,073	2,420,161	2,115,620	2,193,268	1,897,598	1,039,829	742,064	-1,185,236	-61%
TX	Valley (TXI)	Fannin	1,633,125	1,760,358	1,790,743	2,375,934	1,991,070	2,082,438	1,506,958	1,041,004	397,167	-1,235,958	-76%
TX	Decordova	Hood	2,195,277	2,269,549	2,154,190	2,021,401	2,277,365	2,219,984	1,976,871	1,788,280	900,107	-1,295,170	-59%
TX	Tradinghouse	McLennan	3,176,822	3,211,989	3,051,303	3,738,733	3,469,294	3,141,153	2,993,924	1,839,453	1,309,410	-1,867,412	-59%
TX	P H Robinson	Galveston	0	3,358,009	3,334,940	4,520,013	5,177,627	5,441,940	3,507,101	1,866,927	1,183,476	-2,174,533	-65%
TX	Sabine	Orange	5,870,342	4,850,658	4,841,113	5,723,696	5,872,551	5,303,958	4,924,521	4,422,130	3,352,544	-2,517,798	-43%
UT	West Valley Generation Project*	Salt Lake	0	0	0	0	0	0	4,533	245,900	576,320	n/a	n/a
UT	Bonanza	Uintah	2,637,678	3,263,338	3,368,712	3,843,188	3,662,376	3,372,095	4,353,440	4,560,071	4,246,149	1,608,471	61%
UT	Intermountain	Millard	14,129,884	12,194,355	14,430,641	14,315,841	14,842,400	15,168,027	15,170,074	14,983,662	14,921,355	791,471	6%
UT	Gadsby	Salt Lake	451,808	121,420	138,127	250,135	270,844	521,872	691,627	399,303	367,912	-83,896	-19%
UT	Huntington	Emery	7,256,569	7,016,512	6,994,852	7,286,240	7,629,528	6,961,705	6,022,181	5,863,597	6,971,780	-284,789	-4%
UT	Carbon	Carbon	1,913,624	1,960,871	1,850,605	1,579,316	1,408,649	1,453,574	1,477,098	1,532,646	1,591,045	-322,579	-17%
UT	Hunter (Emery)	Emery	11,087,186	10,958,374	10,680,819	11,096,548	10,891,090	10,655,890	8,725,492	10,081,766	10,506,278	-580,908	-5%
VA	Yorktown Power Station	York	2,804,681	2,835,923	2,664,581	3,895,057	4,092,305	3,571,960	4,826,306	4,128,014	4,767,432	1,962,751	70%
VA	Clover Power Station^	Halifax	1,669,691	5,046,733	5,501,619	6,894,488	7,188,660	7,615,277	7,569,056	6,777,877	6,929,413	1,882,680	37%
VA	Potomac River	Alexandria	1,567,924	2,001,906	2,352,788	2,787,156	3,293,466	2,679,520	2,811,631	2,893,282	2,832,632	1,264,708	81%
VA	Chesterfield Power Station	Chesterfield	7,903,248	8,851,104	8,497,794	8,376,053	7,883,970	9,084,140	8,890,336	8,854,121	8,979,975	1,076,727	14%
VA	Altavista Power Station	Campbell	0	0	0	0	0	0	230,776	408,751	491,245	260,469	113%
VA	Southampton Power Station	Southampton	0	0	0	0	0	0	300,477	426,705	529,877	229,400	76%
VA	Clinch River	Russell	4,049,258	4,495,764	5,200,376	4,848,356	4,354,258	4,751,106	4,109,273	4,398,664	4,250,326	201,068	5%
VA	Chesapeake Energy Center	Chesapeake	3,749,448	3,939,565	4,744,051	4,541,980	4,767,869	4,898,185	4,594,131	4,538,996	3,916,606	167,158	4%
VA	Bremo Power Station	Fluvanna	1,545,495	1,221,624	1,497,924	1,435,769	1,426,251	1,795,589	1,400,685	1,778,017	1,683,337	137,842	9%
VA	Glen Lyn	Giles	1,966,916	2,037,878	1,974,987	2,275,994	2,385,850	2,157,487	1,540,553	1,788,428	1,694,237	-272,679	-14%
VA	Possum Point Power Station	Prince William	3,524,685	1,958,748	2,308,255	2,726,935	2,833,017	2,918,368	3,544,850	3,022,331	1,947,108	-1,577,577	-45%
VT	J C McNeil	Chittenden	209,528	232,991	245,483	246,784	319,976	404,811	295,121	294,459	371,716	162,188	77%
WA	Chehalis Generation Facility	Lewis	0	0	0	0	0	0	0	0	341,397	n/a	n/a
WA	Frederickson Power LP*	Pierce	0	0	0	0	0	0	0	102,122	340,140	n/a	n/a
WA	Centralia	Lewis	6,946,854	9,960,211	8,846,268	11,402,964	10,645,221	10,345,031	10,174,925	10,484,141	13,334,862	6,388,008	92%
WA	River Road^	Clark	0	0	25,653	217,515	712,338	804,272	780,320	621,442	664,136	446,621	205%
WI	Pulliam	Brown	2,315,105	2,469,845	2,759,974	3,062,144	2,976,481	3,013,953	2,952,258	3,182,265	3,304,133	989,028	43%
WI	Alma	Buffalo	375,212	493,793	645,529	951,230	743,900	906,876	703,521	816,078	1,084,125	708,913	189%
WI	South Oak Creek	Milwaukee	6,041,786	6,254,341	6,747,010	6,653,181	6,996,633	7,506,484	6,799,189	6,588,934	6,741,673	699,887	12%
WI	J P Madgett	Buffalo	2,032,753	1,607,486	2,234,375	2,588,802	2,612,877	2,549,241	2,673,819	2,415,612	2,707,126	674,373	33%
WI	Weston	Marathon	3,750,401	3,851,575	4,126,405	4,244,452	3,929,254	4,210,618	4,257,119	4,022,815	4,216,715	466,314	12%
WI	Valley (WEPCO)	Milwaukee	1,444,434	1,596,050	1,886,687	1,803,004	1,722,270	1,734,515	1,751,314	1,777,957	1,764,749	320,315	22%
WI	Edgewater (4050)	Sheboygan	5,447,252	5,358,010	5,213,033	5,704,459	5,575,429	5,384,129	5,490,778	5,440,802	5,734,540	287,288	5%
WI	Genoa	Vernon	1,920,746	1,839,039	2,394,366	1,699,006	2,092,539	2,003,565	1,924,969	2,005,286	2,164,621	243,875	13%
WI	Blount Street	Dane	410,402	375,434	417,716	504,026	474,753	658,256	618,101	650,571	603,543	193,141	47%
WI	Manitowoc	Manitowoc	282,783	243,288	327,119	315,888	349,632	374,877	338,109	399,910	422,069	139,286	49%

## APPENDIX B. PLANT-BY-PLANT TRENDS IN CARBON DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	%
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
WI	Bay Front	Ashland	346,935	366,884	426,651	471,600	447,800	457,887	507,732	425,832	464,363	117,428	34%
WI	Columbia	Columbia	8,528,614	8,750,606	8,660,858	9,018,179	8,216,765	8,483,181	8,798,423	7,798,398	8,565,834	37,220	0.4%
WI	Nelson Dewey	Grant	1,509,874	1,287,136	1,713,138	1,387,621	1,466,789	1,474,864	1,255,296	1,416,080	1,514,477	4,603	0.3%
WI	Whitewater Cogeneration Facility	Jefferson	0	0	0	412,323	386,462	339,145	269,144	349,934	282,800	-129,523	-31%
WI	Port Washington Generating Station	Ozaukee	1,162,433	1,220,158	1,591,686	1,573,607	1,394,193	1,878,871	1,451,674	1,057,002	952,286	-210,147	-18%
WI	Rock River	Rock	728,449	905,130	933,798	922,205	402,982	76,424	109,614	184,148	224,455	-503,995	-69%
WI	Pleasant Prairie	Kenosha	10,496,922	11,320,321	10,730,612	9,676,089	11,128,237	10,053,494	9,728,951	9,387,218	9,287,883	-1,209,039	-12%
WV	John E Amos	Putnam	11,256,524	15,653,553	16,272,570	15,849,703	18,017,179	15,289,449	12,819,495	17,429,396	17,650,106	6,393,582	57%
WV	Mountaineer (1301)	Mason	5,500,830	7,151,269	7,856,198	7,410,420	8,281,637	7,236,602	6,076,905	8,628,159	9,477,985	3,977,155	72%
WV	Fort Martin Power Station	Monongalia	5,696,495	5,734,275	7,511,327	6,684,380	7,904,276	7,558,666	6,741,654	7,551,652	7,693,244	1,996,749	35%
WV	Kanawha River	Kanawha	1,284,054	2,170,749	2,687,019	2,759,592	2,162,509	2,506,972	2,610,071	2,615,492	2,473,189	1,189,135	93%
WV	Albright Power Station	Preston	1,309,937	1,080,377	1,027,415	979,377	1,452,598	1,888,366	1,794,587	1,702,181	2,138,410	828,473	63%
WV	Mitchell (WV)	Marshall	8,551,546	8,443,018	9,296,321	9,489,297	8,906,422	8,736,143	7,891,474	8,641,348	8,991,537	439,991	5%
WV	Rivesville Power Station	Marion	236,655	156,007	187,867	343,835	454,112	704,353	644,606	570,550	663,083	426,428	180%
WV	Willow Island Power Station	Pleasants	1,008,457	930,261	1,053,517	1,023,854	1,723,136	1,794,882	1,358,664	1,369,017	1,284,657	276,200	27%
WV	Phil Sporn	Mason	5,809,895	6,192,807	5,536,101	6,446,759	5,872,813	6,551,701	5,259,484	5,052,086	5,992,053	182,158	3%
WV	North Branch Power Station	Grant	622,128	51,113	0	0	389,694	339,055	594,162	441,430	569,294	-52,834	-8%
WV	Kammer	Marshall	4,491,212	4,359,021	4,738,571	4,053,783	4,075,419	4,096,584	3,616,234	3,694,206	3,562,163	-929,049	-21%
WV	Mount Storm Power Station	Grant	11,736,835	11,560,254	11,997,768	13,186,547	11,886,665	12,713,398	9,328,372	12,818,015	10,711,230	-1,025,605	-9%
WV	Harrison Power Station	Harrison	14,302,599	15,044,920	14,673,149	15,672,912	14,848,945	14,707,657	13,832,305	13,997,732	13,049,706	-1,252,893	-9%
WV	Pleasants Power Station	Pleasants	9,765,674	9,039,439	8,254,689	8,719,598	8,151,589	7,587,778	8,254,290	7,705,840	7,931,743	-1,833,931	-19%
WY	Wygen	Campbell	0	0	0	0	0	0	0	0	653,373	n/a	n/a
WY	Laramie River	Platte	12,228,380	13,528,172	12,406,750	14,741,078	14,267,970	14,442,863	14,381,808	14,070,159	14,990,230	2,761,850	23%
WY	Neil Simpson II^	Campbell	206,276	899,453	962,187	923,754	887,157	1,264,726	2,029,413	1,054,090	936,441	36,988	4%
WY	Wyodak	Campbell	3,499,840	4,140,340	4,068,831	3,917,371	3,908,293	3,519,336	3,689,992	3,661,351	3,483,956	-15,884	-0.5%
WY	Naughton	Lincoln	6,100,404	6,186,556	6,353,711	6,703,795	6,068,722	6,012,585	5,839,488	5,709,909	5,294,488	-805,916	-13%
WY	Dave Johnston	Converse	7,544,316	8,694,546	8,663,486	8,440,334	7,706,114	7,362,207	6,755,281	7,060,151	6,599,295	-945,021	-13%
WY	Jim Bridger	Sweetwater	19,463,284	18,232,114	18,308,812	20,145,491	19,764,403	18,576,558	18,451,153	16,720,726	16,353,694	-3,109,590	-16%

\* These facilities went online in 2002; therefore, the 2002 emissions data do not reflect a complete year, preventing us from calculating an emissions increase/decrease.

^ These facilities went online mid-year; for each facility, we calculated the emissions increase/decrease based on the calendar year following the year the plant began operating.

## APPENDIX C. STATE TRENDS IN POWER PLANT SULFUR DIOXIDE EMISSIONS, 1995-2003

Rank, 2003	State	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Change, 1995-2003	% Change
1	Ohio	1,199,856	1,175,903	-23,953	-2%
2	Pennsylvania	1,054,489	967,183	-87,305	-8%
3	Indiana	894,566	804,828	-89,738	-10%
4	Texas	621,260	577,688	-43,572	-7%
5	Georgia	478,904	540,714	61,810	13%
6	West Virginia	606,766	539,857	-66,909	-11%
7	Kentucky	676,329	529,674	-146,655	-22%
8	Florida	598,262	475,312	-122,950	-21%
9	North Carolina	385,739	462,041	76,302	20%
10	Alabama	532,485	458,622	-73,863	-14%
11	Illinois	629,330	365,331	-263,999	-42%
12	Michigan	357,500	350,814	-6,686	-2%
13	Tennessee	493,472	337,823	-155,649	-32%
14	Maryland	229,960	268,992	39,032	17%
15	Missouri	343,819	257,030	-86,789	-25%
16	New York	239,183	253,802	14,619	6%
17	Virginia	219,532	215,740	-3,792	-2%
18	South Carolina	177,855	203,955	26,100	15%
19	Wisconsin	200,114	192,781	-7,333	-4%
20	Kansas	99,191	141,016	41,825	42%
21	North Dakota	208,104	139,822	-68,282	-33%
22	Iowa	175,595	131,832	-43,763	-25%
23	Minnesota	85,201	110,965	25,764	30%
24	Oklahoma	112,272	109,802	-2,470	-2%
25	Louisiana	103,365	104,901	1,536	1%
26	Massachusetts	127,356	85,649	-41,707	-33%
27	Wyoming	99,752	81,201	-18,552	-19%
28	Mississippi	83,869	80,797	-3,073	-4%
29	Colorado	92,255	73,123	-19,132	-21%
30	Arkansas	82,937	73,006	-9,931	-12%
31	Arizona	121,724	69,395	-52,329	-43%
32	Nebraska	60,576	67,722	7,146	12%
33	New Hampshire	51,795	54,676	2,881	6%
34	Nevada	50,262	51,475	1,213	2%
35	New Mexico	75,640	50,842	-24,798	-33%
36	New Jersey	40,937	50,690	9,753	24%
37	Delaware	41,634	37,373	-4,261	-10%
38	Utah	32,805	34,645	1,840	6%
39	Montana	32,103	20,401	-11,702	-36%
40	Oregon	5,279	13,140	7,861	149%
41	South Dakota	31,568	12,260	-19,308	-61%
42	Washington	52,941	8,295	-44,646	-84%
43	Connecticut	20,671	8,146	-12,525	-61%
44	Maine	4,139	4,795	656	16%
45	Dist. of Columbia	1,127	286	-842	-75%
46	California	1,368	173	-1,196	-87%
47	Rhode Island	5	10	5	100%
48	Vermont	2	4	2	120%
49	Idaho	1	3	2	160%
<b>Total</b>		<b>11,833,895</b>	<b>10,594,532</b>	<b>-1,239,362</b>	<b>-10%</b>

# of Dirty Power Plants Increasing SO2 Emissions	Total # of Dirty Power Plants	Emissions Increase (tons)	Emissions Equivalent (Typical New Power Plants)*
12	21	215,176	77
12	20	90,763	32
10	21	151,470	54
7	19	34,802	12
8	10	95,804	34
8	13	119,743	43
9	20	60,431	22
14	23	93,430	33
10	14	102,709	37
4	9	82,999	30
13	24	87,031	31
8	13	28,886	10
0	7	n/a	n/a
5	7	57,739	21
8	16	20,924	7
12	16	64,293	23
5	8	31,530	11
5	12	37,105	13
9	14	26,991	10
10	11	46,324	17
3	7	15,543	6
3	13	2,716	1
7	8	23,002	8
1	5	11,334	4
3	5	17,744	6
1	6	9,404	3
1	5	3,687	1
3	5	24,382	9
4	8	8,164	3
1	3	430	0
5	6	14,611	5
4	6	9,700	3
2	3	11,899	4
2	3	6,365	2
0	2	n/a	n/a
3	4	15,371	5
1	2	1,139	0
1	4	3,497	1
0	2	n/a	n/a
1	1	7,840	3
0	1	n/a	n/a
0	1	n/a	n/a
0	1	n/a	n/a
1	1	628	0
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
<b>216</b>	<b>400</b>	<b>1,635,607</b>	<b>584</b>

\* Refer to the methodology section for a description of how we calculated emissions equivalencies.

