United States Environmental Protection Agency
Office of Air and Radiation

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July 1996

1995 Compliance Results

ACID RAIN PROGRAM

HIGHLIGHTS

- 100% Compliance Among Phase I Units
- SO_2 Emissions from Phase I Units Reduced By 5 million tons since 1980
- Monitoring Performance Excellent
- Program Costs and Efficiency on Target

Background

The Acid Rain Program was established under Title IV of the 1990 Clean Air Act Amendments. The program calls for major reductions of sulfur dioxide (SO_2) and nitrogen oxides (NO_X), the pollutants that cause acid rain, while establishing a new approach to environmental protection through the use of market incentives. The program sets a permanent cap on the total amount of sulfur dioxide that may be emitted by electric utilities nationwide, about one half of the amount emitted in 1980, and allows flexibility for individual utility units to select their own methods of compliance. The program is being implemented in two phases: Phase I began in 1995, will last until 1999, and currently involves 445 utility units; Phase II begins in 2000 and is expected to involve over 2,000 units.

Acid rain causes acidification of lakes and streams and contributes to the damage of trees at high elevations. In addition, acid rain accelerates the decay of building materials, paints, and cultural artifacts, including irreplaceable buildings, statues, and sculptures. While airborne, SO_2 and NO_X gases and their particulate matter derivatives, sulfates and nitrates, contribute to visibility degradation and impact public health.

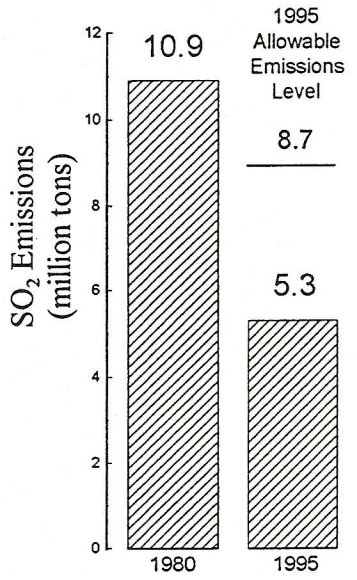
The Acid Rain Program represents a dramatic departure from traditional command and control regulatory methods that establish source-specific emissions limitations. Instead, the program introduces a trading system for SO_2 that facilitates lowest-cost emissions reductions and an overall emissions cap that ensures the maintenance of the environmental goal. The program features tradable SO_2 emissions allowances, where one allowance is a limited authorization to emit one ton of SO_2. Allowances may be bought, sold, or banked by utilities, brokers, or anyone else interested in holding them. Existing utility units were allocated allowances for each future compliance year and all participants of the program are obliged to surrender to EPA the number of allowances that correspond to their annual emissions.

At the end of each year, utilities are granted a 30-day grace period during which additional SO_2 allowances may be purchased, if necessary, to cover each unit's emissions for the year. At the end of the grace period (the Allowance Transfer Deadline), the allowances a unit holds in its Allowance Tracking System (ATS) account must equal or exceed the unit's annual SO_2 emissions. In addition, in 1995-1999 (Phase I of the program), units must have sufficient allowances to cover certain other deductions as well. Any remaining allowances may be sold or banked for use in future years.

1995 Compliance Results ---- Summary

100% Compliance by the 445 Phase I Utility Units for 1995

Of the more than 2,000 utility units currently operating in the U.S., all 445 Phase I affected units that underwent annual reconciliation for 1995 successfully met their compliance obligations under the Acid Rain Program. The total number of allowances deducted in 1995 was 5,302,509, which represents 61 percent of all 1995 allowances issued. Almost all (99 percent) of the deducted allowances were for emissions (5,298,429), but other deductions were also made as required by the Acid Rain regulations.



Phase I Units Cut their 1980 Emissions in Half; 1995 Emissions were 39% Below the Allowable Emissions Level Required by the Clean Air Act

The emissions reductions to date have been impressive for the first year of compliance. For the 445 units participating in Phase I, actual emissions measured by continuous emission monitoring systems (CEMS) were reduced by more than half relative to 1980 levels with emissions plummeting from 10.9 to 5.3 million tons. Emissions for these units were 3.4 million tons (or 39 percent) below the 1995 allowable emissions level of 8.7 million tons required by the Clean Air Act.

Rainfall in Eastern U.S. Less Acidic in 1995

According to a recent study prepared for the U.S. Geological Survey (USGS), reductions in sulfur dioxide emissions have resulted in rainfall being less acidic in 1995 as a result of the first year of the Acid Rain Program. The study reports a 10-25 percent drop in rainfall acidity, particularly at some sites located in the Mid-West, Northeast, and Mid-Atlantic Regions.

Monitoring Performance Excellent

The monitors used by participants of the Acid Rain Program provide some of the most accurate data ever collected by the EPA. Not only were these monitors demonstrated to be accurate but their availability was also excellent.

Accuracy:	98 percent of the installed and tested monitors passed the required 10 percent relative accuracy standard; 93 percent achieved relative accuracy of less than 7.5 percent.
Availability:	These monitors were successfully operating over 95 percent of the time.

Program Costs and Efficiency on Target

The cost of reducing a ton of SO_2 from the utility sector continues to decline: scrubber costs have dropped, removal efficiencies have improved, and expected increases in cost associated with the increased use of low sulfur coal have not materialized. These reductions in cost are being reflected in allowance prices. In just two years, allowance prices have dropped from $150/ton to less than $80/ton. Administratively, allowance trades are being processed quickly and efficiently. Ninety nine percent of allowance trades have been processed within 5 days; 81 percent were processed within 24 hours.

1995 Compliance Results

Over the past few months, EPA has evaluated the actions of participating utility units and their compliance with the Acid Rain Program. EPA is pleased to report that all units have complied with the program in this first year, 1995. In other words, all Phase I units complied with the requirement to hold enough allowances to cover their end-of-year allowance deductions. This report discusses the process of determining compliance for these units, a process known as annual reconciliation. Detailed appendices provide information on 1995 emissions, allowance holdings and allowance deductions for each Phase I unit.

445 Utility Units Underwent Annual Reconciliation for 1995

There were 445 affected utility units that underwent annual reconciliation for 1995 to meet their compliance obligations under the Acid Rain Program. These units are listed in Appendix A and include 263 utility units specifically required to participate during Phase I, and an additional 182 utility units not initially required to participate until Phase II, but electing to participate early as part of multi-unit compliance plans.

The 263 utility units, residing at 110 power plants, were selected by Congress in the 1990 Amendments to the Clean Air Act because they were the highest emitting and largest units. These units emitted 57 percent of all utility emissions in 1985, and had emissions rates ranging from 2.5 to 10.2 lbs of SO_2/mmBtu of heat input, with an average of 4.2 lbs/mmBtu. These units are often referred to as "Table 1 units" because they are officially listed in Table 1 of the allowance allocation regulation, 40 CFR 73.10.

The other 182 utility units have been designated by certain Table 1 units to serve either as substitution or compensating units. A unit brought into Phase I as a substitution unit can assist a Table 1 unit in meeting its emissions reductions obligations. Utilities may make cost-effective emissions reductions at the substitution unit instead of at the Table 1 unit, by achieving the same overall emissions reductions that would have occurred without the participation of the substitution unit.

A Table 1 unit may designate any Phase II unit as a substitution unit only if both units are under the control of the same owner or operator. For 1995, 91 Table 1 units designated 175 Phase II units to be substitution units. These units are listed in Appendix B. Of these 91 Table 1 units, almost half were located in the Midwest (IL, IN, MI, MO, OH, WI) and almost a quarter in the South (AL, FL, GA, KY, MS). In addition, almost a third of these Table 1 units designated substitution units that were located at the same plant.

The remaining seven Phase II units that participated in the Acid Rain Program in 1995 entered as compensating units. Table 1 units that reduced their utilization below their baseline may designate compensating units to provide compensating generation that would account for the reduced utilization of the Table 1 unit. (A unit's baseline is defined as its heat input averaged over the years 1985-1987). A Table 1 unit may designate any Phase II unit as a compensating unit if the Phase II compensating unit is in the Table 1 unit's dispatch system or has a contractual

agreement with the Table 1 unit, and the emissions rate of the compensating unit has not declined substantially since 1985.

Program Established 1995 Target of 8.7 Million Tons for Selected Utility Units

The total number of allowances available in a particular year, the amount representing that year's allowable emissions level, is the sum of a collection of allowance allocations granted to sources under many provisions of the Act. In 1995, the emissions target for the 445 participating units is 8.7 million tons.

Exhibit A: Origin of 1995 Allowable Emissions Level

Type of Allowance Allocation	Number of Allowances
Initial Allocation	5,550,231
Phase I Extension	1,350,068
Allowances for Substitution Units	1,220,044
Early Reduction Credits (ERCs)	314,248
Allowance Auctions	150,000
Allowances to Compensating Units	109,116
Small Diesel Allowances	37,558
Conservation Allowances	12,816
TOTAL	8,744,081

Explanation of Allowance Allocation Types

Initial Allocation is the number of allowances granted to units based on their historic utilization, emissions rates specified in the Clean Air Act and other provisions of the Act.

Phase I Extension allowances are given to Phase I units that reduce their emissions by 90 percent or reassign their emissions reduction obligations to units that reduce their emissions by 90 percent.

Allowances for Substitution Units are the initial allocation granted to Phase II units which entered Phase I as substitution units.

Early Reduction Credits (ERCs) are additional allowances allocated to certain units for voluntary emissions reductions made after enactment and before January 1, 1995.

Allowance Auctions provide allowances to the market that were set aside in a Special Allowance Reserve when the initial allowance allocation was made.

Allowances for Compensating Units are the initial allocation granted to Phase II units which entered Phase I as compensating units.

Small Diesel Allowances are allocated annually to small diesel refineries that produce and desulfurize diesel fuel during the previous year. These allowances can be earned through 1999.

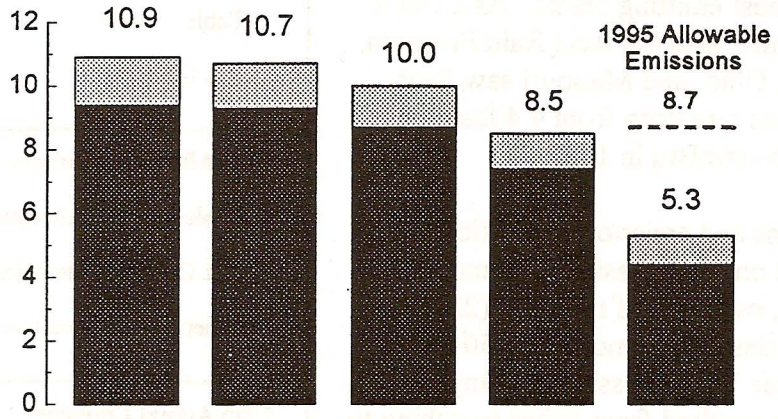
Conservation Allowances are awarded to utilities that undertake efficiency and renewable energy measures. The allowances come from a special Conservation and Renewable Energy Reserve set aside when the initial allowance allocation was made.