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
AL	E C Gaston	Shelby	55,738	75,658	87,209	93,021	101,128	117,856	120,165	127,732	130,405	74,667	134%
AL	Charles R Lowman	Washington	15,128	23,106	23,883	26,943	22,278	16,209	16,726	17,139	18,283	3,155	21%
AL	Greene County	Greene	36,975	45,583	44,475	60,010	56,951	47,890	43,115	40,969	40,068	3,093	8%
AL	Gadsden	Etowah	8,321	10,061	9,591	9,214	8,531	9,738	8,498	8,740	10,405	2,084	25%
AL	Widows Creek	Jackson	45,775	38,487	34,420	37,847	45,711	52,746	42,788	43,983	44,046	-1,729	-4%
AL	Barry	Mobile	70,533	75,314	74,949	63,408	66,355	61,331	65,902	59,525	52,707	-17,826	-25%
AL	Colbert	Colbert	76,907	90,157	78,023	74,261	69,573	70,191	63,002	49,960	57,482	-19,425	-25%
AL	James H Miller Jr	Jefferson	77,530	79,413	81,603	80,519	74,069	65,192	47,615	44,149	45,852	-31,678	-41%
AL	Gorgas	Walker	145,577	147,142	133,762	130,239	97,834	70,914	58,289	56,024	59,344	-86,233	-59%
AR	Independence	Independence	21,710	28,370	23,121	23,854	26,674	21,861	23,015	24,614	22,140	430	2%
AR	Flint Creek Power Plant	Benton	11,209	11,083	14,799	15,047	11,854	12,863	14,531	10,961	9,429	-1,780	-16%
AR	White Bluff	Jefferson	49,373	55,442	46,717	36,862	38,206	38,271	36,716	34,151	39,304	-10,069	-20%
AZ	Cholla	Navajo	12,655	12,160	17,192	17,607	19,062	17,897	21,049	20,770	17,147	4,492	35%
AZ	Coronado Generating Station	Apache	15,157	16,276	16,308	18,472	19,998	19,460	19,048	17,727	18,814	3,657	24%
AZ	Apache Station	Cochise	4,422	4,710	6,228	5,719	5,969	6,569	5,388	5,167	7,859	3,437	78%
AZ	Springerville Generating Station	Apache	17,014	20,988	17,797	18,457	18,387	19,048	20,125	19,862	19,308	2,294	13%
AZ	Irvington Generating Station	Pima	2,041	2,230	2,597	1,731	2,862	3,418	3,177	3,119	2,772	731	36%
AZ	Navajo Generating Station	Coconino	69,974	63,878	66,230	39,846	9,163	4,837	3,980	4,007	3,380	-66,594	-95%
CO	Martin Drake	El Paso	5,702	5,391	6,040	6,069	6,596	8,318	8,800	8,530	8,920	3,218	56%
CO	Comanche (470)	Pueblo	13,732	12,900	12,339	12,768	13,700	14,361	15,910	16,773	16,231	2,499	18%
CO	Pawnee	Morgan	15,374	11,633	13,929	15,326	16,666	14,678	17,031	14,833	16,703	1,329	9%
CO	Craig	Moffat	9,279	9,068	12,015	9,848	10,662	10,065	9,670	10,391	10,397	1,118	12%
CO	Arapahoe	Denver	3,942	5,357	4,743	3,638	4,166	4,167	4,651	5,107	3,111	-831	-21%
CO	Ray D Nixon	El Paso	6,488	6,411	6,465	6,957	4,601	5,220	4,115	4,968	4,591	-1,897	-29%
CO	Cherokee	Adams	13,205	16,515	18,227	18,435	18,542	19,145	17,993	15,957	5,928	-7,277	-55%
CO	Hayden	Routt	16,028	13,985	13,616	13,368	6,678	2,297	2,709	2,868	2,444	-13,584	-85%
CT	Bridgeport Harbor Station	Fairfield	11,018	12,601	15,268	10,740	10,068	9,220	10,864	4,090	3,411	-7,607	-69%
DE	Edge Moor	New Castle	11,176	13,397	12,372	13,316	8,759	10,974	11,173	10,527	12,315	1,139	10%
DE	Indian River	Sussex	27,803	27,856	28,044	28,754	19,791	27,549	22,967	19,956	24,181	-3,622	-13%
FL	P I Bartow	Pinellas	13,112	22,716	24,912	30,413	28,668	20,291	25,778	24,400	33,922	20,810	159%
FL	Crystal River	Citrus	86,243	98,753	113,498	107,100	101,827	92,209	94,851	97,709	101,685	15,442	18%
FL	Anclote	Pasco	24,258	30,015	25,988	37,770	34,540	26,081	29,991	30,790	34,095	9,837	41%
FL	Port Everglades	Broward	11,290	10,702	13,506	22,245	21,595	20,947	22,221	18,837	20,267	8,977	80%
FL	Indian River (55318)	Brevard	0	1,654	2,502	6,002	4,820	6,282	11,097	5,145	9,256	7,602	460%
FL	Martin	Martin	9,979	12,709	9,846	13,144	10,106	15,893	17,609	15,311	17,064	7,085	71%
FL	Turkey Point	Miami-Dade	8,018	8,498	10,196	15,357	12,742	11,072	9,972	9,135	13,281	5,263	66%
FL	Manatee	Manatee	22,603	18,484	22,565	33,480	30,215	28,910	34,595	32,701	27,231	4,628	20%
FL	Crist Electric Generating Plant	Escambia	34,951	33,242	36,724	50,594	45,702	53,082	45,235	42,899	38,870	3,919	11%
FL	Suwannee River	Suwannee	2,244	13,611	2,497	4,716	4,844	4,115	4,753	3,958	4,901	2,657	118%
FL	Curtis H. Stanton Energy Center	Orange	4,483	6,255	8,974	7,507	7,643	9,669	9,929	7,679	7,138	2,655	59%
FL	Deerhaven	Alachua	5,977	6,977	7,026	7,736	5,429	8,416	8,161	7,494	8,312	2,335	39%
FL	C D McIntosh	Polk	9,004	7,263	7,691	7,471	8,202	9,678	12,703	8,828	10,571	1,567	17%
FL	St. Johns River Power	Duval	20,158	23,020	25,950	25,886	24,487	21,313	22,535	20,908	20,812	654	3%
FL	Northside	Duval	11,254	13,004	15,809	28,421	23,393	15,299	22,488	12,943	11,069	-185	-2%
FL	Scholz Electric Generating Plant	Jackson	4,648	5,920	3,392	4,755	3,290	3,018	2,657	2,778	3,225	-1,423	-31%
FL	Seminole (136)	Putnam	36,643	36,917	38,499	42,518	36,970	32,741	29,848	24,083	27,359	-9,284	-25%
FL	Cape Canaveral	Brevard	24,708	23,644	21,193	26,616	19,218	12,939	13,048	10,334	14,026	-10,682	-43%
FL	Sanford	Volusia	19,036	21,423	26,199	38,660	35,007	18,832	22,544	3,374	2,058	-16,978	-89%
FL	Riviera	Palm Beach	34,126	25,677	23,638	35,755	30,210	16,770	21,973	9,082	10,964	-23,162	-68%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
FL	F J Gannon	Hillsborough	57,395	62,994	66,851	64,620	54,496	48,069	55,036	52,919	29,017	-28,378	-49%
FL	Lansing Smith Generating Plant	Bay	46,110	48,776	56,849	56,742	53,885	20,726	16,278	11,765	14,181	-31,929	-69%
FL	Big Bend	Hillsborough	91,132	95,898	102,494	107,425	95,614	48,097	13,439	11,601	13,187	-77,946	-86%
GA	Wansley (6052)	Heard	53,801	70,671	66,363	87,249	80,707	69,218	75,650	73,600	93,982	40,181	75%
GA	Yates	Coweta	20,269	24,109	34,559	39,474	35,406	45,103	44,496	41,518	44,933	24,664	122%
GA	Hammond	Floyd	21,695	21,610	25,181	23,059	29,925	28,283	27,016	27,594	35,923	14,228	66%
GA	Jack McDonough	Cobb	19,586	18,544	28,284	28,516	24,212	28,242	23,584	27,993	23,890	4,304	22%
GA	Kraft	Chatham	3,944	4,658	7,267	5,906	7,852	8,446	6,893	7,189	8,231	4,287	109%
GA	Bowen	Bartow	160,653	157,160	154,063	145,151	140,154	155,374	154,081	160,673	164,884	4,231	3%
GA	Mitchell (GA)	Dougherty	3,570	4,129	3,892	4,621	4,430	4,929	3,895	4,567	5,654	2,084	58%
GA	McIntosh (6124)	Effingham	6,656	5,744	6,180	6,729	6,219	7,888	7,529	7,043	8,482	1,826	27%
GA	Harllee Branch	Putnam	81,459	66,025	82,981	88,984	77,687	69,566	65,517	73,944	69,828	-11,631	-14%
GA	Scherer	Monroe	101,146	94,969	98,701	97,257	98,275	91,286	75,423	86,350	83,941	-17,206	-17%
IA	Fair Station	Muscatine	4,997	5,046	6,531	6,937	6,433	6,216	6,163	5,611	6,578	1,581	32%
IA	Louisa	Louisa	13,213	17,274	16,166	17,640	16,466	14,779	14,304	15,901	13,974	761	6%
IA	Riverside (1081)	Scott	1,828	2,285	2,545	1,435	1,879	2,507	1,819	2,280	2,202	374	20%
IA	Lansing	Allamakee	4,810	5,189	4,408	8,127	9,748	6,944	5,042	4,388	4,764	-46	-1%
IA	Ottumwa	Wapello	18,601	17,773	16,277	20,198	18,392	18,415	17,276	15,980	18,464	-137	-1%
IA	George Neal North	Woodbury	24,693	20,950	23,709	25,792	23,165	20,689	23,112	21,127	23,044	-1,649	-7%
IA	Prairie Creek	Linn	6,769	3,702	4,138	4,832	4,859	4,065	4,549	4,304	4,923	-1,847	-27%
IA	Council Bluffs	Pottawattamie	21,399	20,596	20,746	26,242	21,695	20,836	20,771	20,257	19,008	-2,391	-11%
IA	Milton I. Kapp	Clinton	7,450	5,989	4,839	5,282	4,437	4,922	4,269	4,101	4,638	-2,812	-38%
IA	Burlington (IA)	Des Moines	9,020	6,309	6,352	5,847	6,502	6,374	4,968	5,262	5,631	-3,389	-38%
IA	George Neal South	Woodbury	18,527	19,025	18,675	16,223	17,638	14,973	16,105	15,617	14,907	-3,620	-20%
IA	Muscatine	Muscatine	11,412	7,175	7,504	5,976	3,062	3,158	3,555	3,111	3,175	-8,238	-72%
IA	Sutherland	Marshall	14,219	7,453	11,723	10,769	8,585	4,673	4,244	3,726	2,851	-11,368	-80%
IL	Vermilion Power Station	Vermilion	2,623	579	6,208	12,220	10,833	13,001	15,114	16,517	17,371	14,748	562%
IL	Colfeen	Montgomery	31,228	43,755	47,756	49,413	47,611	39,089	37,687	42,331	44,323	13,095	42%
IL	E D Edwards	Peoria	43,046	67,793	76,406	70,913	71,995	56,810	50,126	35,748	55,036	11,990	28%
IL	Joliet 29	Will	13,107	18,833	19,895	20,291	21,101	19,185	16,131	20,664	23,294	10,187	78%
IL	Hutsonville	Crawford	7,810	19,301	19,622	10,904	10,652	13,828	15,102	14,955	17,295	9,485	121%
IL	Kincaid Station	Christian	11,170	20,051	41,096	46,417	19,867	18,449	17,805	17,665	19,144	7,974	71%
IL	Marion	Williamson	153	6,739	14,830	18,879	17,451	13,633	15,376	8,995	7,416	7,263	4747%
IL	Havana	Mason	6,779	7,656	11,593	9,653	9,816	10,976	8,126	12,882	9,852	3,073	45%
IL	Lakeside	Sangamon	5,429	6,044	10,452	8,294	6,911	3,329	2,907	7,211	8,272	2,843	52%
IL	Joliet 9	Will	3,274	1,967	7,964	5,523	7,324	4,309	4,063	4,560	6,085	2,811	86%
IL	Crawford	Cook	6,303	7,974	4,609	7,879	6,707	9,332	5,668	7,596	7,906	1,603	25%
IL	Fisk	Cook	3,334	3,143	5,260	5,350	4,306	4,848	3,535	3,843	4,318	984	30%
IL	Collins Station	Grundy	3,083	2,941	1,237	1,112	169	1,273	5,549	471	4,060	977	32%
IL	Powerton	Tazewell	19,707	23,803	28,111	19,577	36,069	22,772	20,522	16,814	18,532	-1,175	-6%
IL	Waukegan	Lake	13,765	11,534	22,718	23,011	18,103	17,651	11,026	10,782	10,425	-3,340	-24%
IL	Joppa Steam	Massac	27,948	25,286	24,201	23,852	23,744	23,438	22,180	23,129	24,026	-3,922	-14%
IL	Wood River Power Station	Madison	10,162	13,835	3,778	15,269	14,311	13,569	17,783	7,262	6,199	-3,963	-39%
IL	Duck Creek	Fulton	15,770	13,669	16,322	12,649	11,878	11,115	11,089	11,026	10,411	-5,359	-34%
IL	Will County	Will	14,561	13,747	15,319	16,887	15,402	16,229	10,933	13,684	9,130	-5,431	-37%
IL	Newton	Jasper	23,479	26,553	30,317	21,806	18,812	15,958	15,458	17,870	16,870	-6,609	-28%
IL	Meredosia	Morgan	23,695	22,727	28,131	23,581	18,097	22,512	22,421	25,149	11,633	-12,063	-51%
IL	Dallman	Sangamon	31,096	35,479	37,446	36,431	33,809	22,427	12,132	3,419	3,144	-27,952	-90%
IL	Hennepin Power Station	Putnam	36,775	46,257	47,346	46,809	27,532	5,732	4,173	4,792	4,213	-32,562	-89%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
IL	Baldwin Energy Complex	Randolph	266,005	273,838	276,035	284,616	245,243	36,599	23,130	26,267	26,311	-239,694	-90%
IN	Warrick	Warrick	37,682	92,919	118,901	113,117	119,656	91,386	87,885	98,777	108,677	70,995	188%
IN	Wabash River	Vigo	34,087	51,109	46,446	59,428	60,567	58,471	52,777	61,900	64,607	30,520	90%
IN	Tanners Creek	Dearborn	39,589	71,047	76,451	46,672	50,716	67,446	55,431	62,532	53,175	13,586	34%
IN	Harding Street Station (EW Stout)	Marion	38,869	38,277	36,727	39,964	44,589	40,310	43,053	47,268	51,017	12,148	31%
IN	Eagle Valley (H T Pritchard)	Morgan	7,866	8,913	13,053	12,880	15,476	17,663	16,432	17,216	16,935	9,069	115%
IN	R M Schahler Generating Station	Jasper	28,791	30,990	34,984	36,583	41,669	34,935	34,057	27,494	35,301	6,510	23%
IN	F B Colley Generating Station	Warrick	3,242	7,098	6,956	9,590	11,329	11,737	9,795	7,119	5,847	2,605	80%
IN	Edwardsport	Knox	5,520	8,281	10,469	9,234	11,308	10,793	9,125	8,178	8,021	2,501	45%
IN	State Line Generating Station (IN)	Lake	6,186	5,251	7,235	1,101	7,085	8,994	7,860	8,443	8,011	1,825	30%
IN	R Gallagher	Floyd	51,630	50,435	46,845	50,595	49,877	59,008	47,511	47,767	53,341	1,711	3%
IN	Whitewater Valley	Wayne	13,289	13,862	12,507	16,997	18,944	12,073	13,432	12,873	12,882	-407	-3%
IN	A B Brown Generating Station	Posey	8,631	8,244	12,454	11,768	11,253	6,863	7,592	8,639	8,219	-412	-5%
IN	Baily Generating Station	Porter	6,245	3,835	4,736	4,334	3,813	5,145	6,076	5,218	4,544	-1,701	-27%
IN	Frank E Ratts	Pike	20,642	13,349	16,555	18,629	17,180	23,050	21,423	18,055	17,603	-3,039	-15%
IN	Michigan City Generating Station	La Porte	12,261	14,841	15,262	16,672	10,512	11,298	10,279	9,178	8,221	-4,040	-33%
IN	Merom	Sullivan	26,379	37,452	36,142	37,126	37,356	16,819	15,491	12,846	14,689	-11,690	-44%
IN	Rockport	Spencer	71,438	66,623	65,643	67,446	66,845	63,389	57,365	53,196	53,561	-17,877	-25%
IN	Cayuga	Vermillion	91,170	70,848	108,789	88,939	83,463	65,734	58,827	55,617	66,963	-24,207	-27%
IN	Gibson	Gibson	183,849	155,728	152,513	169,194	158,901	171,505	148,331	127,357	136,536	-47,313	-26%
IN	Clifty Creek	Jefferson	91,504	104,329	93,455	89,192	52,676	42,678	39,164	38,198	32,754	-58,750	-64%
IN	Petersburg	Pike	104,181	67,110	46,370	50,308	50,196	42,056	42,000	47,152	42,535	-61,646	-59%
KS	Jeffrey Energy Center	Pottawatomie	45,600	56,857	56,154	61,761	58,247	58,495	60,924	67,380	67,611	22,011	48%
KS	La Cygne	Linn	26,156	27,638	18,230	25,234	29,919	30,681	24,756	26,003	31,853	5,697	22%
KS	Gordon Evans Energy Center	Sedgwick	4	382	124	3	43	613	1,910	3,829	4,962	4,958	123945%
KS	Tecumseh Energy Center	Shawnee	2,923	4,437	3,936	3,864	4,610	5,408	5,468	7,208	6,393	3,470	119%
KS	Murray Gill Energy Center	Sedgwick	4	299	96	18	1,687	1,550	2,586	785	2,418	2,414	60340%
KS	Nearman Creek	Wyandotte	6,501	5,841	6,620	7,739	6,355	7,596	8,388	7,625	8,727	2,226	34%
KS	Hutchinson Energy Center	Reno	3	123	522	13	32	997	1,499	734	2,131	2,128	70917%
KS	Lawrence Energy Center	Douglas	4,570	3,747	3,680	2,828	3,577	2,962	6,501	7,749	6,502	1,932	42%
KS	Riverton	Cherokee	1,937	6,059	5,762	5,448	4,999	2,691	2,816	3,432	3,301	1,364	70%
KS	Holcomb	Finney	2,103	2,116	1,776	2,204	2,431	2,094	2,123	1,669	2,228	125	6%
KS	Quindaro	Wyandotte	8,494	7,850	11,434	8,491	6,004	3,171	3,033	3,345	4,879	-3,615	-43%
KY	E W Brown	Mercer	27,794	38,573	36,420	42,244	45,567	50,379	49,106	46,605	56,747	28,953	104%
KY	Robert Reid	Webster	444	2,598	6,235	5,963	7,913	7,439	9,897	10,582	9,590	9,146	2060%
KY	Cane Run	Jefferson	8,885	13,097	16,160	17,634	17,877	17,439	16,121	14,977	16,272	7,387	83%
KY	East Bend	Boone	11,378	11,023	13,083	13,064	18,096	14,850	13,107	12,918	14,960	3,582	31%
KY	Coleman	Hancock	52,272	57,157	50,623	38,154	37,437	45,197	49,120	49,028	55,450	3,178	6%
KY	William C. Dale	Clark	4,835	5,081	6,207	6,978	6,836	6,286	6,846	7,404	7,759	2,924	60%
KY	John S. Cooper	Pulaski	18,389	16,652	15,818	17,613	19,982	18,102	23,389	22,713	20,596	2,207	12%
KY	H L Spurlock	Mason	38,735	37,919	38,275	42,648	44,986	38,651	37,383	40,510	40,362	1,627	4%
KY	Tyrone	Woodford	1,159	1,080	1,083	1,860	2,087	2,607	2,342	2,564	2,585	1,426	123%
KY	R D Green	Webster	3,269	3,399	2,327	3,964	4,844	3,383	2,755	3,424	3,135	-134	-4%
KY	D B Wilson	Ohio	9,950	9,520	7,964	10,602	10,416	10,109	10,613	8,893	8,528	-1,422	-14%
KY	Elmer Smith	Daviess	7,855	6,280	7,688	7,011	8,402	6,856	6,370	7,113	5,016	-2,839	-36%
KY	Trimble County	Trimble	11,210	11,841	13,716	12,681	14,664	7,583	7,723	8,372	5,945	-5,265	-47%
KY	Green River	Muhlenberg	23,328	18,419	17,660	24,728	20,976	23,361	19,353	13,028	15,697	-7,631	-33%
KY	Ghent	Carroll	60,291	56,115	54,882	59,227	61,509	59,187	52,235	46,553	46,614	-13,677	-23%
KY	Mill Creek	Jefferson	40,287	51,580	48,711	48,639	45,051	34,502	22,515	22,549	24,987	-15,300	-38%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
KY	HMP&L Station 2	Henderson	21,232	5,893	4,623	4,527	5,805	5,902	6,404	3,484	4,298	-16,934	-80%
KY	Big Sandy	Lawrence	73,029	56,764	75,255	71,979	67,368	51,810	55,846	41,899	46,960	-26,069	-36%
KY	Shawnee	McCracken	67,648	45,886	40,501	34,057	35,874	34,087	31,428	35,578	35,513	-32,135	-48%
KY	Paradise	Muhlenberg	191,984	190,293	212,377	158,872	181,065	145,040	111,232	84,072	108,463	-83,521	-44%
LA	Big Cajun 2	Pointe Coupee	42,035	44,556	55,036	55,702	58,404	50,384	50,217	52,004	52,724	10,689	25%
LA	Waterford 1 & 2	St Charles	237	143	1,056	926	482	1,810	6,979	49	4,981	4,744	2002%
LA	Rodemacher Power Station (6190)	Rapides	12,561	17,293	16,894	15,025	14,607	14,839	12,596	13,733	14,872	2,311	18%
LA	R S Nelson	Calcasieu	20,068	15,342	21,901	18,425	22,385	20,431	16,710	18,859	13,660	-6,408	-32%
LA	Dolet Hills Power Station	De Soto	25,398	23,539	27,721	25,526	21,318	19,518	20,033	16,970	17,832	-7,567	-30%
MA	Canal Station	Barnstable	14,067	15,230	28,379	33,213	27,878	23,848	23,227	22,014	23,471	9,404	67%
MA	Somerset	Bristol	3,602	3,963	4,578	4,663	3,688	5,023	4,528	4,399	3,175	-427	-12%
MA	Mount Tom	Hampden	8,223	7,314	9,742	8,417	7,172	7,373	7,917	5,282	4,790	-3,433	-42%
MA	Salem Harbor	Essex	21,909	23,791	32,105	34,300	23,844	20,513	18,300	14,132	11,338	-10,571	-48%
MA	Mystic	Middlesex	19,703	9,136	19,455	28,170	16,350	9,384	7,263	5,003	5,837	-13,866	-70%
MA	Brayton Point	Bristol	52,348	44,318	48,225	46,830	48,909	44,586	40,452	39,593	35,888	-16,460	-31%
MD	C P Crane	Baltimore	12,162	28,744	29,791	28,860	31,063	30,677	32,051	32,386	32,261	20,099	165%
MD	Morgantown	Charles	66,555	72,778	72,991	79,906	75,520	75,618	75,335	70,344	85,340	18,785	28%
MD	Herbert A Wagner	Anne Arundel	13,219	19,645	22,738	28,606	24,827	23,601	20,408	18,794	23,154	9,935	75%
MD	Chalk Point	Prince Georges	45,454	42,808	43,694	55,414	57,634	35,489	38,442	52,526	52,279	6,825	15%
MD	R. Paul Smith Power Station	Washington	1,654	2,147	2,335	2,379	2,798	4,499	4,532	4,588	3,749	2,095	127%
MD	Dickerson	Montgomery	34,545	32,562	34,674	40,096	30,641	29,215	33,666	33,911	30,175	-4,370	-13%
MD	Brandon Shores	Anne Arundel	53,382	52,253	50,439	50,343	54,491	49,700	46,766	39,974	40,767	-12,615	-24%
ME	William F Wyman	Cumberland	4,139	5,651	13,048	14,287	17,120	10,571	6,787	1,982	4,767	628	15%
MI	Trenton Channel	Wayne	12,834	26,817	24,316	30,640	31,260	27,757	28,667	30,171	26,648	13,814	108%
MI	St. Clair	St Clair	38,250	48,001	53,979	59,484	52,835	50,327	38,486	46,523	45,647	7,397	19%
MI	River Rouge	Wayne	12,567	14,896	15,598	18,777	20,284	12,487	11,876	16,194	15,484	2,917	23%
MI	J H Campbell	Ottawa	40,369	44,912	45,071	51,543	52,029	40,762	43,513	40,330	43,074	2,705	7%
MI	B C Cobb	Muskegon	11,996	12,164	10,435	14,995	16,403	16,082	12,837	12,546	12,709	713	6%
MI	Eckert Station	Ingham	5,729	5,208	5,892	7,464	7,085	6,678	6,545	6,562	6,399	670	12%
MI	J R Whiting	Monroe	13,302	12,207	12,841	13,256	12,851	10,375	11,580	13,036	13,922	620	5%
MI	Erickson	Eaton	3,777	5,795	5,452	5,430	6,744	6,504	4,949	3,867	3,828	51	1%
MI	J C Weadock	Bay	11,789	10,792	10,679	12,330	10,701	9,615	9,567	10,135	10,318	-1,471	-12%
MI	Presque Isle	Marquette	19,347	19,056	20,987	20,981	18,392	18,844	18,326	16,882	16,107	-3,240	-17%
MI	Dan E Karn	Bay	21,178	22,668	20,456	23,074	27,896	23,677	20,862	21,416	16,053	-5,125	-24%
MI	Belle River	St Clair	32,259	28,143	28,861	30,713	28,352	29,357	28,651	24,359	24,240	-8,019	-25%
MI	Monroe	Monroe	127,149	118,002	144,077	130,680	111,557	107,542	102,747	91,904	108,045	-19,104	-15%
MN	Riverside (1927)	Hennepin	5,945	8,538	11,565	13,006	14,287	12,795	12,707	12,903	14,671	8,726	147%
MN	Sherburne County	Sherburne	21,633	21,334	21,422	20,871	20,667	22,763	23,599	26,742	26,756	5,123	24%
MN	Allen S King	Washington	25,297	26,181	28,575	21,453	27,245	27,251	22,342	23,271	28,515	3,218	13%
MN	Taconite Harbor Energy Center	Cook	0	0	0	0	0	0	0	2,490	5,498	3,008	121%
MN	Hoot Lake	Otter Tail	1,525	1,438	1,947	2,470	2,479	2,639	2,868	2,828	3,190	1,665	109%
MN	High Bridge	Ramsey	3,040	3,768	3,848	4,044	3,482	3,459	3,616	3,821	3,965	925	30%
MN	Clay Boswell	Itasca	19,097	13,210	14,529	16,585	17,305	15,148	18,745	21,166	19,435	338	2%
MN	Black Dog	Dakota	3,418	2,987	3,247	3,204	3,005	3,444	2,268	3,071	3,078	-340	-10%
MO	Montrose	Henry	7,961	8,308	9,389	12,948	9,669	9,517	15,174	15,826	15,722	7,761	97%
MO	Blue Valley	Jackson	5	1,130	2,023	4,859	5,301	3,903	4,676	1,360	5,155	5,150	102990%
MO	Meramec	St Louis	12,924	17,225	16,939	14,501	14,700	17,930	22,635	16,447	15,451	2,527	20%
MO	Thomas Hill Energy Center	Randolph	16,970	17,417	19,584	17,717	21,126	18,314	18,924	15,221	18,896	1,926	11%
MO	Southwest	Greene	2,144	3,066	3,785	6,837	3,538	2,737	3,632	3,390	3,856	1,712	80%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