The initial allocation and the allowances for substitution and compensating units represent the basic allowances granted to units that authorize them to emit SO_2 under the Acid Rain Program. Additional allowances for the year 1995 were also made available through the 1993, 1994, and 1995 allowance auctions. Other allowances issued in 1995 were from bonus provisions in the Act. These provisions are briefly explained in Exhibit A with more explanation given below for the Phase I extension and conservation allowances.

In 1993, a total of 3.5 million Phase I Extension allowances were distributed to 80 Phase I units (1.35 million of these allowances were 1995 allowances). These allowances were awarded to encourage utilities to install effective control technology without being penalized for not meeting their emissions reduction requirements while they were awaiting installation of the equipment. To qualify for these allowances, a unit had to show that it would (1) use a qualifying technology by January 1, 1997 that would reduce its SO_2 emissions by at least 90 percent; or (2) reassign its emissions reduction obligation to another unit that would, by January 1, 1997, use such a technology to reduce its emissions by 90 percent. Overall, 19 of the units adopted qualifying technologies and must meet the 90 percent reduction by 1997.

Conservation allowances were awarded to utilities that initiated efficiency and renewable energy programs. The allowances came from a special Conservation and Renewable Energy Reserve set aside when the initial allowance allocation was made. For 1995, eight utility companies earned 7,744 allowances for the installation of demand side, energy efficient technologies (e.g., energy efficient lighting) within their service territories. Two other utility

Exhibit B: 445 Phase I Affected Utility Units
SO_2 Emissions in Million Tons / Year



	1980	1985	1990	1994	1995
263 Table 1 Units	9.4	9.3	8.7	7.4	4.4
182 S & C Units	1.5	1.4	1.3	1.1	0.9

companies received 815 allowances for purchased or generated electric power from geothermal resources. Finally, one utility, which also had installed demand side measures, earned 4,257 allowances for purchased or generated electric power from biomass energy.

Phase I Units Better 1995 Allowable Emissions Level by Almost 40 Percent

Emissions from the 445 units participating in Phase I have been reduced dramatically to 5.3 million tons of SO_2, or 39 percent below the 1995 allowable emission limit of 8.7 million tons (see Exhibit B). These reductions occurred both for the designated Table 1 units and for units brought into the program as substitution and compensating units (S & C units). The 263 Table 1 units reduced their emissions to 4.4 million tons, substantially below their initial allocation of 5.6 million tons. Most of this reduction took place over the past calendar year with 3 million tons, representing 40 percent of their total emissions, reduced since 1994. The substitution and compensating units also reduced their emissions to less than 1 million tons -- a reduction below their 1995 allowance allocation (1.3 million tons) also occurring in the past calendar year.

The reduction from the 1980 baseline level is even more dramatic; emissions were reduced by more than 5.6 million tons of SO_2, representing a 51 percent drop in emissions from these 445 units.

Since 1980, emissions from Phase I units have declined in every one of the 21 states containing Phase I units, as shown in Appendix C. Over 43 percent of this 5.6 million ton emissions reduction was achieved by the utilities in just three states: Ohio, Indiana, and Missouri. These three states contained close to a third of the units participating in Phase I and represented some of the highest emitting plants. As a result of their compliance with the Acid Rain Program, units in Indiana, Ohio, and Missouri saw their average emissions rate drop from 4.4 lbs/mmBtu in 1985 to 1.8 lbs/mmBtu in 1995.

Emissions and emissions reductions for 1995 are shown on a unit basis in Appendices D and E. In 1995, over half of the units (237) reduced their emissions by more than 50 percent compared to their 1985 emissions. Many of these reductions resulted from either switching to a lower sulfur fuel or by the adoption of control technology. Other reductions were caused by reductions in the unit's utilization. Specifically, 42 units ceased emitting SO_2 because they reduced their utilization to zero, 31 of which

Exhibit C: Emissions Summary

445 Phase I Units

SO_2 Emissions (Million tons)

1980 Emissions		**10.9**
Table 1 Units	9.4	
S & C Units	1.5	
1995 Allowable Emissions		**8.7**
Table 1 Units' Allocation	5.6	
S & C Units' Allocation	1.3	
Other 1995 Allocations	1.8	
1995 Actual Emissions		**5.3**
Table 1 Units	4.4	
1995 S & C Units	0.9	

accounted for this decrease in utilization by demonstrating a replacement by sulfur-free generation. The remaining 11 units that ceased operations in 1995 accounted for their drop in utilization by increased generation at other Phase I units. (For more discussion on reductions in utilization, refer to the section below on allowance deductions and Appendix E.)

Not all units decreased their emissions relative to 1985 levels. In fact, 52 units saw increases: 27 Table 1 units and 25 substitution and compensating units. Three-quarters of these units increased their emissions by less than 5,000 tons, but the range of these emissions increases spanned from 11 tons (Grand Tower 07 in Illinois) to 48,777 tons (Paradise 3 in Kentucky).

Clearly, the Acid Rain Program has begun fulfilling its promise of significant emissions reductions from some of the largest and highest emitting power plants in the country. The summary presented in Exhibit C shows the overall reductions achieved to date relative to 1980 levels and the extent to which Phase I participants achieved these reductions earlier than expected.

Deducting Allowances for Compliance

The total number of allowances deducted in 1995 was 5,302,509, which represents 61 percent of all 1995 allowances issued. Almost all (99 percent) of the deducted allowances were for emissions, but some deductions were also made for other compliance considerations including underutilization, state caps, and failure to meet control-by-contract requirements. The four types of deductions are discussed below.

Emissions Deductions

Description: At an individual unit, the number of allowances surrendered was equal to the number of tons emitted at the unit, except where the unit shared a common stack with other units. For the purposes of surrendering allowances for emissions at a common stack, the utility was allowed to divide up a stack's emissions among the units sharing the stack, as long as enough allowances were surrendered to cover the total number of tons emitted. If no apportionment was made, EPA divided up the total emissions reported by the stack equally among the units sharing the stack. Appendix D reflects the deductions for emissions at each unit after the common stack apportionment was made. Units sharing a common stack are listed in Appendices D and E directly under the entry for their common stack.

1995 Deductions: Phase I units had a total of 5,298,429 allowances deducted for emissions in 1995. Of the 445 units, Paradise Unit 3 in Kentucky surrendered the most allowances for emissions (155,612), while 42 units that were not operated at all during the year surrendered the least (0). Half of the units surrendered 6,083 allowances or less, while the average number of allowances deducted at a unit was 11,907.

Underutilization Deductions

Description: Phase I units make up only a portion of the universe of units that will ultimately be

affected by the Acid Rain Program in Phase II, which means that there is no effective emissions cap during Phase I for Phase II units. Therefore, if underutilization were not taken into account, Phase I units could potentially shift their generation responsibilities to Phase II units without surrendering allowances for the additional emissions resulting at those units.

To ensure that allowances are surrendered in this instance, each Phase I unit must explain any underutilization during Phase I (1995-1999). Any Phase I unit that had a lower heat input in 1995 than the average heat input during the 1985-87 baseline years (i.e., was utilized less) must surrender allowances unless it explains this decrease by shifts in generation to sulfur-free generators (e.g., hydroelectric or nuclear generators), energy conservation, improved unit efficiency, overutilization at other Phase I units in the dispatch system, utilization of compensating units, or a decrease in dispatch system sales. If the reasons for the underutilization do not fall into one or more of these categories, then it is presumed that the Phase I unit shifted generation to sulfur-emitting Phase II units and the Phase I unit has to surrender allowances. The amount of allowances surrendered is based on the amount of unexplained underutilization and the emissions rate of Phase II units.

1995 Deductions: For 1995, 3,426 allowances were deducted for underutilization at eight units in the Central Hudson Gas and Electric Corp., Long Island Lighting Company, and Southern Mississippi Electric Power Association dispatch systems. Roseton Unit 1 in New York surrendered the highest number of allowances (1,748) and Port Jefferson Unit 4, also in New York, surrendered the lowest (4 allowances).

The total number of allowances deducted for underutilization and the number of units at which they were deducted appears surprisingly low in light of data showing that 207 (47 percent) of the Phase I units had lower utilization in 1995 compared to their 1985-1987 baseline. (Utilization information on all 445 units participating in Phase I is shown in Appendix E.) However, 199 of the units could account for their underutilization in ways that assured no net increase in emissions and therefore these units did not have to give up allowances.

Of the eight units that could not account for all of their underutilization, two identified shifts to sulfur-free generators only and three identified shifts to sulfur-free generators and energy conservation. However, because the demonstrations did not account for all of the underutilization at these units, these five units and the three others that did not make any demonstration were required to surrender allowances for underutilization.

State Cap Deductions

Description: Some substitution and compensating units are subject to a state-mandated, operating company-wide emissions cap (state cap), whose stringency cannot be determined until the end of the compliance year when monitoring data is available. For these units, EPA did not consider the cap when allocating allowances, but adjusts their allowance holdings at the end of the compliance year if the Agency determines that the cap is the most stringent limit.

As a general rule, if the state cap is determined to be the most stringent limit, then EPA recalculates the number of allowances that should be allocated to the unit, and any allowances

received in excess of that amount are deducted from the unit's account. However, for the first year that units become substitution or compensating units, that unit may effectively use allowances from a future year account to cover the allowance deduction. In these instances, there

Exhibit D: Allowance Reconciliation Summary

1995 Allowances Held in Allowance Tracking System Accounts as of 1/30/96*		**8,744,081**
Table 1 Unit Accounts	6,214,310	
Substitution & Compensating Unit Accounts	1,268,045	
Other Accounts**	1,261,726	
1995 Allowances Deducted for Emissions		**5,298,429**
Table 1 Unit Accounts	4,450,496	
Substitution & Compensating Unit Accounts	847,933	
1995 Allowances Deducted Under Special Phase I Provisions***		**4,080**
Table 1 Unit Accounts	829	
Substitution & Compensating Unit Accounts	3,251	
1995 Allowances Carried Over to 1996		**3,441,572**
Table 1 Unit Accounts	1,762,985	
Substitution & Compensating Unit Accounts	416,861	
Other Accounts**	1,261,726	

* The number of allowances held in ATS accounts equals the number of 1995 allowances allocated (see Exhibit A). January 30, 1996 represents the Allowance Transfer Deadline, the point in time at which the 1995 Phase I affected unit accounts are frozen and after which no transfers of 1995 allowances will be recorded. The freeze on these accounts is removed when annual reconciliation is complete.

** Other accounts refers to general accounts within the Allowance Tracking System (ATS) that can be held by any utility, individual or other organization, and unit accounts for units not affected in Phase I.

*** Allowances deducted under special Phase I provisions are deductions made for underutilization and control-by-contract units. The allowances deducted under special Phase I provisions do not include the allowances deducted under the state cap provisions, because the same number of allowances (56,638) were allocated among the affected substitution units prior to annual reconciliation. (See discussion of state cap provisions for more detail.)

will be no net deduction for state caps. (Units that are allowed this early use of future year allowances were parties to a settlement of prior litigation concerning the substitution and reduced utilization provisions.)

1995 Deductions: In applying the state caps under the annual reconciliation process, EPA deducted 56,638 allowances at eleven units. Because all of these units are covered by the settlement agreement and 1995 represents the first year that they were required to deduct allowances under the state cap provisions, these units were allowed to use future year allowances to cover their required emissions deductions. In practice, allowances were added to their 1995 accounts to cover 1995 deductions and simultaneously deducted from future year accounts. Units surrendering allowances under the state cap provisions are listed in the notes of Appendix D.

Control-by-Contract Deductions

Description: A Table I unit is allowed to designate a Phase II unit as a substitution unit only if both units are under the control of the same owner or operator. A Table I unit must show a certain level of ownership interest and/or share a common operator with the substitution unit, or have a contract between the owners and operators of the units that demonstrates a certain level of control of the substitution unit (control-by-contract) by the Table I unit's owners and operators. This contract, among other things, is required to contain a commitment to reduce the emissions rate at the substitution unit designated under this provision by 30 percent or more. If the substitution unit fails to meet this reduction, it is not subject to an enforcement action, but the Phase I unit that designated it must surrender allowances to cover the additional emissions released by the substitution unit.

1995 Deductions: For 1995, four Phase II units were designated as substitution units under the control-by-contract provision in the permits regulation: Charles R Lowman Units 2 and 3 in Alabama and R D Morrow Units 1 and 2 in Mississippi. These substitution units were designated by the same Phase I unit, C P Crane Unit 2 in Maryland. Three of the four units designated, Charles R Lowman Units 2 and 3 and R D Morrow Unit 2, did not meet the requirement to reduce their emissions rates by 30 percent. As a result, C P Crane Unit 2 surrendered 654 allowances to cover the extra emissions emitted at those units.

Program Costs and Efficiency on Target

As presented earlier, the Acid Rain Program achieved the emissions reductions goals for 1995 by allowing sources flexibility in complying with their SO_2 reduction obligations. The 445 units participating in Phase I have pursued a variety of compliance options including installing scrubbers, fuel switching, and allowance trading. The allowance market has given some sources the incentive to overcontrol their SO_2 emissions in the near term, and bank their allowances for use in future years. Other sources have been able to postpone and possibly avoid their expenditures for control by acquiring allowances. This flexibility enabled all 445 sources to be in compliance in 1995 and significantly reduced the cost of achieving these emissions reductions as compared to the cost of a technological mandate.

Securing the Program's Cost Savings

The cost of reducing a ton of SO_2 from the utility sector continues to drop. Recent studies by Resources for the Future and the Electric Power Research Institute (EPRI) have highlighted the efficiency and innovation in pollution controls that have accompanied the implementation of the Acid Rain Program.[1] For example, scrubber costs have dropped dramatically in the past six years and their sulfur removal efficiencies have improved. In addition, there have been innovations in the blending of high- and low-sulfur coals, while expected increases in cost associated with the increased use of low sulfur coal have not materialized.

The price of allowances has reflected these declines in control costs. The price of an allowance has dropped from an estimated $500-600/ton when the Act was passed to a low of just $68/ton at the 1996 allowance auction. Even over the past two years, allowance prices have dropped from $150/ton to the current $80/ton. Some market observers believe low allowance prices are due primarily to larger than expected emission reductions, which have increased the supply of allowances and depressed prices.

Finally, estimates of the overall cost savings associated with emissions trading remain high. A recent GAO report estimated that $2-3 billion dollars will be saved with the implementation of the Acid Rain Program through its allowance trading program.[2]

Maintaining the Credibility of SO_2 Allowances

In order to ensure the nationally mandated reductions of SO_2 emissions, each affected unit (boiler or turbine) was required to install a Continuous Emissions Monitoring System (CEMS) (or for oil and gas units, an approved alternate measurement method) to measure and report the concentration and mass of emissions. Among the tests performed on a unit's CEMS, the relative accuracy test ensures that the installed monitor measures the "true" value of the pollutant by comparing the monitor to a reference method, which measures the pollutant in the stack gas concurrently with the monitor. Thus, the lower the relative accuracy achieved, the more accurate the monitor. Of the 4,923 monitors tested and reviewed by EPA for the Acid Rain Program, 98 percent passed the required 10 percent relative accuracy standard; 93 percent of the monitors achieved relative accuracy standards of less than 7.5 percent. Not only are the monitors remarkably accurate, their availability has been excellent; these monitors were measuring actual stack data over 95 percent of the time.

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[1] Burtraw, Dallas, *Cost Savings Sans Allowance Trades? Evaluating the SO_2 Emission Trading Program to Date*, Resources for the Future Discussion Paper 95-30, September, 1995. Electric Power Research Institute, *Coal Supply and Transportation Markets During Phase One: Change, Risk and Opportunity*, EPRI TR-105916, January 1996.

[2] U.S. General Accounting Office, *Air Pollution: Allowance Trading Offers an Opportunity to Reduce Emissions at Less Cost*, GAO/RCED-95-30, December, 1994.

Because highly accurate monitoring systems are operating most of the year, the public can place great confidence in the monitored data used to measure the progress of emissions reductions under the program and those trading allowances can be assured that every allowance represents one ton of SO_2.

Facilitating the Allowance Market

EPA seeks to reduce transaction costs for allowance traders by quickly and efficiently recording trades reported to the Agency. EPA quickly enters transfers into the accounting system developed for allowance trading, known as the Allowance Tracking System (ATS), keeping transaction costs associated with transferring allowances as low as possible. Overall, EPA has processed 99 percent of allowance trades within 5 days, 81 percent of which were processed within 24 hours. Data on allowance transactions and holdings are also made available to the public, updated weekly on the Acid Rain Division's Internet site, to better inform trading participants. Finally, the annual allowance auction provides an additional venue for participants to purchase allowances. All of these actions facilitates the allowance market, reduces transaction costs, and enables private parties to come together and negotiate allowance trades with the confidence that their transactions can be completed quickly.

Conclusion

EPA's innovative, market-based Acid Rain Program has proven to be both an environmental and an economic success story. In 1995, 445 units nationwide met their compliance obligations and achieved an overall reduction of 5.6 million tons from 1980 levels, with most of the reduction occurring between 1994 and 1995, the first year of compliance. The allowance trading system has provided a mechanism for utilities to choose their means of compliance and, according to the GAO, will cost at least $2 billion per year less than a control program without trading.

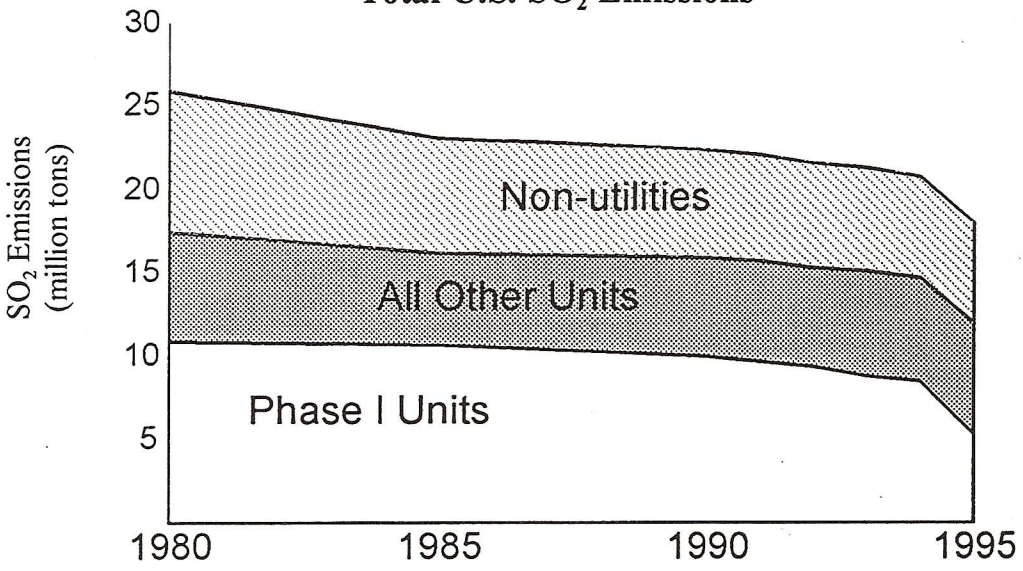
This first year of compliance demonstrates that powerful incentives are available for environmental protection, when utilities are able to manage their compliance obligations as an integral part of their costs of doing business. The exceedance of the 1995 emissions reduction goal by almost 40 percent shows what the utility industry sector can achieve given the appropriate flexibility to pursue environmental goals. Throughout the development and implementation of this program the utility industry has deserved a great deal of credit for their efforts in making the program work.

Perhaps most satisfying is the recent information reported by the U.S. Geological Survey (USGS) that rainfall in the Eastern U.S. is significantly less acidic as a result of the first year of implementation of the Acid Rain Program. The June 27, 1996 study reports a significant reduction in 1995 sulfate concentrations relative to the historical trend (1983-1994). These results are derived from data collected at monitoring sites across the country. The change in sulfate concentrations shows a 10-25 percent drop in rainfall acidity, particularly at some sites located in the Mid-West, Northeast, and Mid-Atlantic regions. These geographical areas coincide

with areas downwind of affected utility units which have significantly reduced their emissions.

Yet, despite the significant progress made in reducing SO_2 emissions, the long term goal of an overall 10 million ton emissions reduction will only be achieved through continued reductions by these Phase I participants and by reductions required from Phase II units. The flexibility inherent in the allowance trading system does not mandate where these reductions must be made, but overall reductions must be sufficient to reach by 2010 the 8.95 million ton emissions cap established for electric utilities.

Exhibit E:
Total U.S. SO_2 Emissions



The allowance trading system and the dramatic departure from traditional "command and control" regulation that it represents create a new framework for units to pursue the lowest cost emissions reductions. The program allows both the government and industry to focus on what they do best: the government by protecting the environment and public health through setting and enforcing emission reduction standards, and industry by producing electricity in the most cost-effective manner. The cost savings, flexibility, and environmental protection of the Acid Rain Program make it a model for market-based approaches for the reduction of other pollutants. The program's successful first year proves that specific environmental goals with flexible mechanisms can achieve significant improvements in the quality of the nation's environment.