MO	Sioux	St Charles	47,856	56,396	55,108	41,947	43,773	36,538	39,741	45,957	49,383	1,527	3%
MO	Sibley	Jackson	12,214	17,894	19,839	27,056	26,183	15,879	10,530	11,804	12,512	297	2%
MO	James River	Greene	3,766	15,744	6,577	5,927	5,027	6,512	5,262	4,714	3,791	25	1%
MO	Sikeston	Scott	6,618	9,948	10,658	6,580	7,305	6,523	6,796	6,236	6,233	-386	-6%
MO	Iatan	Platte	19,289	18,713	17,927	19,296	17,397	13,430	16,283	14,856	18,400	-889	-5%
MO	Lake Road	Buchanan	3,904	8,794	13,340	7,369	2,088	1,760	2,243	2,838	2,483	-1,421	-36%
MO	New Madrid Power Plant	New Madrid	16,753	16,862	19,398	17,754	16,433	16,451	14,509	15,798	14,880	-1,873	-11%
MO	Hawthorn	Jackson	5,634	8,352	9,298	7,108	822	2	3,043	3,752	2,643	-2,991	-53%
MO	Asbury	Jasper	8,112	6,339	9,236	8,212	8,046	3,735	2,216	4,349	4,165	-3,947	-49%
MO	Rush Island	Jefferson	43,621	27,269	25,143	27,409	27,196	26,899	19,875	23,256	24,993	-18,628	-43%
MO	Labadie	Franklin	128,805	106,905	53,926	57,596	38,781	39,293	44,229	47,610	56,632	-72,173	-56%
MS	Gerald Andrus	Washington	1,960	15,553	22,141	42,478	26,404	31,740	32,725	8	12,568	10,608	541%
MS	Daniel Electric Generating Plant	Jackson	18,085	21,749	24,084	18,643	24,352	27,008	28,806	27,207	27,611	9,526	53%
MS	R D Morrow	Lamar	6,532	8,596	9,327	8,649	7,214	8,233	8,148	9,982	10,779	4,247	65%
MS	Red Hills Generation Facility^	Choctaw	0	0	0	0	0	0	570	4,745	4,053	-692	-15%
MS	Watson Electric Generating Plant	Harrison	56,682	63,308	42,300	50,568	46,591	52,907	31,751	25,064	24,870	-31,812	-56%
MT	J E Corette	Yellowstone	6,566	4,401	2,003	1,536	2,698	3,315	2,691	3,135	3,705	-2,861	-44%
MT	Colstrip	Rosebud	23,098	12,194	17,188	18,002	17,948	15,792	20,464	16,735	15,730	-7,369	-32%
NC	Roxboro	Person	82,454	92,259	97,215	106,999	108,672	96,913	94,206	95,610	103,937	21,483	26%
NC	Riverbend	Gaston	1,686	16,474	16,064	13,812	12,285	17,461	17,435	14,959	22,180	20,494	1216%
NC	G G Allen	Gaston	21,274	35,291	40,083	25,224	32,169	34,058	37,027	31,132	37,975	16,701	79%
NC	Cliffside	Cleveland	21,563	28,878	29,541	30,588	25,409	29,139	29,559	22,096	34,977	13,414	62%
NC	Buck	Rowan	3,476	12,049	16,463	11,964	11,874	10,245	9,205	7,427	12,108	8,632	248%
NC	Lee	Wayne	6,654	11,088	12,477	14,342	15,444	16,854	15,744	15,535	13,782	7,128	107%
NC	L V Sutton	New Hanover	14,201	20,180	19,399	23,210	20,251	22,548	20,220	20,865	20,281	6,080	43%
NC	W H Weatherspoon	Robeson	2,252	4,693	6,056	5,826	6,355	6,626	6,801	7,879	6,567	4,315	192%
NC	Dan River	Rockingham	3,649	7,877	7,704	7,004	6,555	5,834	4,412	2,949	7,153	3,504	96%
NC	Mayo	Person	22,983	19,082	28,288	26,978	25,163	29,512	25,943	27,410	23,941	958	4%
NC	Cape Fear	Chatham	12,304	14,570	12,731	13,422	13,267	12,651	10,892	11,755	11,622	-682	-6%
NC	Asheville	Buncombe	22,357	24,426	21,324	19,557	22,093	20,181	17,140	16,711	16,101	-6,257	-28%
NC	Marshall	Catawba	100,290	100,850	111,568	98,766	74,539	79,041	77,291	82,260	90,992	-9,299	-9%
NC	Belews Creek	Stokes	70,577	78,241	93,070	90,871	83,850	72,329	83,077	103,085	58,646	-11,931	-17%
ND	Leland Olds	Mercer	30,805	37,135	44,515	52,272	50,107	45,451	51,456	47,399	44,723	13,918	45%
ND	Stanton	Mercer	7,805	7,814	8,707	8,711	9,784	8,633	10,659	10,022	9,071	1,266	16%
ND	Antelope Valley	Mercer	14,669	14,890	15,349	16,020	15,516	13,047	12,070	13,863	15,029	360	2%
ND	R M Heskett	Morton	5,723	2,066	1,765	1,866	2,208	1,778	2,625	2,189	2,650	-3,073	-54%
ND	Milton R Young	Oliver	41,833	45,502	38,468	40,284	41,344	39,229	35,557	28,565	28,084	-13,749	-33%
ND	Coal Creek	McLean	60,371	51,869	54,796	57,255	49,743	27,148	26,313	24,428	27,364	-33,007	-55%
ND	Coyote	Mercer	46,898	17,914	13,567	18,363	20,040	14,521	16,255	14,069	12,902	-33,996	-72%
NE	North Omaha	Douglas	6,215	15,936	19,340	13,124	13,123	12,640	11,799	11,509	11,730	5,515	89%
NE	Gerald Gentleman Station	Lincoln	27,962	26,026	22,881	23,084	21,504	22,592	31,297	32,152	31,089	3,127	11%
NE	Gerald Whelan Energy Center	Adams	1,558	2,072	1,700	1,894	2,251	2,164	2,008	2,007	2,152	594	38%
NE	Platte	Hall	1,729	2,213	2,004	2,782	2,564	2,497	2,436	2,250	2,194	465	27%
NE	Sheldon	Lancaster	5,004	4,869	3,092	3,089	2,907	4,190	5,410	5,624	4,478	-526	-11%
NE	Nebraska City	Otoe	17,138	13,469	12,233	12,832	17,697	15,227	16,206	12,820	15,052	-2,086	-12%
NH	Newington	Rockingham	11,155	9,291	9,346	15,090	15,515	4,967	3,391	5,226	20,911	9,756	87%
NH	Schiller	Rockingham	4,512	6,527	9,668	5,351	5,380	5,821	6,335	8,053	6,655	2,143	47%
NH	Merrimack	Merrimack	36,128	34,643	39,654	34,920	34,799	40,539	38,400	30,657	27,097	-9,031	-25%
NJ	Hudson Generating Station	Hudson	6,529	12,321	18,709	11,579	17,260	23,234	19,165	18,954	17,196	10,667	163%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
NJ	Mercer Generating Station	Mercer	8,402	8,029	12,289	11,887	12,788	16,810	13,435	14,262	12,487	4,085	49%
NJ	Deepwater	Salem	2,621	3,241	3,011	2,949	2,574	3,190	2,935	2,460	3,240	619	24%
NJ	B L England	Cape May	22,434	20,827	18,036	17,666	16,534	15,507	13,944	12,122	17,170	-5,264	-23%
NM	Four Corners Steam Elec Station	San Juan	38,892	36,838	37,773	39,990	42,521	38,332	39,564	32,847	35,094	-3,798	-10%
NM	San Juan	San Juan	35,116	39,970	42,943	39,960	29,424	28,887	21,320	16,768	14,552	-20,564	-59%
NV	North Valmy	Humboldt	3,800	5,664	5,688	6,389	6,828	7,240	6,461	6,874	7,193	3,393	89%
NV	Reid Gardner	Clark	3,424	6,716	4,012	3,297	3,193	2,976	2,181	1,977	6,396	2,972	87%
NV	Mohave	Clark	42,973	40,524	41,354	39,983	38,640	42,750	41,299	40,347	37,851	-5,122	-12%
NY	Northport	Suffolk	10,927	15,577	12,630	19,268	18,544	25,649	25,488	24,175	32,962	22,035	202%
NY	Dynegy Roseton	Orange	3,988	6,924	11,512	24,729	25,190	16,664	15,591	6,821	18,880	14,892	373%
NY	AES Greenidge	Yates	10,665	8,560	8,126	11,326	13,270	19,894	18,484	19,444	19,644	8,979	84%
NY	Rochester 7 - Russell Station	Monroe	22,402	18,111	20,683	23,759	24,307	25,511	27,331	26,395	26,880	4,478	20%
NY	Ravenswood Generating Station	Queens	909	1,251	1,314	1,124	1,175	1,956	2,646	1,117	3,972	3,063	337%
NY	Dynegy Danskammer	Orange	8,210	10,345	11,228	13,938	10,976	12,425	12,387	12,120	11,257	3,047	37%
NY	AES Westover (Goudey)	Broome	11,269	11,190	14,366	16,146	17,199	17,490	15,661	15,071	14,243	2,974	26%
NY	Lovett Generating Station	Rockland	6,917	9,185	9,997	9,324	8,316	9,904	5,370	7,979	9,662	2,745	40%
NY	Astoria Generating Station	Queens	1,625	2,107	1,205	1,582	1,716	1,077	2,241	1,294	2,680	1,055	65%
NY	Bowline Generating Station	Rockland	1,931	711	580	2,193	1,789	1,470	1,992	1,360	2,356	425	22%
NY	Port Jefferson Energy Center	Suffolk	6,276	7,335	3,492	7,355	4,350	7,305	4,904	6,453	6,633	357	6%
NY	S A Carlson	Chautauqua	3,471	3,586	4,240	4,073	3,380	3,090	3,223	3,662	3,716	245	7%
NY	AES Cayuga (Milliken)	Tompkins	9,376	4,471	5,620	8,572	7,524	9,012	2,497	5,432	4,171	-5,205	-56%
NY	Dunkirk	Chautauqua	55,916	53,668	55,182	58,927	57,908	54,707	51,308	51,907	48,268	-7,648	-14%
NY	AES Somerset (Kintigh)	Niagara	13,838	13,970	13,505	15,032	12,737	8,296	6,685	4,149	5,672	-8,166	-59%
NY	Huntley Power	Erie	48,405	55,627	60,322	65,098	48,484	52,303	43,856	38,998	35,517	-12,888	-27%
OH	W H Sammis	Jefferson	97,519	107,394	126,371	128,307	150,782	120,619	115,479	145,114	164,398	66,879	69%
OH	Miami Fort	Hamilton	44,476	69,322	66,671	74,146	78,086	81,512	73,539	85,699	81,515	37,039	83%
OH	Walter C Beckjord	Clermont	42,141	78,009	68,197	85,878	68,602	71,434	61,797	69,931	64,871	22,730	54%
OH	Muskingum River	Washington	117,556	180,591	183,797	167,623	100,639	156,037	135,935	115,526	139,120	21,564	18%
OH	J M Stuart	Adams	107,639	99,147	104,843	103,358	101,987	105,654	100,566	117,549	124,199	16,560	15%
OH	Conesville	Coshocton	116,770	125,184	156,848	150,772	144,933	137,940	96,741	135,526	133,189	16,419	14%
OH	Gen J M Gavin	Gallia	23,478	69,042	33,665	33,802	15,246	24,695	46,300	32,380	36,560	13,082	56%
OH	Avon Lake Power Plant	Lorain	27,824	32,763	32,794	28,936	32,868	22,096	33,493	45,989	36,007	8,183	29%
OH	Picway	Pickaway	4,722	15,071	16,843	13,385	9,385	10,563	9,183	10,457	10,444	5,722	121%
OH	O H Hutchings	Montgomery	2,643	3,530	5,379	4,886	3,989	6,657	6,506	6,275	7,994	5,351	202%
OH	Killen Station	Adams	22,735	30,515	24,942	29,019	26,044	24,636	24,021	19,664	23,725	990	4%
OH	Lake Shore	Cuyahoga	0	1,433	497	1,811	1,527	1,238	1,762	2,453	2,091	658	46%
OH	W H Zimmer	Clermont	23,889	29,348	23,223	24,344	25,482	19,411	21,652	21,492	22,918	-971	-4%
OH	Niles	Trumbull	25,420	22,485	13,340	21,636	19,292	19,837	25,901	17,242	18,020	-7,400	-29%
OH	R E Burger	Belmont	41,658	62,557	46,842	38,543	49,189	47,344	50,657	35,454	29,930	-11,728	-28%
OH	Bay Shore	Lucas	25,051	25,025	13,874	11,472	7,980	9,062	12,585	13,581	10,586	-14,466	-58%
OH	Kyger Creek	Gallia	92,806	123,599	111,419	119,171	135,558	126,190	118,307	74,452	72,342	-20,464	-22%
OH	Cardinal	Jefferson	124,659	125,812	165,174	152,220	115,001	119,354	100,182	74,751	96,928	-27,731	-22%
OH	Eastlake	Lake	117,371	120,731	128,223	110,669	115,618	62,595	46,852	67,456	67,685	-49,686	-42%
OH	Ashtabula	Ashtabula	56,078	67,319	46,603	28,212	26,018	7,861	11,882	8,458	2,603	-53,476	-95%
OH	Richard Gorsuch	Washington	84,638	88,693	77,646	84,944	80,296	33,712	30,633	31,006	29,213	-55,425	-65%
OK	Northeastern	Rogers	22,687	19,058	21,560	17,668	16,088	17,690	29,679	34,512	34,021	11,334	50%
OK	Grand River Dam Authority	Mayes	19,096	17,575	16,338	15,355	18,355	20,394	16,672	17,226	18,358	-738	-4%
OK	Hugo	Choctaw	10,658	11,235	9,381	12,011	9,575	7,379	7,605	8,557	8,062	-2,596	-24%
OK	Muskogee	Muskogee	34,298	36,704	34,148	29,038	29,669	29,418	28,082	27,522	29,461	-4,837	-14%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
OK	Sooner	Noble	25,490	21,237	27,280	25,127	25,139	17,867	19,025	18,393	19,700	-5,790	-23%
OR	Boardman	Morrow	5,279	5,507	5,986	12,622	16,577	14,374	17,821	12,262	13,119	7,840	149%
PA	Homer City	Indiana	127,383	134,201	150,376	168,555	163,462	131,269	137,575	105,784	151,678	24,295	19%
PA	Keystone	Armstrong	145,095	168,610	185,715	174,739	162,290	153,489	159,725	150,619	163,494	18,399	13%
PA	Bruce Mansfield	Beaver	19,549	24,882	22,833	26,123	27,088	29,061	25,580	30,313	31,923	12,374	63%
PA	Armstrong Power Station	Armstrong	21,907	32,149	33,129	35,885	27,596	34,387	30,876	32,500	34,141	12,234	56%
PA	Martins Creek	Northampton	17,262	30,058	27,681	24,922	19,529	25,700	25,197	22,051	24,826	7,564	44%
PA	Portland	Northampton	22,144	25,788	29,038	21,903	26,321	20,297	16,621	24,320	28,245	6,101	28%
PA	Eddystone	Delaware	6,749	8,319	7,513	8,800	6,999	9,037	10,212	6,718	9,416	2,667	40%
PA	Cheswick	Allegheny	42,900	39,980	47,510	32,177	41,602	44,908	49,003	42,018	45,433	2,533	6%
PA	Titus	Berks	13,641	15,963	17,089	15,190	12,630	15,292	10,483	13,841	15,892	2,251	17%
PA	Montour	Montour	123,616	108,204	121,738	128,345	113,787	107,967	111,500	111,445	124,778	1,162	1%
PA	Hunlock Power Station	Luzerne	2,681	2,413	2,488	2,936	4,382	3,576	3,249	3,369	3,335	654	24%
PA	Cromby	Chester	4,912	5,588	5,588	6,556	3,900	4,926	5,588	3,667	5,443	531	11%
PA	Elrama	Washington	4,602	4,675	4,124	4,912	4,930	4,633	5,367	5,395	3,563	-1,039	-23%
PA	New Castle	Lawrence	22,821	21,836	26,866	25,797	22,198	24,659	28,851	25,551	20,851	-1,970	-9%
PA	Seward	Indiana	16,527	18,531	17,511	16,779	10,747	10,893	13,395	10,738	9,192	-7,335	-44%
PA	Shawville	Clearfield	58,404	53,945	63,903	58,764	51,786	48,252	42,015	38,226	43,392	-15,012	-26%
PA	Sunbury	Snyder	44,061	45,297	45,019	44,840	33,332	28,072	28,785	25,216	28,066	-15,995	-36%
PA	Brunner Island	York	97,396	92,602	96,740	95,699	71,188	60,897	44,273	68,932	73,731	-23,665	-24%
PA	Halffields Ferry Power Station	Greene	164,841	153,413	138,630	150,869	141,872	165,695	185,496	158,712	139,424	-25,417	-15%
PA	Conemaugh	Indiana	78,093	7,108	7,255	8,221	7,893	7,107	6,453	5,936	7,374	-70,720	-91%
SC	Winyah	Georgetown	18,401	32,877	33,272	35,826	41,125	37,541	37,872	37,622	35,370	16,969	92%
SC	W S Lee	Anderson	4,469	10,258	8,981	7,988	8,911	10,272	7,990	7,435	13,462	8,993	201%
SC	Jefferies	Berkeley	18,181	15,859	18,478	23,625	23,977	19,335	17,986	23,821	25,394	7,213	40%
SC	Dolphus M Grainger	Horry	8,946	4,196	5,851	7,769	10,575	8,544	9,553	9,974	11,761	2,815	31%
SC	H B Robinson	Darlington	8,637	13,140	9,449	10,435	11,325	7,894	8,335	8,435	9,753	1,116	13%
SC	Williams	Berkeley	21,146	24,350	25,399	18,598	24,937	24,205	22,789	25,544	20,008	-1,138	-5%
SC	Cross	Berkeley	15,853	12,292	12,173	13,520	11,916	12,453	13,877	14,096	14,601	-1,252	-8%
SC	Canadys Steam	Colleton	21,171	13,229	12,810	17,345	11,877	18,666	22,038	18,591	19,890	-1,281	-6%
SC	Wateree	Richland	34,611	39,533	35,550	36,387	39,501	31,184	34,925	36,378	33,069	-1,542	-4%
SC	McMeekin	Lexington	13,564	15,138	15,453	16,839	14,894	14,155	12,773	9,820	12,010	-1,554	-11%
SC	Urquhart	Aiken	12,875	10,743	11,519	11,961	13,251	13,990	12,878	5,510	6,370	-6,505	-51%
SC	Cope Station	Orangeburg	0	9,887	2,275	2,496	2,347	2,012	1,464	1,879	2,215	-7,672	-78%
SD	Big Stone	Grant	31,568	14,034	24,059	21,194	25,695	13,528	13,618	11,756	12,258	-19,310	-61%
TN	Kingston	Roane	96,480	105,188	106,107	117,185	109,194	96,952	90,291	77,571	91,985	-4,495	-5%
TN	Bull Run	Anderson	51,108	45,415	66,747	55,309	38,179	36,669	43,049	42,188	42,736	-8,372	-16%
TN	Cumberland	Stewart	26,130	22,775	20,968	20,501	15,921	19,856	15,550	16,661	14,791	-11,339	-43%
TN	Johnsonville	Humphreys	114,677	126,367	115,938	114,588	119,778	118,426	94,199	108,793	100,029	-14,649	-13%
TN	John Sevier	Hawkins	58,438	75,022	68,826	58,189	61,885	55,899	41,881	35,487	38,843	-19,595	-34%
TN	Allen	Shelby	48,274	20,332	21,323	20,211	13,681	18,862	15,455	18,711	18,785	-29,489	-61%
TN	Gallatin	Sumner	98,365	116,666	117,103	86,215	84,841	78,309	56,182	34,159	30,634	-67,731	-69%
TX	Big Brown	Freestone	72,166	78,365	79,862	80,342	83,772	85,991	70,594	77,860	86,340	14,174	20%
TX	Monticello	Titus	74,434	92,500	97,846	97,719	100,121	88,345	87,263	86,319	82,441	8,007	11%
TX	Welsh Power Plant	Titus	30,043	37,154	41,946	46,717	37,958	39,467	39,541	35,780	33,951	3,908	13%
TX	J T Deely	Bexar	18,566	22,031	24,024	21,960	24,103	19,605	21,835	21,514	21,583	3,017	16%
TX	Sam Seymour	Fayette	31,055	27,597	28,323	27,492	33,182	30,630	31,707	31,798	33,458	2,403	8%
TX	Tolk Station	Lamb	24,958	24,912	29,006	28,967	29,388	28,201	25,436	24,874	26,966	2,008	8%
TX	J K Spruce	Bexar	2,499	4,024	4,549	6,070	6,121	3,642	3,767	4,782	3,786	1,287	51%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
TX	Sandow	Milam	27,939	28,591	28,215	27,861	28,734	19,546	24,907	23,331	27,475	-464	-2%
TX	AES Deepwater, Inc.	Harris	0	0	0	0	0	0	0	2,789	2,084	-705	-25%
TX	Coletto Creek	Goliad	14,481	17,433	15,311	18,977	22,134	14,721	13,712	14,289	13,707	-774	-5%
TX	Oklannion Power Station	Wilbarger	4,937	10,787	8,611	8,786	8,802	5,602	3,971	3,738	3,498	-1,440	-29%
TX	Twin Oaks Power, LP	Robertson	7,951	7,445	7,013	6,876	6,335	5,045	5,176	5,132	5,104	-2,847	-36%
TX	Harrington Station	Potter	30,742	33,996	33,986	31,902	28,889	25,483	24,700	26,967	27,132	-3,610	-12%
TX	W A Parish	Fort Bend	68,275	67,321	69,067	71,919	67,583	54,540	52,534	61,827	60,684	-7,591	-11%
TX	Gibbons Creek Steam Electric Station	Grimes	20,152	13,485	10,480	8,732	11,991	11,658	11,284	10,816	11,924	-8,228	-41%
TX	San Miguel	Atascosa	20,137	21,113	21,480	22,990	21,350	12,223	13,932	13,173	9,696	-10,441	-52%
TX	Limestone	Limestone	41,707	36,254	37,915	33,573	32,869	32,070	24,559	30,839	29,084	-12,623	-30%
TX	H W Pirkey Power Plant	Harrison	32,341	32,391	33,196	31,173	27,782	18,828	16,090	19,476	19,693	-12,648	-39%
TX	Martin Lake	Rusk	98,235	108,701	105,462	104,394	111,616	58,059	66,134	66,400	75,856	-22,379	-23%
UT	Huntington	Emery	14,789	13,084	14,047	14,567	13,901	13,112	12,070	13,710	18,286	3,497	24%
UT	Intermountain	Millard	3,639	3,759	5,075	4,281	3,698	3,474	4,200	3,648	3,400	-239	-7%
UT	Carbon	Carbon	6,334	6,120	5,755	5,350	4,388	4,604	5,188	6,764	5,488	-846	-13%
UT	Hunter (Emery)	Emery	7,365	8,066	6,774	7,226	7,045	4,970	5,653	7,026	6,132	-1,233	-17%
VA	Chesterfield Power Station	Chesterfield	65,590	70,033	67,765	69,112	65,953	67,519	65,995	73,841	80,551	14,961	23%
VA	Yorktown Power Station	York	23,417	21,008	22,328	32,544	35,287	28,707	39,365	33,031	35,804	12,387	53%
VA	Potomac River	Alexandria	12,541	10,589	11,816	15,026	17,627	13,948	15,162	16,141	15,166	2,625	21%
VA	Clinch River	Russell	22,982	24,517	31,179	28,676	24,435	26,050	22,440	26,997	24,536	1,554	7%
VA	Bremo Power Station	Fluvanna	11,334	8,543	10,423	9,352	9,647	11,537	9,844	13,457	11,338	4	0.03%
VA	Chesapeake Energy Center	Chesapeake	28,692	30,889	38,430	35,812	35,334	29,310	30,145	32,344	27,201	-1,491	-5%
VA	Glen Lyn	Giles	13,135	13,632	14,074	15,858	15,987	14,646	9,926	11,681	10,662	-2,473	-19%
VA	Possum Point Power Station	Prince William	37,563	11,984	15,513	17,296	19,497	20,571	21,661	21,006	8,056	-29,507	-79%
WA	Centralia	Lewis	52,941	78,272	63,773	75,445	87,756	83,600	66,906	19,032	8,286	-44,655	-84%
WI	Nelson Dewey	Grant	4,127	3,836	6,092	10,861	13,280	14,271	11,324	15,708	14,554	10,427	253%
WI	Alma	Buffalo	2,764	3,471	5,608	6,517	3,817	3,445	5,350	7,283	9,386	6,622	240%
WI	Weston	Marathon	10,383	11,663	11,636	10,984	11,414	11,698	12,421	11,792	13,097	2,714	26%
WI	Pulliam	Brown	4,863	5,685	6,437	6,301	6,397	6,314	6,475	6,901	7,081	2,218	46%
WI	Manitowoc	Manitowoc	1,408	1,029	1,993	2,122	2,385	2,869	2,192	3,105	3,001	1,593	113%
WI	Genoa	Vernon	15,304	11,420	12,750	9,031	12,513	8,165	12,116	15,046	16,844	1,540	10%
WI	Blount Street	Dane	5,094	4,271	3,833	4,765	4,249	6,923	6,795	7,417	6,402	1,308	26%
WI	Edgewater (4050)	Sheboygan	18,482	18,931	20,487	21,190	19,467	17,705	17,892	17,435	19,021	539	3%
WI	J P Madgett	Buffalo	5,746	4,145	4,946	5,223	5,333	5,376	4,974	7,490	5,777	31	1%
WI	Port Washington Generating Station	Ozaukee	11,098	9,170	13,804	13,699	12,639	16,671	13,375	9,804	9,062	-2,036	-18%
WI	Pleasant Prairie	Kenosha	37,231	39,313	37,420	32,332	38,009	34,259	32,130	33,446	33,585	-3,646	-10%
WI	Valley (WEPCO)	Milwaukee	15,565	16,551	22,720	20,466	15,978	14,232	14,635	14,686	10,403	-5,163	-33%
WI	Columbia	Columbia	38,175	38,626	39,560	37,325	29,877	28,325	28,304	27,502	30,220	-7,955	-21%
WI	South Oak Creek	Milwaukee	26,669	34,260	41,386	43,309	32,889	24,888	19,997	12,869	13,294	-13,375	-50%
WV	John E Amos	Putnam	72,121	99,941	102,933	97,988	108,715	91,106	78,851	107,619	114,018	41,897	58%
WV	Fort Martin Power Station	Monongalia	69,974	71,152	87,146	79,304	99,101	90,055	79,661	91,119	102,522	32,548	47%
WV	Mountaineer (1301)	Mason	28,719	37,573	40,967	38,953	44,676	38,350	29,279	43,224	48,036	19,317	67%
WV	Albright Power Station	Preston	16,188	12,657	12,640	11,358	16,663	22,775	21,540	20,560	25,425	9,237	57%
WV	Kanawha River	Kanawha	7,786	13,453	16,114	17,237	13,789	14,785	15,567	15,863	15,687	7,901	101%
WV	Rivesville Power Station	Marion	1,845	1,270	1,469	2,618	3,398	5,871	5,344	4,412	5,356	3,511	190%
WV	Harrison Power Station	Harrison	9,944	16,469	6,298	6,934	6,835	6,330	7,137	8,691	13,145	3,201	32%
WV	Willow Island Power Station	Pleasants	10,007	8,611	9,857	9,998	17,281	18,343	13,586	14,457	12,140	2,133	21%
WV	Mitchell (WV)	Marshall	61,623	53,152	57,239	59,330	55,046	53,976	49,905	56,009	59,331	-2,292	-4%
WV	Pleasants Power Station	Pleasants	47,318	47,495	44,555	47,537	44,131	41,061	44,815	41,909	44,396	-2,922	-6%