Appendix A: Units Participating in Phase I of the Acid Rain Program

Table 1 Units

Albright 3 (WV)
Allen 1,2,3 (TN)
Armstrong 1,2 (PA)
Asbury 1 (MO)
Ashtabula 7 (OH)
Avon Lake 11,12 (OH)
B L England 1,2 (NJ)
Bailly 7,8 (IN)
Baldwin 1,2,3 (IL)
Big Bend BB01, BB02, BB03 (FL)
Bowen 1BLR, 2BLR, 3BLR, 4BLR (GA)
Breed 1 (IN)
Brunner Island 1,2,3 (PA)
Burlington 1 (IA)
C P Crane 1,2 (MD)
Cardinal/Tidd 1,2 (OH)
Cayuga 1,2 (IN)
Chalk Point 1,2 (MD)
Cheswick 1 (PA)
Clifty Creek 1,2,3,4,5,6 (IN)
Coffeen 01, 02 (IL)
Colbert 1,2,3,4,5 (AL)
Coleman C1, C2,C3 (KY)
Conemaugh 1,2 (PA)
Conesville 1,2,3,4 (OH)
Cooper 1,2 (KY)
Crist 6,7 (FL)
Cumberland 1,2 (TN)
Des Moines 11 (IA)
Dunkirk 3,4 (NY)
E C Gaston 1,2,3,4,5 (AL)
E W Brown 1,2,3 (KY)
E W Stout 50,60,70 (IN)
Eastlake 1,2,3,4,5 (OH)
Edgewater 4 (WI)
Edgewater 13 (OH)
Elmer Smith 1,2 (KY)
F B Culley 2,3 (IN)
Fort Martin 1,2 (WV)
Frank E Ratts 1SG1,2SG1 (IN)
Gallatin 1,2,3,4 (TN)
Gen J M Gavin 1,2 (OH)
Genoa 1 (WI)
George Neal North 1 (IN)
Ghent 1 (KY)
Gibson 1,2,3,4 (IN)
Grand Tower 09 (IL)
Green River 5 (KY)
Greenidge 6 (NY)
H L Spurlock 1 (KY)
H M P&L Station 2 H1, H2
H T Pritchard 6 (IN)
Hammond 1,2,3,4 (GA)
Harrison 1,2,3 (WV)
Hatfield's Ferry (PA)
Hennepin 2 (IL)
High Bridge 6 (MN)
J H Campbell 1,2 (MI)
Jack McDonough MB1, MB2 (GA)
Jack Watson 4,5 (MS)
James River 5 (MO)
Johnsonville 1,2,3,4,5,6,7,8,9,10 (TN)
Joppa Steam 1,2,3,4,5,6 (IL)
Kammer 1,2,3 (WV)
Kincaid 1,2 (IL)
Kyger Creek 1,2,3,4,5 (OH)
Labadie 1,2,3,4 (MO)
Martins Creek 1,2 (PA)
Meredosia 05 (IL)
Merrimack 1,2 (NH)
Miami Fort 5-1,5-2,6,7 (OH)
Michigan City 12 (IN)
Milliken 1,2 (NY)
Milton L Kapp 2 (IA)
Mitchell 1,2 (WV)
Montrose 1,2,3 (MO)
Morgantown 1,2 (MD)
Mt Storm 1,2,3 (WV)
Muskingum River 1,2,3,4,5 (OH)
Nelson Dewey 1,2 (WI)
New Madrid 1,2 (MO)
Niles 1,2 (OH)
North Oak Creek 1,2,3,4 (WI)
Northport 1,2,3 (NY)
Paradise 3 (KY)
Petersburg 1,2 (IN)
Picway 9 (OH)
Port Jefferson 3,4 (NY)
Portland 1,2 (PA)
Prairie Creek 4 (IA)
Pulliam 8 (WI)
Qunidaro 2 (KS)

R E Burger 5,6,7,8 (OH)
R Gallagher 1,2,3,4 (IN)
Riverside 9 (IA)
Shawnee 10 (KY)
Shawville 1,2,3,4 (PA)
Sibley 3 (MO)
Sioux 1,2 (MO)
South Oak Creek 5,6,7,8 (WI)
Sunbury 3,4 (PA)
Tanners Creek U4 (IN)
Thomas Hill MB1, MB2 (MO)
Vermilion 2 (IL)
W H Sammis 5,6,7 (OH)
Wabash River 1,2,3,5,6 (IN)
Walter C Beckjord 5,6 (OH)
Wansley 1,2 (GA)
Warrick 4 (IN)
Yates Y1BR, Y2BR, Y3BR, Y4BR, Y5BR, Y6BR, Y7BR (GA)

Substitution Units

Acme 13,14,15,16,91,92 (OH)
Albright 1,2 (WV)
Alma B4,B5 (WI)
Arkwright 1,2,3,4 (GA)
Avon Lake 9,10 (OH)
Bay Shore 1,2,3,4 (OH)
Big Bend BB04 (FL)
Bruce Mansfield 1,2 (PA)
C R Huntley 63,64,65,66 (NY)
Chalk Point 3,4 (MD)
Charles R Lowman 2,3 (AL)
Collins 1,2,3 (IL)
Crist 4,5 (FL)
Dan E Karn 1 (MI)
East Bend 2 (KY)
Edgewater 3 (WI)
Edgewater 11,12 (OH)
Gadsby 3 (UT)
Gadsden 1,2 (AL)
Gorge 25,26 (OH)
Grand Tower 07, 08 (IL)
H T Pritchard 3,4,5 (IN)
Harllee Branch 1,2,3,4 (GA)
Havana 1,2,3,4,5,6,7,8 (IL)
Hawthorn 5 (MO)
High Bridge 3,4,5 (MN)
Hutsonville 05,06 (IL)
Iatan 1 (MO)
J M Stuart 1,2,3,4 (OH)
J P Madgett B1 (WI)
J R Whiting 2,3 (MI)
James River 3,4 (MO)
Jim Bridger BW71,BW72,BW73 (WY)
Kraft 1,2,3 (GA)
La Cygne 1,2 (KS)
Lake Shore 18,91,92,93,94 (OH)
Mcintosh 1 (GA)
Meramec 1,2,3,4 (MO)
Meredosia 01,02,03,04,06 (IL)
Mitchell 3 (GA)
Mitchell 33 (PA)
Mount Tom 1 (MA)
New Castle 1,2 (PA)
Newington 1 (NH)
Newton 1,2 (IL)
Northport 4 (NY)
Oswego 3,4,5,6 (NY)
Petersburg 3,4 (IN)
Port Washington 1,2,3,4,5 (WI)
Poston 1,2,3 (OH)
Pleasants 1,2 (WV)
Pulliam 5,6,7 (WI)
R D Green G1, G2 (KY)
R D Morrow 1,2 (MS)
R E Burger 1,2,3,4 (OH)
R P Smith 9,11 (MD)
Rivesville 7,8 (WV)
Rock River 1,2 (WI)
Roseton 1,2 (NY)
Rush Island 1,2 (MO)
Scherer 3 (GA)
Scholz 1,2 (FL)
Sherburne County 1,2 (MN)
Sibley 1,2 (MO)
Thomas Hill MB3 (MO)
Toronto 9,10,11 (OH)
Southwest 1 (MO)
Valley 1,2,3,4 (WI)
Vermilion 1 (IL)
Victor J Daniel Jr 1,2 (MS)
Weston 1,2,3 (WI)
Willow Island 1,2 (WV)
Wood River 1,4 (IL)
Wyodak BW91 (WY)

Compensating Units

Brayton Point 1,2,3,4 (MA)
Salem Harbor 1,2,3 (MA)

Appendix B: Table 1 Units Designating Substitution and Compensating Units - 1995

Table 1 Units			Substitution Units		
State	Plant Name	Unit	State	Plant Name	Units
AL	EC Gaston	5	AL	Gadsden	1,2
FL	Big Bend	BB01, BB02, BB03	FL	Big Bend	BB04
FL	Crist	7	FL	Crist	4,5
			FL	Scholz	1,2
GA	Bowen	1BLR	GA	Harllee Branch	1
GA	Bowen	2BLR	GA	Harllee Branch	2
GA	Bowen	3BLR	GA	Harllee Branch	3
GA	Bowen	4BLR	GA	Harllee Branch	4
GA	Hammond	1	GA	Arkwright	1
GA	Hammond	2	GA	Arkwright	2
GA	Hammond	3	GA	Arkwright	3
GA	Hammond	4	GA	Arkwright	4
GA	Jack Mcdonough	MB2	GA	Mitchell	3
GA	Wansley	2	GA	Scherer	3
GA	Yates	Y2BR	GA	Kraft	1
GA	Yates	Y3BR	GA	Kraft	2
GA	Yates	Y4BR	GA	Kraft	3
GA	Yates	Y5BR	GA	McIntosh	1
IL	Baldwin	1	IL	Wood River	4
IL	Baldwin	2	WY	Jim Bridger	BW71, BW72, BW73
			WY	Wyodak	BW91
			UT	Gadsby	3

Table 1 Units			Substitution Units		
State	Plant Name	Unit	State	Plant Name	Units
IL	Baldwin	3	IL	Havana	1,2,3,4,5,6,7,8
			IL	Wood River	1
IL	Kincaid	1,2	IL	Collins	1,2,3
IL	Meredosia	5	IL	Meredosia	1,2,3,4,6
			IL	Hutsonville	5,6
			IL	Newton	1,2
			IL	Grand Tower	7,8
IL	Vermilion	2	IL	Vermilion	1
IN	Petersburg	1,2	IN	H T Pritchard	3,4,5
			IN	Petersburg	3, 4
KY	Coleman	C1, C2	KY	R D Green	G1, G2
MD	C P Crane	2	AL	Charles R Lowman	2,3
			MS	R D Morrow	1,2
MD	Chalk Point	1,2	MD	Chalk Point	4
MD	Morgantown	1,2	MD	Chalk Point	3
MI	J H Campbell	1,2	MI	Dan E Karn	1
			MI	J R Whiting	2,3
MN	High Bridge	6	MN	High Bridge	3,4,5
			MN	Sherburne County	1,2
MO	James River	5	MO	James River	3,4
			MO	Southwest	1
MO	Labadie	1,2,3,4	MO	Meramec	1,2,3,4
			MO	Rush Island	1,2
MO	Montrose	1,2,3	MO	Hawthorn	5
MO	Sioux	1,2	MO	Iatan	1
			KS	La Cygne	1,2
MO	Sibley	3	MO	Sibley	1,2
MO	Thomas Hill	MB1, MB2	MO	Thomas Hill	MB3

Appendix B: Table 1 Units Designating Substitution and Compensating Units - 1995

(Page 2)

Table 1 Units				Substitution Units		
State	Plant Name	Unit		State	Plant Name	Units
MS	Jack Watson	5	→	MS	Victor J Daniel	1,2
NH	Merrimack	1,2	→	NH	Newington	1
				MA	Mount Tom	1
NY	Dunkirk	3,4	→	NY	C R Huntley	63,64,65,66
				NY	Oswego	3,4,5,6
				NY	Roseton	1,2
NY	Northport	1,2,3	→	NY	Northport	4
NY	Port Jefferson	3,4				
OH	Ashtabula	7	→	OH	Acme	13,14,15,16,91,92
				OH	Lake Shore	18,91,92,93,94
				OH	Bay Shore	1,2,3,4
OH	Avon Lake	12	→	OH	Avon Lake	9,10
OH	Conesville	4	→	OH	J M Stuart	1,2,3,4
OH	Edgewater	13	→	OH	Edgewater	11,12
OH	Niles	1,2		OH	R E Burger	1,2,3,4
OH	R E Burger	5,6,7,8		OH	Gorge	25, 26
OH	W H Sammis	5,6,7		OH	Toronto	9,10,11
				PA	Bruce Mansfield	1,2
				PA	New Castle	1,2
OH	Miami Fort	7	→	KY	East Bend	2
OH	Picway	9	→	OH	Poston	1,2,3
PA	Armstrong	1	→	WV	Albright	1
PA	Armstrong	2	→	WV	Albright	2
PA	Hatfield's Ferry	1	→	WV	Pleasants	1
PA	Hatfield's Ferry	2	→	WV	Pleasants	2

Table 1 Units				Substitution Units		
State	Plant Name	Unit		State	Plant Name	Units
PA	Hatfield's Ferry	3	→	PA	Mitchell	33
WI	Edgewater	4	→	WI	Edgewater	3
				WI	J P Madgett	B1
WI	Genoa	1	→	WI	Alma	B4, B5
WI	Nelson Dewey	1,2	→	WI	Rock River	1,2
WI	Pulliam	8	→	WI	Pulliam	5,6,7
				WI	Weston	1,2,3
WI	South Oak Creek	5	→	WI	Port Washington	1,2,3,4,5
				WI	Valley	1,2,3,4
WV	Albright	3	→	MD	R P Smith	9
WV	Fort Martin	2	→	MD	R P Smith	11
WV	Harrison	1	→	WV	Rivesville	7,8
WV	Harrison	3	→	WV	Willow Island	1,2

Table 1 Units Designating Compensating Units

Table 1 Units				Compensating Units		
State	Plant Name	Unit		State	Plant Name	Units
OH	Edgewater	13	→	MA	Brayton Point	1,2,3,4
				MA	Salem Harbor	1,2,3

Appendix C: State Summary Data for 445 Phase I Units

STATE	1985	1990	1995	Number of Units	Reduction in Emissions (Tons) 1985-1995	% Change 1985-1995
ALABAMA	**326,698**	**251,071**	**149,995**	**14**	**(176,703)**	**-54.1%**
S & C Units	26,270	14,372	17,350	4	(8,920)	-34.0%
Table I	300,428	236,699	132,645	10	(167,783)	-55.8%
FLORIDA	**266,872**	**267,338**	**130,730**	**10**	**(136,142)**	**-51.0%**
S & C Units	40,580	40,858	22,178	5	(18,402)	-45.3%
Table I	226,292	226,480	108,552	5	(117,740)	-52.0%
GEORGIA	**962,484**	**842,158**	**397,590**	**33**	**(564,894)**	**-58.7%**
S & C Units	147,766	139,211	121,586	14	(26,180)	-17.7%
Table I	814,718	702,947	276,004	19	(538,714)	-66.1%
ILLINOIS	**852,766**	**755,227**	**432,219**	**42**	**(420,547)**	**-49.3%**
S & C Units	70,393	57,330	40,042	25	(30,351)	-43.1%
Table I	782,373	697,897	392,177	17	(390,196)	-49.9%
INDIANA	**1,331,643**	**1,259,190**	**681,308**	**42**	**(650,335)**	**-48.8%**
S & C Units	27,837	32,581	44,806	5	16,969	61.0%
Table I	1,304,436	1,226,609	636,502	37	(667,934)	-51.2%
IOWA	**75,183**	**60,303**	**27,389**	**6**	**(47,794)**	**-63.6%**
S & C Units	0	0	0	0	0	N/A
Table I	75,183	60,303	27,389	6	(47,794)	-63.6%
KANSAS	**39,636**	**41,458**	**29,049**	**3**	**(10,587)**	**-26.7%**
S & C Units	36,381	37,690	26,156	2	(10,225)	-28.1%
Table I	3,255	3,768	2,893	1	(362)	-11.1%
KENTUCKY	**506,398**	**492,541**	**334,721**	**20**	**(171,677)**	**-33.9%**
S & C Units	34,169	30,568	14,647	3	(19,522)	-57.1%
Table I	472,229	461,973	320,074	17	(152,155)	-32.2%
MARYLAND	**149,624**	**191,750**	**125,822**	**10**	**(23,802)**	**-15.9%**
S & C Units	15,129	14,849	6,018	4	(9,111)	-60.2%
Table I	134,495	176,901	119,804	6	(14,691)	-10.9%
MASSACHUSETTS	**106,227**	**116,699**	**72,770**	**8**	**(33,457)**	**-31.5%**
S & C Units	106,227	116,699	72,770	8	(33,457)	-31.5%
Table I	0	0	0	0	0	N/A
MICHIGAN	**81,991**	**41,962**	**29,501**	**5**	**(52,490)**	**-64.0%**
S & C Units	21,461	19,178	16,330	3	(5,131)	-23.9%
Table I	60,530	22,784	13,171	2	(47,359)	-78.2%
MINNESOTA	**30,132**	**11,624**	**12,503**	**6**	**(17,629)**	**-58.5%**
S & C Units	27,956	10,077	11,010	5	(16,946)	-60.6%
Table I	2,176	1,547	1,493	1	(683)	-31.4%
MISSISSIPPI	**100,116**	**115,805**	**81,238**	**6**	**(18,878)**	**-18.9%**
S & C Units	27,497	28,667	24,617	4	(2,880)	-10.5%
Table I	72,619	87,138	56,621	2	(15,998)	-22.0%
MISSOURI	**919,877**	**756,949**	**326,047**	**30**	**(593,830)**	**-64.6%**
S & C Units	147,204	124,023	98,522	14	(48,682)	-33.1%
Table I	772,673	632,926	227,525	16	(545,148)	-70.6%

Appendix C: State Summary Data for 445 Phase I Units

STATE	1985	1990	1995	Number of Units	Reduction in Emissions (Tons) 1985-1995	% Change 1985-1995
NEW HAMPSHIRE	**69,324**	**61,654**	**47,283**	**3**	**(22,041)**	**-31.8%**
S & C Units	15,086	21,479	11,155	1	(3,931)	-26.1%
Table I	54,238	40,175	36,128	2	(18,110)	-33.4%
NEW JERSEY	**34,122**	**31,517**	**21,720**	**2**	**(12,402)**	**-36.3%**
S & C Units	0	0	0	0	0	N/A
Table I	34,122	31,517	21,720	2	(12,402)	-36.3%
NEW YORK	**262,672**	**239,239**	**95,826**	**21**	**(166,846)**	**-63.5%**
S & C Units	88,611	109,506	25,340	11	(63,271)	-71.4%
Table I	174,061	129,733	70,486	10	(103,575)	-59.5%
OHIO	**2,036,181**	**2,077,277**	**910,992**	**78**	**(1,125,189)**	**-55.3%**
S & C Units	283,544	275,274	140,635	35	(142,909)	-50.4%
Table I	1,752,637	1,802,003	770,357	43	(982,280)	-56.0%
PENNSYLVANIA	**703,869**	**705,693**	**529,559**	**26**	**(174,310)**	**-24.8%**
S & C Units	27,777	30,156	13,755	5	(14,022)	-50.5%
Table I	676,092	675,537	515,804	21	(160,288)	-23.7%
TENNESSEE	**638,221**	**590,351**	**287,446**	**19**	**(350,775)**	**-55.0%**
S & C Units	0	0	0	0	0	N/A
Table I	638,221	590,351	287,446	19	(350,775)	-55.0%
UTAH	**1,664**	**0**	**2**	**1**	**(1,662)**	**-99.9%**
S & C Units	1,664	0	2	1	(1,662)	-99.9%
Table I	0	0	0	0	0	N/A
WEST VIRGINIA	**786,678**	**804,062**	**436,885**	**22**	**(349,793)**	**-44.5%**
S & C Units	62,244	62,929	63,914	8	1,670	2.7%
Table I	724,434	741,133	372,971	14	(351,463)	-48.5%
WISCONSIN	**315,676**	**207,154**	**107,080**	**34**	**(208,596)**	**-66.1%**
S & C Units	88,903	72,345	52,411	21	(36,492)	-41.0%
Table I	226,773	134,809	54,669	13	(172,104)	-75.9%
WYOMING	**80,744**	**34,269**	**30,754**	**4**	**(49,990)**	**-61.9%**
S & C Units	80,744	34,269	30,754	4	(49,990)	-61.9%
Table I	0	0	0	0	0	N/A
National Totals:	**10,678,798**	**9,955,291**	**5,298,429**	**445**	**(5,380,369)**	**-50.4%**
S & C Units	1,377,443	1,272,061	853,998	182	(523,445)	-38.0%
Table I	9,301,985	8,683,230	4,444,431	263	(4,857,554)	-52.2%

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
AL	CHARLES R LOWMAN	2	Substitution	6,790	6,531	4,443	6,226	5,859	4,443		1,416
		3	Substitution	5,118	5,750	4,586	5,281	5,160	4,586		574
AL	COLBERT	CSCO14(1,2,3,4)		88,822	54,589	37,507					
		1	Table I				13,213	13,213	8,234		4,979
		2	Table I				14,907	14,907	10,846		4,061
		3	Table I				14,995	14,995	9,218		5,777
		4	Table I				15,005	15,005	9,209		5,796
		5	Table I	52,318	21,511	39,400	36,202	47,282	39,400		7,882
AL	E C GASTON	CS0CAN(1,2)		44,082	47,495	15,532					
		1	Table I				17,624	17,624	8,017		9,607
		2	Table I				18,052	18,052	7,515		10,537
		CS0CBN(3,4)		46,854	43,156	17,036					
		3	Table I				17,828	17,828	9,785		8,043
		4	Table I				18,773	18,773	7,251		11,522
		5	Table I	68,352	69,948	23,170	58,265	39,220	23,170		16,050
AL	GADSDEN	1	Substitution	7,228	1,115	4,278	5,158	5,158	4,278		880
		2	Substitution	7,134	976	4,043	5,374	5,374	4,043		1,331
FL	BIG BEND	CS001(BB01,BB02)		110,001	89,200	71,421					
		BB01	Table I				27,662	38,662	35,710		2,952
		BB02	Table I				26,387	38,387	35,711		2,676
		CXX158(BB03,BB04)		38,680	65,923	19,711					
		BB03	Table I				26,036	17,716	15,769		1,947
		BB04	Substitution				6,400	6,400	3,942		2,458
FL	CRIST	4	Substitution	10,216	9,718	3,849	9,953	9,953	3,849		6,104
		5	Substitution	8,690	9,411	3,071	9,374	9,374	3,071		6,303
		6	Table I	27,469	29,138	9,678	18,695	18,695	9,678		9,017
		7	Table I	55,921	50,262	18,352	30,846	35,339	18,352		16,987
FL	SCHOLZ	1	Substitution	7,856	7,152	2,087	8,282	8,282	2,087		6,195
		2	Substitution	8,039	6,534	2,561	8,572	8,572	2,561		6,011
GA	ARKWRIGHT	CS001(1,2,3,4)		17,897	7,510	3,134					
		1	Substitution				2,437	2,437	784		1,653
		2	Substitution				2,240	2,240	783		1,457
		3	Substitution				3,944	3,944	783		3,161
		4	Substitution				3,159	3,159	784		2,375
GA	BOWEN	1BLR	Table I	71,428	48,793	32,617	54,838	36,834	32,617		4,217
		2BLR	Table I	63,727	58,068	39,641	53,329	45,325	39,641		5,684
		3BLR	Table I	82,488	71,224	42,137	69,862	52,358	42,137		10,221
		4BLR	Table I	87,659	77,321	46,258	69,852	52,348	46,258		6,090
GA	HAMMOND	CS001(1,2,3)		28,895	26,322	7,398					