## APPENDIX D. PLANT-BY-PLANT TRENDS IN SULFUR DIOXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
WV	Phil Sporn	Mason	58,441	64,742	61,345	76,714	67,138	54,165	39,294	40,246	49,891	-8,550	-15%
WV	Kammer	Marshall	122,193	119,369	126,273	108,618	104,231	42,911	38,905	39,096	42,216	-79,977	-65%
WV	Mount Storm Power Station	Grant	97,793	112,307	96,767	111,335	104,604	113,073	73,452	23,370	7,134	-90,660	-93%
WY	Laramie River	Platte	8,564	10,382	9,052	10,173	11,068	11,418	11,423	11,134	12,251	3,687	43%
WY	Wyodak	Campbell	8,281	10,012	9,716	9,316	9,082	6,566	8,214	8,291	7,810	-471	-6%
WY	Naughton	Lincoln	21,286	21,100	22,018	23,897	21,844	21,533	21,712	19,310	20,099	-1,187	-6%
WY	Jim Bridger	Sweetwater	26,738	24,486	24,086	26,280	25,780	20,735	23,828	20,171	20,975	-5,764	-22%
WY	Dave Johnston	Converse	34,582	30,010	32,453	31,602	27,902	19,386	18,571	19,978	19,041	-15,541	-45%