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		1	Table I				8,549	8,549	2,466		6,083
		2	Table I				8,977	8,977	2,466		6,511
		3	Table I				8,676	8,676	2,466		6,210
		4	Table I	35,539	36,412	14,297	36,650	28,650	14,297		14,353
GA	HARLLEE BRANCH	CS001(1,2)		39,613	37,068	27,430					
		1	Substitution				19,221	19,221	13,715		5,506
		2	Substitution				22,735	22,735	13,715		9,020
		CS002(3,4)		61,609	62,749	54,029					
		3	Substitution				31,280	31,280	27,014		4,266
		4	Substitution				31,042	31,042	27,015		4,027
GA	JACK McDONOUGH	CS001(MB1,MB2)		66,487	56,077	19,586					
		MB1	Table I				19,386	21,078	9,793		11,285
		MB2	Table I				20,058	20,058	9,793		10,265
GA	KRAFT	CS001(1,2,3)		10,537	9,001	3,944					
		1	Substitution				2,265	2,265	1,051		1,214
		2	Substitution				2,137	2,137	954		1,183
		3	Substitution				4,121	3,121	1,939		1,182
GA	MCINTOSH	1	Substitution	6,491	7,037	6,611	7,146	8,293	6,611		1,682
GA	MITCHELL	3	Substitution	11,619	6,270	3,570	10,792	10,792	3,570		7,222
GA	SCHERER	3	Substitution	0	9,576	22,868	0	24,000	22,868		1,132
GA	WANSLEY	1	Table I	128,505	111,980	26,797	68,908	43,278	26,797		16,481
		2	Table I	120,146	111,984	27,004	63,708	44,412	27,004		17,408
GA	YATES	Y1BR	Table I	11,673	9,892	118	7,020	7,777	118		7,659
		CS001(Y2BR,Y3BR)		22,478	14,391	4,054					
		Y2BR	Table I				6,855	6,855	2,027		4,828
		Y3BR	Table I				6,767	6,767	2,027		4,740
		CS002(Y4BR,Y5BR)		29,512	21,059	3,879					
		Y4BR	Table I				8,676	8,676	1,939		6,737
		Y5BR	Table I				9,162	9,162	1,940		7,222
		Y6BR	Table I	42,207	29,570	6,535	24,108	20,253	6,535		13,718
		Y7BR	Table I	23,974	29,854	5,683	20,915	14,174	5,683		8,491
IL	BALDWIN	1	Table I	89,277	82,932	75,044	46,052	75,347	75,044		303
		2	Table I	78,477	92,830	104,172	48,695	104,207	104,172		35
		3	Table I	96,840	54,763	86,789	46,644	86,813	86,789		24
IL	COFFEEN	CS0001(01,02)		140,629	114,315	31,228					
		01	Table I				12,925	11,825	7,904		3,921
		02	Table I				39,102	23,603	23,324		279
IL	COLLINS	CS1230(1,2,3)		3,157	2,058	375					
		1	Substitution				1,263	1,307	125		1,182

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		2	Substitution				1,079	1,079	125		954
		3	Substitution				1,905	1,905	125		1,780
IL	GRAND TOWER	07	Substitution	1,032	1,314	1,043	1,068	1,068	1,043		25
		08	Substitution	1,047	1,362	1,017	1,015	1,065	1,017		48
		09	Table I	9,754	7,894	6,950	6,479	6,979	6,950		29
IL	HAVANA	CXX159(1,2,3,4,5,6,7,8)		168	373	0					
		1	Substitution				34	0	0		
		2	Substitution				43	0	0		
		3	Substitution				34	0	0		
		4	Substitution				34	0	0		
		5	Substitution				34	0	0		
		6	Substitution				34	0	0		
		7	Substitution				34	0	0		
		8	Substitution				34	0	0		
IL	HENNEPIN	2	Table I	39,436	27,499	27,560	20,182	27,682	27,560		122
IL	HUTSONVILLE	05	Substitution	9,193	8,019	4,455	9,661	5,161	4,455		706
		06	Substitution	11,543	5,757	3,355	9,837	3,837	3,355		482
IL	JOPPA STEAM	CS1(1,2)		34,939	38,105	8,090					
		1	Table I				12,259	12,259	4,045		8,214
		2	Table I				10,487	10,487	4,045		6,442
		CS2(3,4)		37,682	41,555	7,692					
		3	Table I				11,947	11,947	3,846		8,101
		4	Table I				11,061	11,061	3,846		7,215
		CS3(5,6)		35,763	42,543	12,166					
		5	Table I				11,119	11,119	6,083		5,036
		6	Table I				10,341	10,341	6,083		4,258
IL	KINCAID	CS0102(1,2)		173,961	166,399	11,170					
		1	Table I				34,564	34,564	5,585		28,979
		2	Table I				37,063	37,063	5,585		31,478
IL	MEREDOSIA	CS0001(01,02,03,04)		5,599	6,187	4,022					
		01	Substitution				1,245	1,245	1,035		210
		02	Substitution				1,355	1,355	979		376
		03	Substitution				1,173	1,173	939		234
		04	Substitution				1,078	1,078	1,069		9
		05	Table I	27,015	15,013	19,610	15,227	19,727	19,610		117
		06	Substitution	28	36	63	44	94	63		31
IL	NEWTON	1	Substitution	17,122	16,577	11,221	14,599	14,599	11,221		3,378
		2	Substitution	9,383	7,757	12,258	6,346	12,346	12,258		88
IL	VERMILION	CS3(1,2)		28,615	20,713	2,623					
		1	Substitution				12,972	972	899		73
		2	Table I				9,735	1,785	1,724		61

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
IL	WOOD RIVER	1	Substitution	0	2	0	0	0	0		
		4	Substitution	2,106	1,224	1,316	2,018	1,343	1,316		27
IN	BAILLY	CXX162(7,8)		39,186	67,022	6,245					
		7	Table I				12,256	23,260	3,122		20,138
		8	Table I				17,134	32,613	3,123		29,490
IN	BREED	1	Table I	70,365	32,895	0	20,280	14,807	0		14,807
IN	CAYUGA	1	Table I	56,848	64,250	44,666	36,581	51,743	44,666		7,077
		2	Table I	69,254	53,063	46,504	37,415	53,908	46,504		7,404
IN	CLIFTY CREEK	CS001(1,2,3)		136,454	133,175	47,634					
		1	Table I				19,620	19,620	15,878		3,742
		2	Table I				19,289	18,599	15,878		2,721
		3	Table I				19,873	18,550	15,878		2,672
		CS002(4,5,6)		132,408	142,719	43,870					
		4	Table I				19,552	19,008	14,624		4,384
		5	Table I				18,851	18,336	14,623		3,713
		6	Table I				19,844	19,844	14,623		5,221
IN	ELMER W STOUT	50	Table I	5,665	4,122	5,282	4,253	5,605	5,282		323
		60	Table I	7,743	3,419	6,151	5,229	6,432	6,151		281
		70	Table I	35,007	25,185	27,424	25,883	28,776	27,424		1,352
IN	F B CULLEY	CXX164(2,3)		54,817	43,950	2,549					
		2	Table I				4,703	4,703	2,549		2,154
		3	Table I				18,603	2,003	0		2,003
IN	FRANK E RATTS	1SG1	Table I	19,069	17,186	10,038	9,131	10,181	10,038		143
		2SG1	Table I	18,436	20,546	10,604	9,296	10,786	10,604		182
IN	GIBSON	CS0003(1,2)		149,331	133,241	99,980					
		1	Table I				44,288	64,288	51,711		12,577
		2	Table I				44,956	60,956	48,269		12,687
		3	Table I	67,787	66,127	60,912	45,033	73,033	60,912		12,121
		4	Table I	77,551	60,780	3,783	44,200	13,388	3,783		9,605
IN	H T PRITCHARD	CS592(3,4)		4,616	2,051	1,933					
		3	Substitution				586	798	677		121
		4	Substitution				1,305	1,392	1,256		136
		CS596(5,6)		10,881	10,686	5,932					
		5	Substitution				1,458	1,500	1,186		314
		6	Table I				6,325	5,000	4,746		254
IN	MICHIGAN CITY	12	Table I	45,434	46,770	12,261	25,553	41,564	12,261		29,303
IN	PETERSBURG	CXX161(1,2)		74,875	88,438	62,661					
		1	Table I				18,011	22,741	21,305		1,436
		2	Table I				35,496	42,980	41,356		1,624

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		3	Substitution	17,712	13,497	20,479	15,471	21,485	20,479		1,006
		4	Substitution	1,584	15,502	21,041	12,864	21,885	21,041		844
IN	R GALLAGHER	CS0001(1,2)		20,948	15,395	25,393					
		1	Table I				7,115	16,060	13,134		2,926
		2	Table I				7,980	14,932	12,259		2,673
		CS0002(3,4)		42,863	31,063	26,237					
		3	Table I				7,159	13,872	11,981		1,891
		4	Table I				8,386	17,859	14,256		3,603
IN	TANNERS CREEK	U4	Table I	59,646	72,283	29,318	27,209	68,236	29,318		38,918
IN	WABASH RIVER	1	Table I	6,713	6,757	197	4,385	1,429	197		1,232
		CXX163(2,3,5,6)		47,637	52,941	22,532					
		2	Table I				3,135	5,573	2,851		2,722
		3	Table I				4,111	9,611	3,214		6,397
		5	Table I				4,023	4,749	2,723		2,026
		6	Table I				13,462	24,434	13,744		10,690
IN	WARRICK	4	Table I	58,813	36,127	37,682	29,577	40,152	37,682		2,470
IA	BURLINGTON	1	Table I	23,093	18,448	9,020	10,428	10,133	9,020		1,113
IA	DES MOINES	11	Table I	2,490	0	0	2,259	1,123	0		1,123
IA	GEORGE NEAL NORT	1	Table I	1,048	1,755	3,812	2,571	5,107	3,812		1,295
IA	MILTON L KAPP	2	Table I	31,379	19,151	7,450	13,437	13,437	7,450		5,987
IA	PRAIRIE CREEK	4	Table I	12,466	12,497	5,279	7,965	7,671	5,279		2,392
IA	RIVERSIDE	9	Table I	4,707	8,452	1,828	3,885	3,885	1,828		2,057
KS	LA CYGNE	1	Substitution	23,402	18,822	3,872	23,489	8,123	3,872		4,251
		2	Substitution	12,979	18,868	22,284	12,682	24,412	22,284		2,128
KS	QUINDARO	2	Table I	3,255	3,768	2,893	4,109	4,109	2,893		1,216
KY	COLEMAN	C1	Table I	18,537	24,480	15,759	10,954	20,891	15,759		5,132
		C2	Table I	19,862	21,286	18,500	12,502	23,960	18,500		5,460
		C3	Table I	19,007	24,864	18,013	12,015	23,276	18,013		5,263
KY	COOPER	CS1(1,2)		23,475	18,616	18,389					
		1	Table I				7,254	7,254	6,068		1,186
		2	Table I				14,917	14,917	12,321		2,596
KY	E W BROWN	1	Table I	6,242	8,700	4,259	6,923	12,333	4,259		8,074
		CS003(2,3)		48,606	46,404	23,446					

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		2	Table I				10,623	21,503	8,559		12,944
		3	Table I				25,413	44,394	14,887		29,507
KY	EAST BEND	2	Substitution	22,283	19,550	11,378	17,447	16,342	11,378		4,964
KY	ELMER SMITH	CXX165(1,2)		36,931	50,416	7,855					
		1	Table I				6,348	3,000	2,357		643
		2	Table I				14,031	7,000	5,498		1,502
KY	GHENT	1	Table I	71,102	70,203	8,311	27,662	41,513	8,311		33,202
KY	GREEN RIVER	5	Table I	12,939	10,466	10,448	7,614	20,941	10,448		10,493
KY	H L SPURLOCK	1	Table I	29,745	26,553	15,297	22,181	23,202	15,297		7,905
KY	HMP&L STATION 2	CXX167(H1,H2)		44,871	43,690	21,232					
		H1	Table I				12,989	13,412	10,616		2,796
		H2	Table I				11,986	12,470	10,616		1,854
KY	PARADISE	3	Table I	106,835	115,186	155,612	57,613	193,648	155,612		38,036
KY	R D GREEN	G1	Substitution	5,163	5,471	1,580	5,041	5,041	1,580		3,461
		G2	Substitution	6,723	5,547	1,689	6,073	6,073	1,689		4,384
KY	SHAWNEE	10	Table I	34,077	1,109	2,953	9,902	9,902	2,953		6,949
MD	C P CRANE	1	Table I	9,722	13,878	6,138	10,058	26,379	6,138		20,241
		2	Table I	9,657	15,501	6,024	8,987	8,987	6,024	654	2,309
MD	CHALK POINT	CSE12(1,2)		47,740	62,232	41,087					
		1	Table I				21,333	24,243	20,543		3,700
		2	Table I				23,690	27,300	20,544		6,756
		3	Substitution	8,907	9,306	3,010	9,000	9,000	3,010		5,990
		4	Substitution	2,949	1,594	1,354	1,519	1,727	1,354		373
MD	MORGANTOWN	1	Table I	29,388	47,102	28,040	34,332	35,297	28,040		7,257
		2	Table I	37,988	38,188	38,515	37,467	48,532	38,515		10,017
MD	R P SMITH	9	Substitution	376	195	118	386	125	118		7
		11	Substitution	2,897	3,754	1,536	3,128	1,552	1,536		16
MA	BRAYTON POINT	1	Compensati	16,129	16,175	11,739	21,691	12,775	11,739	(f)	1,036
		2	Compensati	14,601	18,640	11,130	22,774	13,178	11,130	(f)	2,048
		3	Compensati	19,837	28,828	21,915	47,447	23,217	21,915	(f)	1,302
		4	Compensati	21,103	21,792	7,564	30,540	8,138	7,564	(f)	574
MA	MOUNT TOM	1	Substitution	9,805	10,972	8,223	12,556	10,708	8,223	(f)	2,485
MA	SALEM HARBOR	1	Compensati	6,623	5,672	3,206	9,056	5,295	3,206	(f)	2,089

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		2	Compensati	6,708	5,720	3,141	9,191	5,366	3,141	(f)	2,225
		3	Compensati	11,421	8,900	5,852	14,693	8,647	5,852	(f)	2,795
MI	DAN E KARN	1	Substitution	12,267	10,416	7,272	10,151	10,387	7,272		3,115
MI	J H CAMPBELL	CS0009(1,2)		60,530	22,784	13,171					
		1	Table I				18,773	11,610	10,103		1,507
		2	Table I				22,453	13,382	3,068		10,314
MI	J R WHITING	2	Substitution	4,555	4,195	4,251	4,304	4,928	4,251		677
		3	Substitution	4,639	4,567	4,807	5,498	6,209	4,807		1,402
MN	HIGH BRIDGE	CS0001(3,4,5,6)		7,582	2,952	3,040					
		3	Substitution				1,771	1,771	238		1,533
		4	Substitution				1,326	1,326	427		899
		5	Substitution				2,436	2,436	888		1,548
		6	Table I				4,158	4,143	1,487		2,656
MN	SHERBURNE COUNTY	CS1(1,2)		22,550	8,672	9,463					
		1	Substitution				10,420	10,420	4,608		5,812
		2	Substitution				10,493	10,493	4,855		5,638
MS	JACK WATSON	4	Table I	26,218	32,855	18,577	17,439	23,213	18,577		4,636
		5	Table I	46,401	54,283	38,044	35,734	45,596	38,044		7,552
MS	R D MORROW	1	Substitution	4,291	4,122	2,914	4,571	4,365	2,914	190	1,261
		2	Substitution	6,301	6,398	3,618	5,002	4,777	3,618		1,159
MS	VICTOR J DANIEL JR	1	Substitution	7,078	7,637	7,917	9,427	9,427	7,917		1,510
		2	Substitution	9,827	10,510	10,168	9,851	12,206	10,168		2,038
MO	ASBURY	1	Table I	68,769	24,938	8,112	15,764	15,118	8,112		7,006
MO	HAWTHORN	5	Substitution	23,369	6,318	5,634	25,734	6,057	5,634		423
MO	IATAN	1	Substitution	16,174	15,394	19,289	14,479	20,768	19,289		1,479
MO	JAMES RIVER	3	Substitution	2,528	3,368	744	3,802	3,802	744		3,058
		4	Substitution	5,124	3,629	966	6,828	6,828	966		5,862
		5	Table I	9,096	6,738	2,054	4,722	4,722	2,054		2,668
MO	LABADIE	1	Table I	72,811	75,182	23,321	39,055	33,855	23,321		10,534
		2	Table I	63,653	56,627	23,236	36,718	24,999	23,236		1,763
		3	Table I	67,587	68,624	38,025	39,249	39,999	38,025		1,974
		4	Table I	65,591	49,437	44,223	34,994	46,494	44,223		2,271
MO	MERAMEC	1	Substitution	1,821	4,127	1,852	1,816	1,966	1,852		114

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		2	Substitution	2,083	2,995	1,209	1,948	1,948	1,209		739
		3	Substitution	5,178	8,452	4,702	4,166	4,966	4,702		264
		4	Substitution	5,047	4,050	5,161	4,507	5,507	5,161		346
MO	MONTROSE	1	Table I	28,740	3,010	2,317	7,196	2,491	2,317		174
		CS023(2,3)		67,357	5,584	5,644					
		2	Table I				7,984	2,942	2,737		205
		3	Table I				9,824	3,125	2,907		218
MO	NEW MADRID	1	Table I	74,430	86,810	8,827	27,497	27,497	8,827		18,670
		2	Table I	77,895	82,207	7,926	31,625	9,925	7,926		1,999
MO	RUSH ISLAND	1	Substitution	26,663	22,563	21,412	26,935	26,935	21,412		5,523
		2	Substitution	32,389	24,958	22,209	30,146	30,146	22,209		7,937
MO	SIBLEY	CS0001(1,2,3)		35,662	46,502	12,214					
		1	Substitution				2,810	2,810	1,465		1,345
		2	Substitution				3,462	3,462	1,588		1,874
		3	Table I				15,170	15,170	9,161		6,009
MO	SIOUX	1	Table I	42,688	37,663	27,477	21,976	28,853	27,477		1,376
		2	Table I	14,504	46,959	20,379	23,067	23,067	20,379		2,688
MO	SOUTHWEST	1	Substitution	4,102	5,409	2,144	3,922	3,922	2,144		1,778
MO	THOMAS HILL	MB1	Table I	35,874	22,596	2,817	9,980	5,980	2,817		3,163
		MB2	Table I	56,866	27,005	3,749	18,880	6,880	3,749		3,131
		MB3	Substitution	13,876	15,804	10,404	14,011	14,011	10,404		3,607
NH	MERRIMACK	1	Table I	15,258	13,128	10,450	9,922	11,600	10,450		1,150
		2	Table I	38,980	27,047	25,678	21,421	27,321	25,678		1,643
NH	NEWINGTON	1	Substitution	15,086	21,479	11,155	25,744	20,127	11,155	(f)	8,972
NJ	B L ENGLAND	1	Table I	16,300	14,367	18,101	8,822	18,430	18,101		329
		2	Table I	17,822	17,150	3,619	11,412	3,712	3,619		93
NY	C R HUNTLEY	CS0002(63,64,65,66)		24,510	30,939	19,977					
		63	Substitution				5,460	5,460	4,995		465
		64	Substitution				5,803	5,803	4,994		809
		65	Substitution				5,969	5,969	4,994		975
		66	Substitution				5,916	5,916	4,994		922
NY	DUNKIRK	CS0003(3,4)		35,060	44,929	34,621					
		3	Table I				12,268	17,162	15,579		1,583
		4	Table I				13,690	19,690	19,042		648
NY	GREENRIDGE	6	Table I	11,548	12,448	9,824	7,342	10,342	9,824		518

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
NY	MILLIKEN	CXX173(1,2)		24,798	33,250	9,376					
		1	Table I				10,876	10,876	7,009		3,867
		2	Table I				12,083	5,886	2,367		3,519
NY	NORTHPORT	1	Table I	27,360	9,555	4,114	19,289	9,824	4,114	73	5,637
		2	Table I	26,583	9,749	2,228	23,476	5,676	2,228	33	3,415
		3	Table I	25,915	9,896	4,047	25,783	10,483	4,047	30	6,406
		4	Substitution	4,743	6,293	538	5,516	5,516	538		4,978
NY	OSWEGO	3	Substitution	15	2	0	86	86	0		86
		4	Substitution	179	1,097	0	379	379	0		379
		5	Substitution	9,890	20,780	0	14,898	4,898	0		4,898
		6	Substitution	4,695	8,541	837	4,578	4,578	837		3,741
NY	PORT JEFFERSON	3	Table I	10,602	5,387	3,640	10,194	7,734	3,640	35	4,059
		4	Table I	12,195	4,519	2,636	12,006	8,494	2,636	4	5,854
NY	ROSETON	1	Substitution	21,568	21,251	1,607	19,147	19,147	1,607	1,748	15,792
		2	Substitution	23,011	20,603	2,381	16,872	16,872	2,381	1,313	13,178
OH	ACME	13	Substitution	22	0	0	9	9	0		9
		14	Substitution	31	1	0	13	13	0		13
		15	Substitution	43	3	0	17	17	0		17
		16	Substitution	1,991	676	0	1,930	1,930	0		1,930
		91	Substitution	894	550	0	740	740	0		740
		92	Substitution	880	452	0	662	662	0		662
OH	ASHTABULA	7	Table I	37,621	36,310	18,183	18,351	20,351	18,183		2,168
OH	AVON LAKE	9	Substitution	10,190	9,480	2,594	9,849	4,849	2,594		2,255
		10	Substitution	8,861	9,390	3,309	8,648	5,648	3,309		2,339
		11	Table I	16,952	0	0	12,771	0	0		
		12	Table I	41,322	69,097	21,921	33,413	26,413	21,921		4,492
OH	BAY SHORE	CS5(1,2,3,4)		32,476	29,092	25,051					
		1	Substitution				7,546	6,546	5,413		1,133
		2	Substitution				7,311	6,311	5,243		1,068
		3	Substitution				7,585	6,589	5,444		1,145
		4	Substitution				12,481	11,481	8,951		2,530
OH	CARDINAL/TIDD	1	Table I	69,012	60,630	83,160	37,568	87,269	83,160		4,109
		2	Table I	71,532	86,993	22,146	42,008	43,525	22,146		21,379
OH	CONESVILLE	CS012(1,2)		13,476	17,206	19,753					
		1	Table I				4,615	7,672	6,210		1,462
		2	Table I				5,360	14,221	13,543		678
		3	Table I	9,646	7,618	8,125	6,029	8,531	8,125		406
		4	Table I	98,256	78,374	62,940	53,463	84,185	62,940		21,245