^ This facility went online mid-year in 2001; we calculated the emissions decrease based on the reported 2002 emissions.

## APPENDIX E. STATE TRENDS IN POWER PLANT NITROGEN OXIDE EMISSIONS, 1995-2003

Rank, 2003	State	1995 Emissions (tons)	2003 Emissions (tons)	Emissions Change, 1995-2003	% Change
1	Ohio	529,322	355,192	-174,130	-33%
2	Indiana	354,454	261,453	-93,000	-26%
3	Florida	297,056	252,620	-44,436	-15%
4	Texas	376,684	211,130	-165,554	-44%
5	West Virginia	272,942	203,142	-69,800	-26%
6	Kentucky	365,532	185,394	-180,139	-49%
7	Pennsylvania	259,897	174,280	-85,617	-33%
8	Alabama	202,776	155,058	-47,718	-24%
9	Illinois	253,999	145,856	-108,143	-43%
10	Missouri	179,900	144,836	-35,064	-19%
11	Tennessee	309,237	133,691	-175,546	-57%
12	North Carolina	258,469	132,663	-125,806	-49%
13	Michigan	154,735	118,764	-35,971	-23%
14	Georgia	169,999	104,433	-65,565	-39%
15	Kansas	83,766	94,113	10,347	12%
16	Minnesota	89,119	89,577	458	1%
17	Oklahoma	76,648	86,501	9,853	13%
18	Wyoming	101,833	83,405	-18,428	-18%
19	Arizona	72,535	82,608	10,073	14%
20	Wisconsin	103,272	81,961	-21,311	-21%
21	South Carolina	90,975	77,390	-13,585	-15%
22	New Mexico	76,477	77,210	733	1%
23	Iowa	84,213	76,372	-7,842	-9%
24	North Dakota	114,059	75,303	-38,756	-34%
25	Colorado	85,399	71,853	-13,547	-16%
26	Utah	70,979	69,650	-1,329	-2%
27	Virginia	116,204	69,337	-46,867	-40%
28	Louisiana	82,928	68,676	-14,252	-17%
29	Maryland	96,158	68,438	-27,720	-29%
30	New York	120,138	65,671	-54,467	-45%
31	Nebraska	48,144	49,582	1,438	3%
32	Mississippi	47,243	46,607	-636	-1%
33	Nevada	39,249	42,098	2,849	7%
34	Arkansas	43,977	41,748	-2,229	-5%
35	Montana	30,490	36,945	6,455	21%
36	Massachusetts	29,088	24,401	-4,687	-16%
37	New Jersey	30,523	23,462	-7,061	-23%
38	Washington	14,618	20,661	6,043	41%
39	South Dakota	14,365	16,009	1,644	11%
40	Oregon	3,841	10,611	6,770	176%
41	Delaware	17,306	10,251	-7,055	-41%
42	California	35,162	9,553	-25,610	-73%
43	New Hampshire	25,207	8,904	-16,303	-65%
44	Connecticut	6,642	4,944	-1,698	-26%
45	Maine	1,381	1,940	559	40%
46	Vermont	195	287	92	47%
47	Rhode Island	79	272	193	244%
48	Dist. of Columbia	357	97	-260	-73%
49	Idaho	33	82	49	149%
<b>Totals</b>		<b>5,837,605</b>	<b>4,165,026</b>	<b>-1,672,579</b>	<b>-29%</b>

# of Dirty Power Plants Increasing NOx Emissions	Total # of Dirty Power Plants	Emissions Increase (tons)	Emissions Equivalent (Average Cars)*
8	21	17,325	907,052
10	22	16,363	856,696
17	27	23,172	1,213,188
8	52	4,974	260,398
6	14	22,667	1,186,775
4	20	4,107	215,010
4	20	5,686	297,686
3	9	13,897	727,597
5	24	9,321	487,990
6	16	9,094	476,099
1	7	2,992	156,670
5	14	8,828	462,183
5	19	2,955	154,728
4	10	9,103	476,602
5	10	14,433	755,649
7	9	8,550	447,654
8	13	13,544	709,084
0	6	n/a	n/a
7	7	8,783	459,827
8	16	10,323	540,471
6	12	13,980	731,932
3	5	1,587	83,068
9	17	10,883	569,780
2	7	1,944	101,801
5	12	9,931	519,969
2	5	8,716	456,335
3	11	4,908	256,958
4	13	10,308	539,670
1	7	462	24,209
8	21	8,145	426,435
3	6	4,637	242,770
4	8	16,795	879,335
5	7	7,268	380,539
3	5	2,052	107,429
1	3	7,950	416,220
2	6	1,282	67,094
1	4	866	45,319
1	1	5,904	309,099
1	1	1,586	83,037
1	1	6,239	326,649
0	2	n/a	n/a
0	3	n/a	n/a
2	3	1,017	53,241
0	3	n/a	n/a
0	1	n/a	n/a
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
<b>Totals</b>	<b>188</b>	<b>332,574</b>	<b>17,412,251</b>

\* Refer to the methodology section for a description of how we calculated emissions equivalencies.

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
AL	E C Gaston	Shelby	18,632	22,449	23,714	28,259	28,820	29,751	29,188	29,171	30,112	11,480	62%
AL	Colbert	Colbert	16,042	17,711	15,812	16,219	16,423	16,894	14,951	15,291	17,812	1,770	11%
AL	Gadsden	Etowah	1,830	2,291	2,170	2,175	1,964	2,205	2,126	1,918	2,477	647	35%
AL	Charles R Lowman	Washington	12,265	11,224	9,998	10,541	9,913	9,238	9,779	9,663	10,636	-1,629	-13%
AL	Greene County	Greene	15,273	15,593	13,488	14,370	11,251	10,467	11,536	10,314	10,884	-4,389	-29%
AL	Barry	Mobile	33,140	36,340	36,648	25,297	25,802	23,673	23,026	24,401	22,451	-10,689	-32%
AL	Widows Creek	Jackson	37,146	33,867	29,868	27,487	29,220	31,650	26,242	25,161	24,615	-12,531	-34%
AL	Gorgas	Walker	28,550	32,395	30,852	30,337	29,320	23,895	20,219	16,808	13,543	-15,007	-53%
AL	James H Miller Jr	Jefferson	39,898	46,769	46,537	43,265	32,090	32,799	29,944	28,036	21,145	-18,754	-47%
AR	Independence	Independence	14,798	20,512	14,440	14,181	17,547	15,658	18,560	16,315	15,743	945	6%
AR	Pine Bluff Energy Center^	Jefferson	0	0	0	0	0	0	49	228	793	565	248%
AR	White Bluff	Jefferson	18,474	22,643	20,093	20,827	20,540	22,515	19,160	17,705	19,016	542	3%
AR	Flint Creek Power Plant	Benton	6,076	5,052	6,406	6,399	6,097	6,018	5,941	5,096	4,756	-1,320	-22%
AR	Lake Catherine	Hot Spring	2,133	1,724	959	1,710	2,954	2,452	2,061	1,570	548	-1,585	-74%
AZ	Coronado Generating Station	Apache	11,222	11,737	10,497	11,442	13,128	14,272	14,230	11,933	14,152	2,930	26%
AZ	Navajo Generating Station	Coconino	29,521	25,363	34,309	39,158	35,275	37,267	34,020	35,569	31,620	2,099	7%
AZ	Springerville Generating Station	Apache	11,186	15,210	11,503	11,558	11,730	11,715	13,190	12,572	12,488	1,302	12%
AZ	Cholla	Navajo	11,332	10,683	12,686	12,268	13,183	13,781	13,290	12,881	12,534	1,202	11%
AZ	Apache Station	Cochise	6,652	4,868	6,202	6,165	6,589	7,782	7,238	6,528	7,365	713	11%
AZ	Agua Fria Generating Station	Maricopa	636	691	730	1,982	3,135	5,414	4,650	849	1,004	368	58%
AZ	Irrington Generating Station	Pima	1,788	2,379	2,328	1,672	2,405	2,803	2,910	2,540	1,957	169	9%
CA	Delta Energy Center, LLC*	Contra Costa	0	0	0	0	0	0	0	115	4,105	n/a	n/a
CA	La Paloma Generating Plant*	Kern	0	0	0	0	0	0	0	13	897	n/a	n/a
CA	Coolwater Generating Station	San Bernardino	5,242	786	782	884	1,459	1,514	1,356	950	692	-4,550	-87%
CO	Craig	Moffat	14,574	13,971	18,150	17,635	16,761	19,564	18,924	19,381	19,665	5,091	35%
CO	Comanche (470)	Pueblo	6,298	5,429	6,275	6,674	7,079	6,978	6,843	8,810	9,112	2,814	45%
CO	Nucla	Montrose	681	1,160	1,155	1,067	1,038	1,075	1,175	1,333	1,456	775	114%
CO	Rawhide Energy Station	Larimer	3,743	3,980	3,658	3,942	4,531	3,495	4,298	4,014	4,494	751	20%
CO	Pawnee	Morgan	4,869	3,529	3,818	3,906	5,320	4,892	5,845	4,592	5,369	500	10%
CO	Valmont	Boulder	3,251	2,173	1,898	2,411	1,014	1,694	1,987	2,057	2,477	-775	-24%
CO	Ray D Nixon	El Paso	3,301	3,698	3,060	3,302	2,582	3,396	2,707	2,834	2,413	-889	-27%
CO	Cameo	Mesa	1,887	1,645	830	786	835	906	848	819	713	-1,174	-62%
CO	Arapahoe	Denver	4,737	5,833	5,047	3,222	3,940	4,730	5,046	5,343	3,117	-1,620	-34%
CO	Martin Drake	El Paso	8,108	7,291	8,195	6,717	5,624	4,293	4,567	4,205	4,229	-3,879	-48%
CO	Hayden	Routt	14,298	13,353	12,434	10,300	7,217	7,169	8,182	8,603	7,251	-7,047	-49%
CO	Cherokee	Adams	19,617	24,135	16,743	16,881	12,439	11,961	10,202	9,476	10,454	-9,163	-47%
CT	New Haven Harbor	New Haven	1,224	2,026	2,955	2,381	2,352	1,606	1,820	1,143	584	-640	-52%
CT	Middletown	Middlesex	1,750	2,365	4,382	4,106	2,808	3,488	2,830	760	827	-923	-53%
CT	Bridgeport Harbor Station	Fairfield	3,323	3,844	4,881	3,346	2,100	2,845	3,385	1,736	2,161	-1,162	-35%
DE	Edge Moor	New Castle	5,835	5,600	5,157	5,483	4,422	3,421	4,512	3,306	4,148	-1,687	-29%
DE	Indian River	Sussex	10,356	10,191	10,083	8,967	5,190	6,276	5,579	4,491	5,109	-5,247	-51%
FL	Curtis H. Stanton Energy Center	Orange	5,189	7,202	9,222	0	7,627	9,263	10,286	8,843	8,895	3,706	71%
FL	Martin	Martin	3,916	6,464	5,517	6,714	5,487	6,986	7,669	7,316	7,364	3,448	88%
FL	Crist Electric Generating Plant	Escambia	13,696	10,030	10,736	15,969	16,479	14,705	12,352	13,636	17,127	3,431	25%
FL	Anclote	Pasco	5,867	8,499	8,114	10,631	8,898	7,327	8,578	8,424	9,220	3,353	57%
FL	P L Bartow	Pinellas	3,020	3,908	4,622	5,794	5,700	3,390	4,178	4,234	5,154	2,134	71%
FL	Seminole (136)	Putnam	20,616	23,608	21,367	24,911	22,729	21,697	25,038	22,627	21,971	1,355	7%
FL	Cape Canaveral	Brevard	8,914	11,372	9,213	14,142	11,496	10,276	12,324	9,896	10,242	1,328	15%
FL	Port Everglades	Broward	8,969	6,083	6,665	9,953	11,878	10,262	10,171	9,399	10,101	1,132	13%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
FL	Indian River (55318)	Brevard	0	1,313	1,503	2,662	2,383	1,973	2,653	1,802	2,301	988	75%
FL	Scholz Electric Generating Plant	Jackson	740	813	787	1,380	1,564	1,382	1,096	1,245	1,422	682	92%
FL	Manatee	Manatee	6,783	5,777	6,281	10,385	8,429	8,382	9,143	8,251	7,232	449	7%
FL	Northside	Duval	3,103	3,023	3,646	6,155	6,012	4,623	5,531	4,147	3,495	392	13%
FL	Suwannee River	Suwannee	590	674	490	632	544	526	682	855	942	352	60%
FL	Turkey Point	Miami-Dade	6,981	5,799	5,972	7,854	7,933	6,928	6,903	6,263	7,203	222	3%
FL	Deerhaven	Alachua	3,821	3,856	4,174	4,009	3,213	4,287	3,984	3,614	3,990	169	4%
FL	Crystal River	Citrus	38,761	42,359	45,261	42,288	38,795	35,135	34,712	35,059	38,791	30	0.1%
FL	C D McIntosh	Polk	6,802	6,025	5,813	5,309	6,269	8,111	9,268	7,145	6,804	2	0.03%
FL	Lauderdale	Broward	2,780	2,741	3,052	3,173	3,280	2,929	2,913	2,917	2,733	-48	-2%
FL	Arvah B Hopkins	Leon	1,064	1,361	1,231	1,605	1,848	1,824	972	805	933	-131	-12%
FL	St. Johns River Power	Duval	26,282	27,177	25,430	26,167	25,654	25,048	26,409	24,665	24,982	-1,300	-5%
FL	Lansing Smith Generating Plant	Bay	6,980	7,265	6,702	6,403	5,950	6,003	5,547	4,721	4,779	-2,201	-32%
FL	Putnam	Putnam	0	4,611	4,551	4,599	4,143	4,416	3,322	3,908	2,139	-2,473	-54%
FL	Riviera	Palm Beach	8,549	6,639	6,448	10,182	8,514	5,606	6,785	4,421	4,693	-3,856	-45%
FL	Fort Myers	Lee	5,162	5,223	8,924	14,456	13,401	10,613	8,339	904	1,103	-4,059	-79%
FL	Sanford	Volusia	8,977	8,841	10,545	16,878	15,386	14,335	11,460	3,611	1,640	-7,337	-82%
FL	F J Gannon	Hillsborough	40,074	36,449	34,018	32,203	29,186	22,758	25,332	24,434	13,038	-27,036	-67%
FL	Big Bend	Hillsborough	57,483	50,804	42,064	37,512	31,288	36,073	29,826	29,644	30,037	-27,446	-48%
GA	Yates	Coweta	5,890	7,277	8,450	9,879	9,906	10,640	9,317	9,126	10,919	5,029	85%
GA	Kraft	Chatham	1,215	1,762	2,670	3,571	3,702	3,416	3,158	3,342	4,108	2,893	238%
GA	Mitchell (GA)	Dougherty	1,120	1,204	1,344	1,222	1,288	1,828	1,565	1,887	1,996	876	78%
GA	McIntosh (6124)	Effingham	2,885	2,803	3,435	4,024	3,671	4,003	4,524	4,182	3,190	305	11%
GA	Hammond	Floyd	8,097	8,282	10,728	10,302	12,519	16,867	14,186	8,410	7,437	-660	-8%
GA	Jack McDonough	Cobb	5,691	5,445	7,354	7,024	4,973	5,375	4,252	4,883	4,488	-1,203	-21%
GA	Wansley (6052)	Heard	16,534	17,374	18,614	19,189	19,639	19,079	20,973	20,333	11,420	-5,114	-31%
GA	Bowen	Bartow	42,568	44,741	44,383	41,655	41,675	43,426	37,364	37,300	24,960	-17,608	-41%
GA	Harlee Branch	Putnam	39,932	32,154	35,633	35,508	31,327	38,651	33,439	27,808	16,284	-23,648	-59%
GA	Scherer	Monroe	44,617	42,206	45,441	44,291	43,668	38,145	31,274	27,626	19,188	-25,429	-57%
IA	Council Bluffs	Pottawattamie	8,287	10,586	11,408	14,192	13,277	13,715	14,328	13,456	13,290	5,003	60%
IA	Louisa	Louisa	4,723	6,658	5,906	6,343	6,309	6,648	7,350	8,669	7,239	2,516	53%
IA	Lansing	Allamakee	2,448	2,648	2,413	3,569	5,015	4,364	3,441	3,325	3,374	926	38%
IA	Muscatine	Muscatine	4,094	4,345	4,400	3,921	3,263	4,122	4,402	4,431	4,740	646	16%
IA	Streeter Station	Black Hawk	106	114	301	212	227	270	338	255	743	637	601%
IA	Dubuque	Dubuque	1,044	1,013	986	1,856	2,382	1,921	1,907	1,874	1,631	587	56%
IA	Riverside (1081)	Scott	820	989	1,165	1,053	936	1,335	999	1,468	1,113	293	36%
IA	Ames	Story	948	980	896	1,066	1,040	1,046	1,211	1,083	1,164	216	23%
IA	Prairie Creek	Linn	3,144	2,133	2,127	2,241	2,625	2,262	2,733	2,580	3,203	59	2%
IA	Fair Station	Muscatine	936	1,064	1,137	1,303	779	551	516	486	550	-386	-41%
IA	Burlington (IA)	Des Moines	1,659	1,499	1,444	1,312	1,400	1,453	1,269	1,257	1,084	-575	-35%
IA	Sutherland	Marshall	3,643	2,368	3,960	4,410	4,178	4,118	3,345	3,750	2,593	-1,050	-29%
IA	Milton I Kapp	Clinton	2,093	1,816	1,829	2,115	1,795	1,326	1,100	933	1,017	-1,076	-51%
IA	Sixth Street	Linn	2,608	1,537	1,741	1,780	1,762	1,763	1,616	2,007	1,211	-1,397	-54%
IA	George Neal South	Woodbury	11,757	10,573	10,487	8,106	8,898	7,727	7,687	8,257	7,504	-4,253	-36%
IA	George Neal North	Woodbury	20,620	17,012	15,968	17,600	17,117	16,067	16,640	16,391	16,207	-4,413	-21%
IA	Ottumwa	Wapello	14,829	13,430	8,416	9,570	8,853	9,341	9,117	8,328	8,928	-5,902	-40%
IL	Kincaid Station	Christian	16,986	26,094	25,994	32,534	27,114	23,796	22,644	20,905	20,317	3,331	20%
IL	Marion	Williamson	3,543	5,212	8,759	11,731	9,073	7,543	7,718	6,703	6,636	3,093	87%
IL	Vermilion Power Station	Vermilion	542	155	865	1,979	1,962	2,094	1,935	2,217	2,258	1,716	317%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
IL	Hutsonville	Crawford	1,028	2,443	2,415	1,283	1,444	1,705	1,803	1,799	1,804	776	75%
IL	Lakeside	Sangamon	905	965	1,571	1,289	981	1,075	1,626	1,215	1,310	405	45%
IL	Havana	Mason	3,563	3,925	5,497	4,559	6,703	5,750	3,725	3,971	3,408	-156	-4%
IL	Collins Station	Grundy	3,030	2,447	3,495	4,021	2,425	2,153	2,927	1,893	1,823	-1,207	-40%
IL	Meredosia	Morgan	3,835	4,605	4,866	3,387	3,746	3,977	3,482	3,816	2,512	-1,323	-35%
IL	Crawford	Cook	3,871	4,686	3,028	4,778	3,138	5,517	2,450	2,850	2,295	-1,576	-41%
IL	Waukegan	Lake	6,296	7,267	11,628	9,627	7,651	6,567	6,314	4,945	4,611	-1,685	-27%
IL	Joliet 9	Will	5,960	3,480	10,115	6,891	9,196	4,983	2,865	2,562	4,167	-1,793	-30%
IL	E D Edwards	Peoria	9,949	12,657	13,566	10,003	10,194	10,208	9,612	8,846	8,118	-1,831	-18%
IL	Powerton	Tazewell	25,501	24,938	44,303	33,634	38,667	33,774	35,619	27,220	23,631	-1,870	-7%
IL	Fisk	Cook	3,342	1,945	3,173	3,095	2,344	3,208	2,440	2,462	1,198	-2,144	-64%
IL	Hennepin Power Station	Putnam	4,279	5,105	5,397	5,111	4,178	3,331	3,090	3,621	1,973	-2,306	-54%
IL	Dallman	Sangamon	8,810	8,525	8,302	8,013	8,018	10,164	7,656	8,030	5,240	-3,570	-41%
IL	Wood River Power Station	Madison	5,705	7,159	1,902	6,583	6,677	5,964	6,073	2,426	2,129	-3,576	-63%
IL	Joppa Steam	Massac	10,399	11,487	11,936	9,510	8,447	8,768	6,898	5,796	5,771	-4,628	-45%
IL	Newton	Jasper	10,310	9,361	10,983	8,778	7,620	6,841	5,019	5,252	5,049	-5,261	-51%
IL	Joliet 29	Will	10,303	12,827	11,312	11,675	12,977	8,378	4,058	3,810	4,401	-5,902	-57%
IL	Duck Creek	Fulton	9,872	7,748	7,062	7,156	6,455	6,373	6,616	5,328	3,578	-6,294	-64%
IL	Coffeen	Montgomery	23,495	31,337	29,187	24,813	27,829	25,807	15,274	14,339	11,224	-12,271	-52%
IL	Will County	Will	15,895	13,882	16,542	12,658	10,984	11,316	10,806	10,619	2,838	-13,057	-82%
IL	Baldwin Energy Complex	Randolph	65,298	65,140	65,328	62,711	55,027	26,337	28,389	22,375	19,061	-46,237	-71%
IN	Warrick	Warrick	10,992	18,959	24,133	22,393	18,391	18,151	17,228	17,550	15,721	4,729	43%
IN	Wabash River	Vigo	5,958	9,548	10,010	10,754	9,878	11,413	10,807	11,061	10,422	4,464	75%
IN	Eagle Valley (H T Pritchard)	Morgan	1,597	1,752	3,062	3,541	3,812	4,445	4,480	4,494	4,428	2,831	177%
IN	State Line Generating Station (IN)	Lake	6,842	5,722	7,431	1,558	8,155	9,586	7,866	7,141	8,370	1,528	22%
IN	Rockport	Spencer	34,066	33,613	37,417	39,147	37,946	36,994	34,997	34,243	35,372	1,306	4%
IN	Edwardsport	Knox	1,148	1,671	2,518	2,183	2,919	2,857	2,600	1,925	1,839	691	60%
IN	Harding Street Station (EW Stout)	Marion	5,748	6,188	5,726	6,655	8,025	6,434	6,724	6,634	6,353	605	11%
IN	Merom	Sullivan	12,882	18,957	16,596	16,173	16,110	16,192	16,050	14,333	12,981	99	1%
IN	A B Brown Generating Station	Posey	6,713	6,352	7,272	6,775	8,232	6,864	7,252	7,400	6,773	60	1%
IN	Noblesville	Hamilton	791	1,162	1,606	2,244	2,157	2,145	1,578	1,153	843	52	7%
IN	Whitewater Valley	Wayne	2,343	2,366	1,243	1,638	1,725	1,450	1,587	1,581	2,019	-324	-14%
IN	R Gallagher	Floyd	6,871	7,056	5,775	7,286	6,923	7,515	6,663	6,133	6,394	-477	-7%
IN	Frank E Ratts	Pike	4,328	2,799	3,419	4,235	3,669	4,522	4,631	4,012	3,723	-605	-14%
IN	Cayuga	Vermillion	10,249	9,929	11,714	9,945	10,143	10,315	10,263	7,772	9,641	-608	-6%
IN	F B Culley Generating Station	Warrick	6,116	6,711	6,621	8,224	7,670	7,387	6,543	6,318	4,704	-1,412	-23%
IN	R M Schahler Generating Station	Jasper	20,739	22,922	26,367	27,702	29,289	21,075	19,461	17,371	18,256	-2,483	-12%
IN	Petersburg	Pike	22,250	22,218	19,934	23,163	20,197	22,496	22,723	20,249	18,268	-3,982	-18%
IN	Michigan City Generating Station	La Porte	16,559	18,656	15,875	11,553	7,273	7,838	10,687	9,897	7,800	-8,759	-53%
IN	Bailly Generating Station	Porter	25,842	23,242	22,872	23,487	25,168	20,824	18,612	16,380	13,333	-12,509	-48%
IN	Gibson	Gibson	52,973	44,901	50,927	47,588	49,451	47,818	44,060	38,241	38,416	-14,557	-27%
IN	Tanners Creek	Bearborn	32,397	37,963	40,234	29,140	33,807	32,657	25,775	17,534	13,417	-18,980	-59%
IN	Clifty Creek	Jefferson	61,624	63,454	59,801	54,459	33,119	31,882	31,233	29,231	21,886	-39,739	-64%
KS	La Cygne	Linn	29,069	34,472	30,037	28,228	35,230	34,136	25,513	38,419	38,035	8,966	31%
KS	Jeffrey Energy Center	Pottawatomie	27,073	32,891	25,948	25,190	25,716	29,347	30,887	31,301	30,706	3,633	13%
KS	Holcomb	Finney	3,052	3,796	3,067	4,279	4,194	3,715	3,874	3,849	4,036	984	32%
KS	Nearman Creek	Wyandotte	3,890	3,875	4,298	4,633	3,373	4,382	4,712	3,860	4,629	739	19%
KS	Gordon Evans Energy Center	Sedgwick	2,270	1,061	1,931	2,524	3,428	3,099	2,565	2,309	2,382	112	5%
KS	Tecumseh Energy Center	Shawnee	2,861	3,620	2,843	2,976	2,452	3,581	3,693	3,407	2,820	-42	-1%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
KS	Quindaro	Wyandotte	3,028	3,113	3,039	3,419	3,933	2,299	2,585	2,686	2,920	-108	-4%
KS	Lawrence Energy Center	Douglas	5,825	6,803	7,173	4,950	5,455	5,877	7,380	6,200	5,615	-210	-4%
KS	Riverton	Cherokee	1,764	1,611	1,129	1,165	1,302	1,199	1,335	1,459	1,240	-524	-30%
KS	Murray Gill Energy Center	Sedgwick	1,472	430	504	650	989	873	805	290	587	-885	-60%
KY	E W Brown	Mercer	5,907	8,866	7,927	8,706	8,722	9,851	7,800	7,925	8,351	2,444	41%
KY	Robert Reid	Webster	83	569	1,276	1,024	1,507	1,426	1,119	1,296	1,164	1,081	1303%
KY	John S. Cooper	Pulaski	3,656	3,699	3,593	4,036	4,355	3,909	4,590	4,771	4,229	573	16%
KY	Tyrone	Woodford	633	655	593	1,052	1,117	1,364	1,182	678	641	8	1%
KY	R D Green	Webster	6,916	7,347	7,155	7,686	7,258	7,322	7,737	7,401	6,839	-77	-1%
KY	William C. Dale	Clark	2,703	2,119	1,946	2,150	2,120	1,812	1,910	1,977	2,199	-504	-19%
KY	D B Wilson	Ohio	8,748	8,672	7,318	9,553	9,876	8,717	9,556	8,516	7,654	-1,094	-13%
KY	East Bend	Boone	8,480	7,415	10,407	7,733	10,114	8,671	8,161	5,455	7,056	-1,424	-17%
KY	Green River	Muhlenberg	3,491	2,589	2,170	3,785	3,654	3,997	3,257	2,198	1,829	-1,663	-48%
KY	Elmer Smith	Daviess	14,073	10,264	14,408	12,361	12,702	12,678	14,188	9,561	10,745	-3,328	-24%
KY	Trimble County	Trimble	7,808	6,761	8,004	7,391	7,987	7,187	6,895	5,214	3,963	-3,845	-49%
KY	HMP&L Station 2	Henderson	10,208	9,565	5,737	5,955	6,075	6,058	5,593	5,685	4,922	-5,286	-52%
KY	Coleman	Hancock	12,095	12,563	8,051	6,939	7,157	7,749	7,411	6,849	6,199	-5,896	-49%
KY	Cane Run	Jefferson	13,031	9,592	7,756	8,113	8,175	7,714	7,188	6,276	6,675	-6,356	-49%
KY	H L Spurlock	Mason	14,122	13,820	13,998	15,528	15,898	12,962	11,729	8,234	6,918	-7,204	-51%
KY	Mill Creek	Jefferson	22,612	22,631	19,403	20,919	20,866	20,456	17,576	14,599	14,342	-8,271	-37%
KY	Big Sandy	Lawrence	24,083	20,589	26,482	21,977	20,707	18,044	19,899	15,149	12,799	-11,284	-47%
KY	Ghent	Carroll	34,735	37,641	31,496	32,285	30,923	23,870	22,430	19,179	19,004	-15,731	-45%
KY	Shawnee	McCracken	36,809	37,277	34,634	27,762	23,956	19,674	18,274	20,061	19,923	-16,886	-46%
KY	Paradise	Muhlenberg	134,778	148,946	152,518	113,756	104,357	61,702	54,549	47,027	39,803	-94,975	-70%
LA	R S Cogen*	Calcasieu	0	0	0	0	0	0	0	102	713	n/a	n/a
LA	Big Cajun 2	Pointe Coupee	12,878	26,417	18,770	18,439	20,870	21,486	21,158	19,909	19,807	6,929	54%
LA	Rodemacher Power Station (6190)	Rapides	5,297	8,624	8,063	9,514	10,004	10,097	6,455	8,099	8,071	2,774	52%
LA	Waterford 1 & 2	St Charles	2,146	1,888	1,991	2,210	2,876	2,080	3,556	1,872	2,598	452	21%
LA	Teche Power Station	St Mary	1,099	1,392	1,852	2,076	2,158	2,002	1,307	906	1,251	152	14%
LA	Sterlington	Ouachita	1,352	528	635	1,828	2,005	2,754	2,245	2,012	800	-552	-41%
LA	Louisiana 1	East Baton Rouge	3,007	3,619	3,002	2,948	2,863	1,949	1,714	1,643	1,828	-1,179	-39%
LA	Dolet Hills Power Station	De Soto	12,978	9,650	11,459	9,987	8,428	10,869	9,860	10,370	11,735	-1,243	-10%
LA	R S Nelson	Calcasieu	7,676	5,846	8,543	9,092	10,653	9,202	7,955	7,893	6,061	-1,615	-21%
LA	Michoud	Orleans	6,880	3,523	5,894	6,877	10,669	9,608	5,203	5,566	3,966	-2,914	-42%
LA	Willow Glen	Iberville	4,858	4,231	4,231	4,424	4,885	4,775	4,566	2,437	884	-3,974	-82%
LA	Little Gypsy	St Charles	8,403	7,198	5,202	6,606	6,379	6,386	5,925	3,981	1,650	-6,754	-80%
LA	Ninemile Point	Jefferson	14,440	11,160	13,772	12,143	15,807	13,348	9,153	13,093	7,213	-7,227	-50%
MA	Canal Station	Barnstable	4,055	4,133	7,833	8,827	7,898	5,841	6,003	5,599	4,890	835	21%
MA	Brayton Point	Bristol	10,400	14,121	14,733	14,636	14,510	13,637	12,314	12,670	10,847	447	4%
MA	Mount Tom	Hampden	2,146	2,097	2,579	2,165	2,002	2,296	2,486	1,991	1,733	-413	-19%
MA	Somerset	Bristol	1,656	1,319	1,547	1,427	1,112	1,437	1,417	1,445	965	-691	-42%
MA	Salem Harbor	Essex	4,294	4,940	6,910	7,116	6,009	5,320	5,311	3,794	3,310	-984	-23%
MA	Mystic	Middlesex	4,370	2,632	4,398	5,422	3,424	1,820	1,672	1,142	1,343	-3,027	-69%
MD	R. Paul Smith Power Station	Washington	524	651	690	692	792	1,388	1,297	1,257	986	462	88%
MD	C P Crane	Baltimore	12,223	16,570	18,107	18,843	14,137	11,950	12,647	10,742	10,849	-1,374	-11%
MD	Morganlown	Charles	20,339	23,919	22,427	23,981	22,150	18,989	16,661	18,619	17,793	-2,546	-13%
MD	Herbert A Wagner	Anne Arundel	9,257	14,339	16,422	19,266	9,089	7,655	6,905	5,707	6,297	-2,960	-32%
MD	Chalk Point	Prince Georges	16,811	16,804	14,847	20,223	25,407	12,976	12,104	15,227	13,449	-3,363	-20%
MD	Dickerson	Montgomery	11,570	12,370	12,585	13,595	10,956	7,119	7,529	7,380	5,561	-6,010	-52%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
MD	Brandon Shores	Anne Arundel	24,713	23,234	23,344	22,984	22,532	19,682	13,746	11,669	13,043	-11,670	-47%
ME	William F Wyman	Cumberland	1,381	1,160	2,459	2,898	4,200	2,626	1,537	564	1,378	-3	-0.2%
MI	Covert Generating Project	Van Buren	0	0	0	0	0	0	0	0	1,196	n/a	n/a
MI	Monroe	Monroe	31,414	45,120	50,501	51,389	50,936	47,087	45,924	41,624	33,483	2,069	7%
MI	Greenwood	St Clair	263	140	296	1,105	1,106	1,236	790	1,043	568	305	116%
MI	Endicott Generating	Hillsdale	415	244	431	1,273	956	802	752	604	702	287	69%
MI	Harbor Beach	Huron	828	696	613	1,389	1,024	1,535	1,040	1,288	1,020	192	23%
MI	Wyandotte	Wayne	443	1,001	757	674	643	833	753	533	545	102	23%
MI	J C Weadock	Bay	4,188	3,624	3,831	4,130	3,698	3,609	3,746	3,791	4,131	-57	-1%
MI	J B Sims	Ottawa	1,035	874	740	884	676	750	881	548	836	-199	-19%
MI	B C Cobb	Muskegon	4,036	3,845	3,315	4,968	4,572	4,387	3,166	3,258	3,187	-849	-21%
MI	Eckert Station	Ingham	3,722	2,761	5,940	15,308	3,267	3,934	3,524	3,507	2,677	-1,045	-28%
MI	Belle River	St Clair	11,128	13,673	14,494	14,493	12,929	14,201	13,890	9,834	9,329	-1,799	-16%
MI	Erickson	Eaton	3,894	4,494	4,544	4,159	2,271	1,974	1,471	1,875	1,942	-1,952	-50%
MI	J H Campbell	Ottawa	21,220	26,971	26,827	34,337	34,477	21,266	15,365	15,433	17,943	-3,277	-15%
MI	Presque Isle	Marquette	11,852	11,008	11,398	12,468	11,885	12,663	12,116	10,474	7,905	-3,947	-33%
MI	Trenton Channel	Wayne	9,375	9,951	7,578	9,177	8,621	7,608	6,416	5,847	5,366	-4,009	-43%
MI	River Rouge	Wayne	9,439	10,116	10,684	11,802	11,147	5,576	4,646	5,521	4,658	-4,781	-51%
MI	Dan E Karn	Bay	11,444	12,155	11,207	11,935	10,252	8,625	8,759	8,575	6,081	-5,363	-47%
MI	J R Whiting	Monroe	8,988	6,298	4,743	4,064	4,189	3,609	3,730	3,728	3,606	-5,382	-60%
MI	St. Clair	St Clair	19,892	21,504	21,413	25,009	23,528	19,131	12,100	13,558	12,042	-7,850	-39%
MN	Riverside (1927)	Hennepin	10,816	10,608	13,842	15,689	14,215	13,372	13,513	13,643	13,344	2,528	23%
MN	High Bridge	Ramsey	4,466	5,031	5,491	6,338	4,669	5,328	5,671	5,790	5,955	1,489	33%
MN	Syl Laskin	St Louis	1,008	1,263	1,545	1,710	1,510	1,850	1,995	2,210	2,468	1,460	145%
MN	Taconite Harbor Energy Center	Cook	0	0	0	0	0	0	0	1,981	3,374	1,392	70%
MN	Sherburne County	Sherburne	25,513	24,596	25,108	24,863	22,285	26,998	25,483	26,288	26,629	1,116	4%
MN	Hoot Lake	Otter Tail	1,402	1,573	1,801	1,677	1,365	1,844	1,818	1,836	1,939	537	38%
MN	Black Dog	Dakota	6,571	6,593	7,292	7,415	7,079	6,955	4,886	6,507	6,599	28	0.4%
MN	Clay Boswell	Itasca	15,398	13,520	15,545	14,106	12,383	14,045	14,297	14,783	14,603	-795	-5%
MN	Allen S King	Washington	21,697	24,689	22,816	15,574	18,479	13,213	11,818	11,934	12,943	-8,754	-40%
MO	Meramec	St Louis	6,624	6,409	6,241	7,020	7,812	7,765	9,587	9,419	10,803	4,179	63%
MO	Lake Road	Buchanan	783	1,832	3,542	3,500	3,099	2,731	3,241	3,370	2,629	1,846	236%
MO	Southwest	Greene	1,751	2,016	2,320	2,921	2,547	2,362	2,931	2,672	3,349	1,598	91%
MO	James River	Greene	3,429	4,114	3,928	4,337	4,607	4,960	4,160	4,584	4,055	626	18%
MO	Iatan	Platte	9,452	7,734	7,041	7,718	6,430	6,056	6,897	7,596	9,965	513	5%
MO	Chamois Power Plant	Osage	1,316	2,193	1,962	1,578	1,582	1,945	1,837	1,956	1,647	331	25%
MO	Thomas Hill Energy Center	Randolph	21,384	24,823	26,092	28,376	31,290	26,775	22,497	18,276	20,868	-516	-2%
MO	Montrose	Henry	6,657	5,870	6,370	6,211	6,514	6,133	5,873	5,587	5,232	-1,425	-21%
MO	Sikeston	Scott	4,263	4,823	4,552	13,770	578	2,362	2,367	2,205	2,285	-1,978	-46%
MO	Hawthorn	Jackson	4,543	5,312	4,867	4,104	567	146	1,004	2,398	2,460	-2,083	-46%
MO	Asbury	Jasper	7,564	5,870	7,198	6,397	4,592	5,877	4,769	6,169	5,279	-2,285	-30%
MO	Sibley	Jackson	16,540	19,580	19,153	22,628	18,863	13,358	11,756	11,492	12,251	-4,289	-26%
MO	New Madrid Power Plant	New Madrid	45,987	48,632	54,247	55,610	52,222	35,861	37,781	37,465	39,031	-6,956	-15%
MO	Sioux	St Charles	19,365	26,379	27,274	23,553	24,170	25,265	15,403	14,090	12,062	-7,303	-38%
MO	Rush Island	Jefferson	12,309	7,999	6,858	7,106	5,692	5,391	4,118	3,992	3,784	-8,525	-69%
MO	Labadie	Franklin	17,696	14,349	15,866	15,092	10,426	9,179	8,615	7,820	8,314	-9,382	-53%
MS	Watson Electric Generating Plant	Harrison	6,564	12,789	14,820	16,530	18,261	18,419	14,535	12,643	16,014	9,450	144%
MS	R D Morrow	Lamar	4,364	6,478	6,479	6,987	5,606	6,033	6,052	6,285	7,613	3,249	74%
MS	Daniel Electric Generating Plant	Jackson	7,521	9,363	9,130	6,255	9,443	10,235	11,310	10,371	10,746	3,225	43%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
MS	Red Hills Generation Facility	Choctaw	0	0	0	0	0	0	0	1,177	2,049	871	74%
MS	Moselle	Jones	1,297	743	1,057	1,680	1,666	1,167	701	790	743	-554	-43%
MS	Rex Brown	Hinds	1,345	894	571	1,447	2,027	1,064	1,003	988	570	-775	-58%
MS	Gerald Andrus	Washington	8,305	10,974	7,151	9,920	10,034	9,200	8,418	4,809	6,627	-1,678	-20%
MS	Baxter Wilson	Warren	16,338	6,014	10,834	15,722	13,876	14,684	14,275	6,375	1,325	-15,013	-92%
MT	Colstrip	Rosebud	25,902	22,351	32,860	37,949	38,375	32,300	37,121	32,631	33,852	7,950	31%
MT	Lewis & Clark	Richland	1,186	759	517	804	657	922	929	796	895	-291	-25%
MT	J E Corette	Yellowstone	3,402	2,661	1,650	958	1,505	1,622	1,385	1,703	2,197	-1,205	-35%
NC	Riverbend	Gaston	2,475	4,443	4,218	3,593	3,505	5,489	5,055	3,793	5,508	3,033	123%
NC	Buck	Rowan	1,305	5,040	4,646	3,434	3,976	4,283	3,752	2,110	3,104	1,799	138%
NC	W H Weatherspoon	Robeson	1,218	2,637	3,096	3,277	3,097	2,889	2,569	3,258	2,898	1,680	138%
NC	Dan River	Rockingham	1,280	2,649	2,406	2,001	2,560	2,574	1,993	1,375	2,951	1,671	131%
NC	Lee	Wayne	4,435	6,824	7,552	8,891	5,460	5,842	5,398	5,515	5,080	645	15%
NC	G G Allen	Gaston	10,976	15,184	14,090	9,655	12,087	13,054	10,673	9,018	10,922	-54	-0.5%
NC	L V Sutton	New Hanover	10,234	14,485	11,684	7,443	6,782	6,358	7,431	9,007	9,808	-426	-4%
NC	Cliffside	Cleveland	8,035	9,772	8,563	9,623	8,597	9,437	9,139	3,633	5,840	-2,195	-27%
NC	Cape Fear	Chatham	5,171	6,236	5,510	5,643	5,365	4,283	3,065	2,645	2,481	-2,691	-52%
NC	Mayo	Person	14,085	9,646	14,576	12,563	13,656	9,965	9,349	9,710	8,443	-5,642	-40%
NC	Asheville	Buncombe	14,323	15,558	11,874	6,301	6,378	5,925	5,059	5,188	4,965	-9,358	-65%
NC	Marshall	Catawba	44,925	39,723	30,099	28,643	26,668	27,074	20,124	19,170	20,387	-24,538	-55%
NC	Roxboro	Person	59,233	61,632	58,472	51,808	34,724	28,514	25,448	23,656	22,586	-36,647	-62%
NC	Belews Creek	Stokes	80,774	84,420	105,691	95,239	68,252	34,555	34,203	44,882	26,824	-53,950	-67%
ND	Antelope Valley	Mercer	12,035	11,546	10,878	14,305	13,290	14,262	12,847	11,793	13,568	1,533	13%
ND	R M Heskett	Morton	541	832	701	831	853	721	943	918	953	412	76%
ND	Stanton	Mercer	4,832	6,189	4,880	4,334	3,172	1,647	2,970	3,099	2,736	-2,096	-43%
ND	Coyote	Mercer	14,452	13,598	9,959	12,947	14,362	12,742	14,259	13,173	11,737	-2,715	-19%
ND	Leland Olds	Mercer	16,615	16,128	14,246	14,001	12,955	11,816	14,780	13,765	11,864	-4,751	-29%
ND	Milton R Young	Oliver	29,365	30,170	24,222	25,602	22,098	25,731	22,582	22,845	23,692	-5,673	-19%
ND	Coal Creek	McLean	36,219	29,652	28,890	26,312	12,862	10,666	10,733	10,354	10,753	-25,466	-70%
NE	Gerald Gentleman Station	Lincoln	19,088	18,320	20,520	18,450	17,844	16,832	22,044	22,084	22,781	3,693	19%
NE	Sheldon	Lancaster	6,900	7,286	7,200	6,642	6,119	7,108	7,229	7,841	7,473	573	8%
NE	Platte	Hall	1,062	1,257	1,118	1,276	1,448	1,555	1,485	1,318	1,433	371	35%
NE	Gerald Whelan Energy Center	Adams	1,076	1,064	704	734	895	984	983	831	1,047	-29	-3%
NE	Nebraska City	Otoe	10,618	9,011	7,382	11,387	10,650	9,254	9,482	8,214	10,215	-403	-4%
NE	North Omaha	Douglas	9,099	11,497	10,942	9,713	6,748	5,991	5,991	6,108	6,010	-3,089	-34%
NH	Newington	Rockingham	2,183	1,313	1,820	2,347	2,416	649	689	943	3,068	885	41%
NH	Schiller	Rockingham	1,661	1,997	2,561	1,965	1,807	2,023	1,856	1,848	1,793	132	8%
NH	Merrimack	Merrimack	21,363	13,423	15,669	10,095	7,853	5,976	4,251	3,833	3,867	-17,496	-82%
NJ	Hudson Generating Station	Hudson	6,344	6,962	10,169	6,994	7,891	9,194	8,269	8,994	7,210	866	14%
NJ	Deepwater	Salem	1,708	1,096	1,121	1,155	838	1,087	1,091	979	1,152	-556	-33%
NJ	Mercer Generating Station	Mercer	10,661	9,652	13,493	12,558	12,759	13,064	11,676	11,971	9,742	-919	-9%
NJ	B L England	Cape May	9,608	9,506	8,645	6,232	4,603	5,163	4,053	3,717	3,863	-5,745	-60%
NM	Rio Grande	Dona Ana	436	1,111	1,194	1,267	1,067	1,395	944	912	991	555	127%
NM	Prewitt Escalante Generating Statio	McKinley	3,010	3,354	4,249	3,165	4,547	4,426	3,589	3,470	3,545	535	18%
NM	San Juan	San Juan	25,007	30,991	30,918	31,501	29,995	31,376	28,414	30,353	25,503	496	2%
NM	Cunningham	Lea	0	1,232	1,500	1,675	1,669	1,525	1,575	1,318	1,068	-164	-13%
NM	Four Corners Steam Elec Station	San Juan	48,001	44,881	45,086	45,925	45,775	46,513	47,300	41,577	45,197	-2,805	-6%
NV	North Valmy	Humboldt	2,783	4,283	4,791	7,230	6,625	7,189	7,025	7,871	6,936	4,153	149%
NV	Reid Gardner	Clark	10,043	13,847	13,601	15,054	9,764	9,585	9,038	10,735	11,930	1,887	19%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
NV	Sunrise	Clark	0	87	340	280	365	1,174	1,017	851	647	560	643%
NV	Clark	Clark	0	23	487	571	1,034	1,128	915	1,148	575	552	2398%
NV	Tracy	Storey	1,561	2,147	1,896	2,243	2,124	2,864	3,045	1,593	1,679	118	8%
NV	Fort Churchill	Lyon	2,179	2,646	2,132	2,505	2,619	2,652	3,655	2,211	1,932	-248	-11%
NV	Mohave	Clark	22,683	22,008	20,593	19,896	19,765	21,740	19,430	20,267	18,136	-4,547	-20%
NY	Northport	Suffolk	3,706	3,888	835	5,209	5,326	7,191	7,622	6,875	7,521	3,815	103%
NY	Dynegy Roseton	Orange	2,076	1,562	2,354	4,714	4,482	3,776	3,638	1,652	4,344	2,268	109%
NY	AES Westover (Goudey)	Broome	1,550	2,283	2,803	2,734	2,556	2,606	2,448	2,748	2,230	680	44%
NY	Charles Poletti	Queens	0	1,770	3,417	3,446	2,014	3,385	2,586	1,952	2,201	431	24%
NY	Ravenswood Generating Station	Queens	2,960	3,158	3,595	3,424	3,829	3,854	3,803	3,238	3,363	403	14%
NY	Port Jefferson Energy Center	Suffolk	1,053	1,158	423	1,628	887	1,799	1,294	1,323	1,270	217	21%
NY	Lovett Generating Station	Rockland	3,912	3,983	4,731	4,570	4,298	4,297	2,439	3,488	4,079	167	4%
NY	AES Greenidge	Yates	2,648	1,774	1,792	2,223	2,458	2,979	2,713	3,186	2,813	165	6%
NY	E F Barrett	Nassau	1,172	899	272	957	830	985	1,131	1,050	994	-178	-15%
NY	74th Street	New York	760	653	823	866	794	1,616	624	651	556	-204	-27%
NY	S A Carlson	Chautauqua	882	786	676	582	531	544	507	646	621	-262	-30%
NY	Rochester 7 - Russell Station	Monroe	3,061	2,364	2,830	2,990	2,868	2,850	3,205	3,065	2,794	-267	-9%
NY	Dunkirk	Chautauqua	6,054	5,891	5,848	6,714	6,726	6,352	5,753	6,142	5,661	-393	-6%
NY	Waterside	New York	1,067	782	613	649	766	859	722	814	657	-410	-38%
NY	Huntley Power	Erie	6,929	10,637	12,272	14,594	9,512	10,919	9,192	7,158	6,108	-821	-12%
NY	AES Cayuga (Milliken)	Tompkins	4,442	4,297	3,926	3,833	3,707	3,920	3,577	4,015	3,516	-926	-21%
NY	Dynegy Banskammer	Orange	4,219	4,401	5,563	6,438	4,709	5,390	5,060	4,885	3,289	-930	-22%
NY	Bowline Generating Station	Rockland	3,445	1,197	1,585	4,273	3,622	1,803	2,242	2,029	1,842	-1,603	-47%
NY	Astoria Generating Station	Queens	6,060	3,161	3,309	4,148	4,512	2,943	3,469	2,487	2,892	-3,168	-52%
NY	AES Somerset (Kintigh)	Niagara	11,781	11,384	10,712	10,726	7,971	7,500	7,659	7,733	5,052	-6,730	-57%
NY	East River	New York	46,666	1,638	1,619	1,211	1,749	1,302	1,692	1,509	1,222	-45,444	-97%
OH	Eastlake	Lake	14,551	16,479	16,218	18,313	16,912	15,598	13,557	21,094	20,050	5,499	38%
OH	Conesville	Coshocton	24,061	24,293	25,921	25,891	23,781	28,894	22,095	26,659	29,050	4,989	21%
OH	O H Hutchings	Montgomery	1,246	1,808	2,758	2,417	1,825	3,109	3,004	2,787	3,830	2,584	207%
OH	Muskingum River	Washington	23,290	38,759	40,219	31,868	21,431	28,416	26,809	27,339	25,441	2,151	9%
OH	Lake Shore	Cuyahoga	0	530	188	665	750	961	1,071	1,471	1,327	797	150%
OH	Picway	Pickaway	482	1,141	1,290	969	835	1,139	884	1,098	1,142	660	137%
OH	Walter C Beckjord	Clermont	16,249	16,125	20,954	23,635	22,091	21,409	16,671	18,753	16,729	480	3%
OH	Niles	Trumbull	5,660	6,121	5,297	6,238	6,320	6,163	6,869	5,912	5,825	165	3%
OH	W H Zimmer	Clermont	20,587	25,195	20,317	20,758	22,792	18,682	20,886	20,966	20,174	-413	-2%
OH	Killen Station	Adams	12,361	16,002	13,659	15,949	14,148	10,548	10,000	7,935	10,820	-1,541	-12%
OH	B E Burger	Belmont	6,518	8,563	8,865	6,926	5,867	6,967	7,926	6,759	3,602	-2,917	-45%
OH	Richard Gorsuch	Washington	6,590	6,629	5,791	6,540	5,749	3,802	3,223	3,228	2,918	-3,672	-56%
OH	Ashtabula	Ashtabula	5,710	4,720	3,228	2,043	1,981	2,778	3,075	2,945	1,739	-3,971	-70%
OH	Avon Lake Power Plant	Lorain	18,819	18,393	16,100	16,772	19,066	11,679	15,727	18,078	14,347	-4,473	-24%
OH	Bay Shore	Lucas	16,047	15,426	12,975	12,322	11,267	11,465	9,959	8,417	7,758	-8,289	-52%
OH	Miami Fort	Hamilton	29,609	33,462	31,316	24,691	26,428	25,519	17,379	16,159	15,597	-14,013	-47%
OH	W H Sammis	Jefferson	56,004	54,139	52,269	59,040	58,668	32,832	29,786	38,624	40,431	-15,573	-28%
OH	J M Stuart	Adams	71,678	67,195	65,180	56,502	49,714	43,298	39,001	46,769	47,369	-24,309	-34%
OH	Cardinal	Jefferson	52,475	49,611	46,469	45,944	33,214	28,676	24,976	23,379	20,742	-31,733	-60%
OH	Kyger Creek	Gallia	55,790	51,311	48,042	42,644	30,329	29,860	26,757	25,318	21,343	-34,447	-62%
OH	Gen J M Gavin	Gallia	91,174	117,602	100,371	94,508	51,936	42,483	32,230	43,839	44,112	-47,062	-52%
OK	Northeastern	Rogers	10,734	20,949	19,237	19,713	17,551	17,714	18,160	18,086	16,811	6,077	57%
OK	Grand River Dam Authority	Mayes	14,995	14,282	14,440	12,576	13,732	13,843	14,352	15,387	17,247	2,252	15%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
OK	Muskogee	Muskogee	17,184	21,341	20,696	19,351	18,127	21,825	18,842	17,744	19,235	2,051	12%
OK	Seminole (2956)	Seminole	0	2,626	2,741	5,442	4,344	4,323	4,311	4,001	3,815	1,189	45%
OK	Mustang	Canadian	0	581	681	1,157	3,590	2,162	2,455	2,428	1,323	742	128%
OK	Horseshoe Lake	Oklahoma	0	666	753	1,655	1,692	1,452	1,616	1,607	1,298	632	95%
OK	Tulsa	Tulsa	295	412	591	3,051	3,109	985	510	437	715	420	142%
OK	Conoco	Kay	0	422	426	467	459	392	458	505	603	181	43%
OK	Hugo	Choctaw	4,289	4,378	3,859	4,601	5,362	3,248	2,902	3,832	3,585	-705	-16%
OK	Southwestern	Caddo	3,799	3,484	3,146	4,172	3,342	3,602	1,958	2,871	2,748	-1,051	-28%
OK	Comanche (8059)	Comanche	5,082	4,331	3,967	4,424	4,757	4,388	2,678	2,974	2,784	-2,298	-45%
OK	Riverside (4940)	Tulsa	4,764	3,729	2,881	3,678	3,823	5,079	4,125	3,008	2,167	-2,597	-55%
OK	Sooner	Noble	15,300	13,981	16,266	12,683	14,735	13,029	11,192	12,330	12,586	-2,714	-18%
OR	Boardman	Morrow	3,841	2,755	3,291	7,971	8,944	8,202	10,768	8,401	10,080	6,239	162%
PA	Bruce Mansfield	Beaver	20,798	30,944	26,005	30,099	23,407	28,949	24,411	29,869	23,510	2,712	13%
PA	Eddystone	Delaware	4,103	6,551	5,904	6,379	4,627	5,879	7,239	4,900	5,957	1,854	45%
PA	Martins Creek	Northampton	5,960	7,345	6,505	6,597	5,059	5,838	6,711	5,127	6,646	686	12%
PA	Portland	Northampton	2,543	3,436	3,464	2,968	2,619	2,535	1,915	3,015	2,977	434	17%
PA	Mitchell Power Station	Washington	2,979	1,938	3,260	3,196	2,831	3,495	3,151	2,275	2,269	-710	-24%
PA	Titus	Berks	2,803	2,486	2,570	2,599	1,842	2,147	1,384	1,791	2,088	-715	-25%
PA	Cromby	Chester	2,810	2,700	2,957	3,094	1,611	2,112	2,166	1,417	1,953	-858	-31%
PA	Armstrong Power Station	Armstrong	4,865	4,326	4,095	4,415	3,432	4,455	3,775	4,128	3,976	-889	-18%
PA	Cheswick	Allegheny	6,780	6,281	7,807	4,911	5,245	6,385	6,749	5,761	4,705	-2,075	-31%
PA	Shawville	Clearfield	9,278	8,635	9,759	9,268	7,464	7,163	6,695	6,534	7,189	-2,089	-23%
PA	New Castle	Lawrence	5,340	4,273	4,863	4,043	3,466	3,657	4,127	3,504	3,107	-2,234	-42%
PA	Seward	Indiana	4,395	4,557	3,952	3,490	2,061	1,881	2,212	1,752	1,462	-2,933	-67%
PA	Brunner Island	York	16,680	15,613	16,653	14,719	12,508	14,429	10,396	16,191	13,508	-3,173	-19%
PA	Ehrama	Washington	9,093	9,934	7,677	8,381	7,023	7,258	7,721	8,080	5,831	-3,262	-36%
PA	Conemaugh	Indiana	25,091	24,324	24,605	23,900	20,765	20,538	20,864	19,461	21,508	-3,583	-14%
PA	Sunbury	Snyder	11,111	11,812	10,543	10,045	7,575	6,502	7,495	5,398	3,553	-7,558	-68%
PA	Hatfields Ferry Power Station	Greene	26,050	25,274	24,717	21,583	20,067	23,234	27,402	23,065	17,643	-8,407	-32%
PA	Montour	Montour	22,370	17,658	18,217	19,875	15,934	16,299	12,383	12,331	11,500	-10,870	-49%
PA	Keystone	Armstrong	23,325	27,952	24,800	22,635	20,433	18,192	19,239	18,203	11,425	-11,900	-51%
PA	Homer City	Indiana	46,266	34,390	29,757	30,013	26,584	26,505	24,991	25,169	21,330	-24,936	-54%
SC	Winyah	Georgetown	10,973	23,500	22,698	23,053	22,689	21,896	20,782	21,681	21,647	10,674	97%
SC	Dolphus M Grainger	Horry	1,483	1,834	2,694	2,609	3,141	3,186	3,259	3,067	2,656	1,173	79%
SC	W S Lee	Anderson	1,934	4,064	2,519	2,521	2,812	3,324	2,278	1,658	2,646	712	37%
SC	H B Robinson	Darlington	2,733	3,312	2,963	3,662	3,982	3,713	3,103	3,480	3,322	589	22%
SC	Cope Station	Orangeburg	0	3,418	3,634	4,452	3,924	3,887	3,288	4,161	3,865	447	13%
SC	Cross	Berkeley	11,758	29,844	11,890	13,335	12,041	15,216	15,720	15,775	12,143	385	3%
SC	McMeeKin	Lexington	5,009	5,107	4,924	4,661	3,825	3,601	3,179	2,553	3,081	-1,928	-38%
SC	Jefferies	Berkeley	7,802	7,358	7,902	9,486	5,540	4,799	3,762	4,873	5,676	-2,126	-27%
SC	Urquhart	Aiken	4,680	4,372	3,782	4,006	4,129	3,198	2,807	1,189	1,350	-3,330	-71%
SC	Canadys Steam	Colleton	9,090	4,481	3,397	4,487	2,929	4,565	4,453	4,398	4,867	-4,223	-46%
SC	Williams	Berkeley	12,690	16,900	18,238	13,051	11,993	11,050	9,515	10,214	8,073	-4,617	-36%
SC	Wateree	Richland	22,823	23,657	18,817	11,116	10,368	9,269	9,319	9,380	7,788	-15,035	-66%
SD	Big Stone	Grant	14,344	16,767	22,717	22,540	23,579	16,983	16,454	14,954	15,930	1,586	11%
TN	Johnsonville	Humphreys	19,695	20,376	18,701	18,003	20,369	22,650	20,394	23,913	22,687	2,992	15%
TN	Gallatin	Sumner	12,040	12,689	12,314	11,289	12,983	10,624	11,036	11,812	11,886	-154	-1%
TN	Bull Run	Anderson	17,445	13,109	17,833	16,588	13,528	15,596	17,319	17,912	16,722	-724	-4%
TN	John Sevier	Hawkins	13,077	12,119	11,197	10,360	11,777	10,761	10,184	10,211	10,621	-2,456	-19%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
TN	Kingston	Roane	33,249	30,183	27,426	27,476	26,055	25,493	26,166	26,085	26,544	-6,705	-20%
TN	Allen	Shelby	38,673	28,967	29,193	26,389	16,215	18,708	18,560	14,470	11,514	-27,159	-70%
TN	Cumberland	Stewart	175,058	140,381	161,522	119,060	82,671	52,098	51,180	49,943	33,609	-141,449	-81%
TX	Freestone Power Generation*	Freestone	0	0	0	0	0	0	0	329	579	n/a	n/a
TX	Welsh Power Plant	Titus	13,761	16,039	16,644	21,057	22,906	20,963	17,204	14,931	15,101	1,340	10%
TX	J L Bates	Hidalgo	291	464	727	1,448	1,605	1,044	1,806	1,598	1,511	1,220	419%
TX	Cogen Lyondell, Inc.	Harris	0	0	0	0	0	0	0	884	1,833	949	107%
TX	Sam Seymour	Fayette	15,686	12,453	17,551	15,890	19,559	19,836	19,863	19,118	16,226	540	3%
TX	Cedar Bayou	Chambers	1,654	8,750	7,036	6,860	4,376	4,323	2,586	1,880	2,012	358	22%
TX	Sweeny Cogeneration Facility^	Brazoria	0	0	48	1,157	1,060	1,191	1,794	1,619	1,475	318	28%
TX	Sweetwater Generating Plant	Nolan	0	0	0	0	0	0	0	368	552	184	50%
TX	Plant X	Lamb	0	1,007	716	1,413	780	904	1,086	961	1,072	65	6%
TX	Guadalupe Generating Station	Guadalupe	0	0	0	0	0	0	640	596	606	-34	-5%
TX	Laredo	Webb	703	603	671	707	727	636	526	479	617	-86	-12%
TX	Newman	El Paso	1,584	3,085	3,054	2,717	2,627	2,538	2,347	1,679	1,472	-112	-7%
TX	Twin Oaks Power, LP	Robertson	2,409	2,014	2,148	2,146	2,536	2,534	2,406	2,410	2,278	-131	-5%
TX	T C Ferguson	Llano	968	1,549	877	1,448	1,186	1,533	888	645	825	-143	-15%
TX	Decker Creek	Travis	1,105	1,541	1,517	1,610	1,422	1,603	1,173	850	891	-214	-19%
TX	Nichols Station	Potter	0	1,263	1,345	1,856	1,478	1,234	1,277	909	1,039	-225	-18%
TX	V H Braunig	Bexar	1,278	1,144	1,808	2,625	2,685	1,966	1,036	784	997	-281	-22%
TX	AES Deepwater, Inc.	Harris	0	0	0	0	0	0	0	2,372	1,883	-489	-21%
TX	La Palma	Cameron	1,617	1,082	1,236	1,054	1,204	760	923	628	1,058	-559	-35%
TX	Eagle Mountain	Tarrant	1,343	1,500	1,340	2,281	1,467	1,336	859	935	777	-567	-42%
TX	O W Sommers	Bexar	1,636	1,667	2,542	3,212	2,239	2,265	1,105	674	648	-988	-60%
TX	Sim Gideon	Bastrop	2,186	1,903	2,123	2,459	2,342	2,633	1,310	899	842	-1,345	-62%
TX	J K Spruce	Bexar	5,778	8,984	8,367	8,403	6,170	4,103	3,670	4,146	4,294	-1,485	-26%
TX	Stryker Creek	Cherokee	2,242	2,841	2,318	2,971	2,852	2,559	1,924	687	706	-1,536	-69%
TX	Jones Station	Lubbock	0	3,137	2,769	3,288	3,085	3,213	3,454	1,906	1,535	-1,602	-51%
TX	Handley Generating Station	Tarrant	2,753	3,597	4,774	4,871	3,328	3,684	2,005	2,022	937	-1,816	-66%
TX	Barney M. Davis	Nueces	2,861	3,013	3,541	3,880	2,814	3,109	2,747	1,403	967	-1,894	-66%
TX	Lewis Creek	Montgomery	2,579	2,052	1,964	2,221	2,865	2,724	2,301	2,209	654	-1,925	-75%
TX	Tolk Station	Lamb	15,113	12,276	12,498	12,576	13,466	13,297	12,302	12,115	13,079	-2,034	-13%
TX	Oklauion Power Station	Wilbarger	10,333	12,376	14,794	14,324	9,908	7,345	6,187	8,266	8,171	-2,162	-21%
TX	Monticello	Titus	15,611	20,628	21,888	20,803	20,495	20,325	19,106	15,920	13,448	-2,163	-14%
TX	North Lake	Dallas	2,873	2,478	2,317	3,269	2,638	2,666	1,216	1,090	709	-2,165	-75%
TX	Wilkes Power Plant	Marion	3,737	3,419	2,127	2,483	2,559	2,128	1,814	1,070	1,198	-2,539	-68%
TX	Valley (TXU)	Fannin	3,452	3,809	3,572	4,671	4,312	4,462	3,174	2,177	741	-2,711	-79%
TX	Harrington Station	Potter	17,478	13,515	11,852	14,152	12,686	12,409	12,603	13,139	14,723	-2,755	-16%
TX	San Miguel	Atascosa	7,745	6,948	7,473	7,355	6,772	7,082	7,283	7,120	4,449	-3,296	-43%
TX	Coletto Creek	Goliad	7,525	9,728	6,772	6,193	5,572	5,590	5,412	3,554	3,640	-3,885	-52%
TX	Graham	Young	5,353	4,552	4,311	5,056	5,579	5,373	3,031	2,060	1,052	-4,301	-80%
TX	J T Deely	Bexar	9,507	10,619	10,974	8,845	10,045	7,890	7,508	6,118	5,001	-4,506	-47%
TX	Decordova	Hood	6,855	6,754	6,127	5,863	7,728	7,377	6,584	5,631	1,958	-4,898	-71%
TX	Sandow	Milam	10,252	9,447	9,156	9,060	9,049	6,794	8,536	7,670	5,240	-5,012	-49%
TX	P H Robinson	Galveston	0	6,889	7,778	10,532	8,638	9,052	4,475	2,998	1,568	-5,321	-77%
TX	Big Brown	Freestone	12,608	14,864	14,203	12,994	12,913	19,171	12,520	7,205	7,134	-5,474	-43%
TX	Morgan Creek	Mitchell	6,628	9,512	7,347	8,766	8,719	9,980	7,191	2,911	998	-5,630	-85%
TX	Gibbons Creek Steam Electric Station	Grimes	8,191	6,435	5,645	4,238	5,555	4,774	3,707	2,382	1,893	-6,298	-77%
TX	Sabine	Orange	9,362	7,801	7,641	9,728	9,380	7,097	6,358	5,370	2,798	-6,564	-70%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Change, 1995-2003
TX	Permian Basin	Ward	8,842	10,109	11,312	13,776	12,847	12,585	10,196	2,924	1,549	-7,293	-82%
TX	H W Pirkey Power Plant	Harrison	12,601	10,312	9,380	8,639	8,848	9,005	8,534	4,749	4,990	-7,611	-60%
TX	Tradinghouse	McLennan	13,658	12,791	11,902	15,239	15,155	14,048	12,618	5,348	2,421	-11,237	-82%
TX	Limestone	Limestone	27,481	27,024	27,425	24,267	24,867	20,637	14,640	13,757	12,052	-15,429	-56%
TX	Martin Lake	Rusk	32,120	29,808	30,317	31,130	28,357	27,220	22,080	18,464	15,123	-16,997	-53%
TX	W A Parish	Fort Bend	41,008	43,532	40,231	39,389	33,401	23,302	14,079	16,468	10,532	-30,476	-74%
UT	Intermountain	Millard	20,575	23,351	26,492	28,908	28,258	30,919	31,038	30,256	27,188	6,613	32%
UT	Bonanza	Uintah	5,231	7,377	6,134	6,856	5,700	5,692	6,983	6,712	7,334	2,103	40%
UT	Carbon	Carbon	4,228	4,212	3,543	3,295	2,976	3,094	3,126	3,378	3,365	-863	-20%
UT	Hunter (Emery)	Emery	23,046	21,618	21,354	21,841	20,300	20,869	17,570	19,859	19,578	-3,468	-15%
UT	Huntington	Emery	17,630	16,422	13,359	14,122	15,012	14,452	12,176	11,183	11,924	-5,707	-32%
VA	Yorktown Power Station	York	6,148	7,391	6,986	8,647	9,977	7,119	9,605	7,790	8,807	2,659	43%
VA	Clover Power Station ^	Halifax	4,742	7,209	7,727	9,754	10,030	10,917	10,840	10,138	9,147	1,938	27%
VA	Altavista Power Station	Campbell	0	0	0	0	0	0	355	562	666	311	88%
VA	Glen Lyn	Giles	4,755	5,817	5,504	6,288	7,021	5,917	3,750	4,839	4,218	-537	-11%
VA	Southampton Power Station	Southampton	0	0	0	0	0	0	1,610	814	949	-661	-41%
VA	Bremo Power Station	Fluvanna	6,343	5,316	6,287	6,073	5,831	4,656	3,634	4,720	4,561	-1,782	-28%
VA	Chesapeake Energy Center	Chesapeake	10,280	11,451	12,910	12,386	10,732	10,106	9,594	9,584	6,646	-3,635	-35%
VA	Chesterfield Power Station	Chesterfield	23,191	26,580	23,423	23,127	18,166	16,599	16,418	15,832	14,433	-8,758	-38%
VA	Potomac River	Alexandria	18,353	5,597	5,002	5,921	6,893	5,694	5,918	6,009	5,759	-12,594	-69%
VA	Possum Point Power Station	Prince William	16,017	3,986	4,264	4,917	5,116	5,276	6,011	5,026	2,340	-13,677	-85%
VA	Cinch River	Russell	26,375	28,204	35,090	31,546	20,090	14,863	12,160	12,823	11,355	-15,020	-57%
WA	Centralia	Lewis	14,618	21,108	16,100	23,351	21,828	20,115	18,244	15,470	20,522	5,904	40%
WI	Pulliam	Brown	4,659	5,885	7,272	7,634	7,694	7,984	7,841	8,226	8,338	3,679	79%
WI	Alma	Buffalo	1,398	1,834	2,467	3,338	2,300	3,419	2,532	2,998	3,803	2,405	172%
WI	J P Madgett	Buffalo	2,724	2,495	3,988	5,205	5,511	4,983	5,299	4,616	4,644	1,920	70%
WI	Genoa	Vernon	3,274	3,255	5,512	3,446	4,151	3,595	4,074	4,449	4,517	1,243	38%
WI	Bay Front	Ashland	626	697	1,126	1,255	1,186	1,287	1,390	1,042	1,346	720	115%
WI	Weston	Marathon	6,969	7,069	7,320	7,831	5,982	6,488	6,457	6,257	7,157	188	3%
WI	Manitowoc	Manitowoc	540	470	613	480	546	661	507	633	649	109	20%
WI	Blount Street	Dane	1,330	1,275	1,098	1,089	1,135	1,546	1,458	1,553	1,391	61	5%
WI	Port Washington Generating Station	Ozaukee	1,914	1,970	2,511	2,386	2,062	2,856	2,261	1,729	1,436	-478	-25%
WI	Valley (WEPCO)	Milwaukee	3,952	3,658	4,555	4,254	4,172	4,083	3,664	3,281	3,090	-862	-22%
WI	Nelson Dewey	Grant	5,637	5,011	6,378	5,125	5,622	5,416	4,780	5,287	4,280	-1,357	-24%
WI	Rock River	Rock	2,921	3,957	3,816	3,735	1,679	217	257	452	648	-2,273	-78%
WI	South Oak Creek	Milwaukee	9,600	9,839	11,309	11,285	11,130	12,038	9,762	6,535	5,014	-4,586	-48%
WI	Edgewater (4050)	Sheboygan	14,991	15,727	15,796	17,049	15,722	15,882	13,091	8,751	8,565	-6,426	-43%
WI	Pleasant Prairie	Kenosha	24,416	26,278	24,060	20,289	23,804	20,510	21,377	21,487	16,469	-7,947	-33%
WI	Columbia	Columbia	18,211	17,712	16,578	17,345	15,367	14,846	15,923	11,224	10,194	-8,017	-44%
WV	Mitchell (WV)	Marshall	21,017	21,842	23,663	25,551	24,573	24,735	21,708	29,598	29,663	8,646	41%
WV	John E Amos	Putnam	37,590	61,951	71,032	47,551	55,607	43,970	36,368	43,501	45,421	7,831	21%
WV	Albright Power Station	Preston	3,124	2,494	2,339	2,352	3,389	4,667	4,325	4,672	5,600	2,476	79%
WV	Mountaineer (1301)	Mason	14,940	17,470	19,236	18,181	20,467	17,798	13,503	12,911	16,734	1,794	12%
WV	Rivesville Power Station	Marion	790	513	615	1,251	1,524	2,686	2,366	2,027	2,235	1,445	183%
WV	Willow Island Power Station	Pleasants	4,821	4,505	5,542	5,911	9,293	9,409	5,914	5,946	5,297	476	10%
WV	North Branch Power Station	Grant	875	66	0	0	1,020	589	984	694	840	-35	-4%
WV	Kanawha River	Kanawha	7,941	13,343	17,103	17,546	11,268	7,508	6,035	6,168	6,006	-1,935	-24%
WV	Pleasants Power Station	Pleasants	18,567	16,554	15,272	15,894	14,057	13,224	14,562	13,714	9,273	-9,294	-50%
WV	Fort Martin Power Station	Monongalia	25,561	22,710	30,014	24,649	30,422	26,330	12,334	11,236	11,582	-13,979	-55%

## APPENDIX F. PLANT-BY-PLANT TRENDS IN NITROGEN OXIDE EMISSIONS, 1995-2003

State	Facility Name	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	Emissions Change,	
			Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	Emissions (tons)	1995-2003
WV	Harrison Power Station	Harrison	36,934	35,115	33,853	35,827	34,708	33,584	30,668	29,090	22,235	-14,699	-40%
WV	Phil Sporn	Mason	29,852	33,041	28,663	29,165	20,066	19,868	14,405	13,185	14,285	-15,567	-52%
WV	Kammer	Marshall	29,640	28,660	30,743	23,840	19,992	15,361	13,285	13,174	11,969	-17,671	-60%
WV	Mount Storm Power Station	Grant	41,290	47,289	51,161	44,761	38,641	38,633	27,831	39,876	21,962	-19,328	-47%
WY	Neil Simpson II <sup>^</sup>	Campbell	208	790	882	779	815	809	836	821	775	-15	-2%
WY	Laramie River	Platte	20,744	22,277	17,782	18,972	17,689	18,145	17,995	18,960	19,710	-1,034	-5%
WY	Wyodak	Campbell	5,729	6,590	6,096	5,914	5,565	5,054	4,601	4,697	4,663	-1,066	-19%
WY	Naughton	Lincoln	15,247	16,930	16,053	16,631	13,760	12,846	12,844	12,913	12,186	-3,061	-20%
WY	Dave Johnston	Converse	20,301	21,127	21,388	19,309	17,566	16,593	13,908	15,019	14,513	-5,788	-29%
WY	Jim Bridger	Sweetwater	39,604	36,810	34,629	38,569	37,981	35,368	34,119	30,644	31,150	-8,454	-21%

\* These facilities went online in 2002; therefore, the 2002 emissions data do not reflect a complete year, preventing us from calculating an emissions increase/decrease.

<sup>^</sup> These facilities went online mid-year; for each facility, we calculated the emissions increase/decrease based on the calendar year following the year the plant began operating.

## END NOTES

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