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
OH	EASTLAKE	1	Table I	16,550	15,468	8,635	8,551	9,551	8,635		916
		2	Table I	17,267	13,212	13,025	9,471	14,471	13,025		1,446
		3	Table I	19,545	18,486	14,451	10,984	15,984	14,451		1,533
		4	Table I	24,997	25,819	23,405	15,906	26,058	23,405		2,653
		5	Table I	79,918	71,595	57,855	37,349	63,349	57,855		5,494
OH	EDGEWATER	11	Substitution	1,137	798	0	1,062	1,062	0		1,062
		12	Substitution	1,232	821	0	1,145	1,145	0		1,145
		13	Table I	6,149	7,393	10	5,536	2,179	10		2,169
OH	GEN J M GAVIN	1	Table I	177,338	166,068	11,945	86,690	12,542	11,945		597
		2	Table I	185,911	208,852	11,533	88,312	37,921	11,533		26,388
OH	GORGE	25	Substitution	3,118	2,481	0	2,553	2,553	0		2,553
		26	Substitution	3,166	2,246	0	2,860	2,860	0		2,860
OH	J M STUART	1	Substitution	39,468	44,105	22,861	41,189	41,089	22,861		18,228
		2	Substitution	38,324	42,950	31,903	39,041	39,041	31,903		7,138
		3	Substitution	38,795	45,688	25,034	38,712	38,712	25,034		13,678
		4	Substitution	43,098	47,859	27,841	40,925	40,925	27,841		13,084
OH	KYGER CREEK	CS001(1,2,3,4,5)		222,543	249,418	92,806					
		1	Table I				18,773	18,773	18,562		211
		2	Table I				18,072	18,762	18,561		201
		3	Table I				17,439	18,762	18,561		201
		4	Table I				18,218	18,762	18,561		201
		5	Table I				18,247	18,762	18,561		201
OH	LAKE SHORE	18	Substitution	5,108	4,149	0	4,767	4,767	0		4,767
		91	Substitution	79	113	0	44	44	0		44
		92	Substitution	79	176	0	80	80	0		80
		93	Substitution	79	61	0	62	62	0		62
		94	Substitution	158	121	0	102	102	0		102
OH	MIAMI FORT	CS056(5-1,5-2,6)		21,373	23,001	4,193					
		5-1	Table I				417	417	132		285
		5-2	Table I				417	417	131		286
		6	Table I				12,475	12,475	3,930		8,545
		7	Table I	62,456	64,029	21,301	42,216	31,627	21,301		10,326
OH	MUSKINGUM RIVER	CS014(1,2,3,4)		154,528	144,597	102,908					
		1	Table I				16,312	32,564	19,237		13,327
		2	Table I				15,533	32,131	25,129		7,002
		3	Table I				15,293	33,995	26,612		7,383
		4	Table I				12,914	33,527	31,930		1,597
		5	Table I	98,907	96,272	14,648	44,364	44,364	14,648		29,716
OH	NILES	1	Table I	14,054	16,082	13,080	7,608	15,060	13,080		1,980
		2	Table I	16,264	13,999	12,340	9,975	13,943	12,340		1,603
OH	PICWAY	9	Table I	13,671	15,207	4,722	5,404	15,082	4,722		10,360

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
OH	POSTON	1	Substitution	4,548	0	0	3,797	3,797	0		3,797
		2	Substitution	4,202	0	0	3,542	3,542	0		3,542
		3	Substitution	5,302	0	0	4,642	4,642	0		4,642
OH	R E BURGER	CS0001(1,2,3,4,5,6,7,8)		74,329	74,408	41,658					
		1	Substitution				2,820	2,820	784		2,036
		2	Substitution				2,751	2,751	671		2,080
		3	Substitution				2,891	2,891	571		2,320
		4	Substitution				2,956	2,956	541		2,415
		5	Table I				3,371	3,371	1,169		2,202
		6	Table I				3,371	3,371	1,244		2,127
		7	Table I				11,818	24,594	14,063		10,531
		8	Table I				13,626	27,406	22,615		4,791
OH	TORONTO	9	Substitution	5,575	4,642	0	5,325	2,325	0		2,325
		10	Substitution	10,255	8,567	0	9,505	9,505	0		9,505
		11	Substitution	10,998	9,042	0	10,274	10,274	0		10,274
OH	W H SAMMIS	5	Table I	34,632	27,869	12,627	26,496	26,496	12,627		13,869
		6	Table I	61,391	55,151	27,041	43,773	43,773	27,041		16,732
		7	Table I	54,557	57,748	22,162	47,380	40,380	22,162		18,218
OH	WALTER C BECKJORD	5	Table I	12,735	40,071	8,347	9,811	12,872	8,347		4,525
		6	Table I	39,140	52,841	17,479	25,235	26,047	17,479		8,568
PA	ARMSTRONG	1	Table I	16,434	16,961	4,711	14,031	5,945	4,711		1,234
		2	Table I	15,423	14,780	17,196	15,024	19,885	17,196		2,689
PA	BRUCE MANSFIELD	1	Substitution	11,071	11,305	7,388	10,510	10,510	7,388		3,122
		2	Substitution	11,503	14,105	5,532	11,537	11,537	5,532		6,005
PA	BRUNNER ISLAND	CS102(1,2)		66,181	71,362	41,061					
		1	Table I				27,030	27,030	20,530		6,500
		2	Table I				30,282	30,282	20,531		9,751
		3	Table I	58,775	56,798	56,335	52,404	67,048	56,335		10,713
PA	CHESWICK	1	Table I	41,927	41,279	42,900	38,139	47,580	42,900		4,680
PA	CONEMAUGH	1	Table I	92,088	79,232	4,729	58,217	5,817	4,729		1,088
		2	Table I	89,804	100,056	73,364	64,701	92,486	73,364		19,122
PA	HATFIELD'S FERRY	CXX176(1,2,3)		161,081	163,432	164,841					
		1	Table I				36,835	74,995	67,572		7,423
		2	Table I				36,338	54,019	48,043		5,976
		3	Table I				39,210	55,911	49,226		6,685
PA	MARTINS CREEK	CS102(1,2)		28,758	25,637	10,762					
		1	Table I				12,327	12,327	5,381		6,946
		2	Table I				12,483	12,483	5,381		7,102

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
PA	MITCHELL	33	Substitution	2,344	1,600	835	1,101	944	835		109
PA	NEW CASTLE	1	Substitution	1,415	1,595	0	1,367	3,378	0		3,378
		2	Substitution	1,444	1,551	0	1,520	1,520	0		1,520
PA	PORTLAND	1	Table I	6,436	9,798	11,088	5,784	28,098	11,088		17,010
		2	Table I	10,892	15,627	11,055	9,961	13,461	11,055		2,406
PA	SHAWVILLE	1	Table I	13,485	11,631	14,265	10,048	14,981	14,265		716
		2	Table I	14,310	11,894	10,837	10,048	11,387	10,837		550
		CS1(3,4)		36,375	33,724	33,302					
		3	Table I				13,846	18,034	16,651		1,383
		4	Table I				13,700	16,940	16,651		289
PA	SUNBURY	3	Table I	10,046	10,898	9,847	8,530	12,644	9,847		2,797
		4	Table I	14,077	12,428	9,511	11,149	11,149	9,511		1,638
TN	ALLEN	1	Table I	21,866	27,967	13,144	14,917	20,773	13,144		7,629
		2	Table I	25,986	19,623	16,512	16,329	24,767	16,512		8,255
		3	Table I	19,696	11,728	18,618	15,258	27,924	18,618		9,306
TN	CUMBERLAND	1	Table I	148,104	187,582	12,445	84,419	51,650	12,445		39,205
		2	Table I	196,049	115,767	13,685	92,344	55,742	13,685		42,057
TN	GALLATIN	CSGA12(1,2)		59,256	71,196	47,243					
		1	Table I				17,400	30,698	24,174		6,524
		2	Table I				16,855	30,155	23,069		7,086
		CSGA34(3,4)		71,140	69,801	51,122					
		3	Table I				19,493	34,469	26,797		7,672
		4	Table I				20,701	32,529	24,325		8,204
TN	JOHNSONVILLE	CSJO10(1,2,3,4,5,6,7,8,9,10)		96,124	86,687	114,677					
		1	Table I				7,585	14,387	9,722		4,665
		2	Table I				7,828	20,102	9,277		10,825
		3	Table I				8,189	14,118	8,543		5,575
		4	Table I				7,780	12,484	9,853		2,631
		5	Table I				8,023	15,048	12,234		2,814
		6	Table I				7,682	18,037	10,584		7,453
		7	Table I				8,744	16,875	15,784		1,091
		8	Table I				8,471	23,469	12,397		11,072
		9	Table I				6,894	17,094	13,292		3,802
		10	Table I				7,351	20,401	12,991		7,410
UT	GADSBY	3	Substitution	1,664	0	2	766	8	2		6
WV	ALBRIGHT	1	Substitution	5,803	4,569	2,386	4,831	2,630	2,386		244
		2	Substitution	5,978	4,566	2,358	5,024	2,590	2,358		232

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		3	Table I	11,938	9,779	11,444	11,684	13,315	11,444		1,871
WV	FORT MARTIN	1	Table I	44,309	36,064	26,803	40,496	32,051	26,803		5,248
		2	Table I	44,824	47,470	43,171	40,116	49,157	43,171		5,986
WV	HARRISON	CXX178(1,2,3)		234,693	289,733	9,944					
		1	Table I				47,341	2,986	2,824		162
		2	Table I				44,936	4,642	4,373		269
		3	Table I				40,408	3,063	2,747		316
WV	KAMMER	CS013(1,2,3)		157,034	155,373	122,193					
		1	Table I				18,247	54,628	36,381		18,247
		2	Table I				18,948	59,140	42,140		17,000
		3	Table I				16,932	45,856	43,672		2,184
WV	MITCHELL	CS012(1,2)		103,326	60,875	61,623					
		1	Table I				42,823	57,413	26,595		30,818
		2	Table I				44,312	44,312	35,028		9,284
WV	MT STORM	CS0(1,2)		84,404	96,386	95,244					
		1	Table I				42,570	62,543	47,622		14,921
		2	Table I				34,644	65,000	47,622		17,378
		3	Table I	43,906	45,453	2,549	41,314	20,435	2,549		17,886
WV	PLEASANTS	1	Substitution	15,065	19,605	23,614	16,762	26,315	23,614		2,701
		2	Substitution	20,996	22,461	23,704	19,230	26,020	23,704		2,316
WV	RIVESVILLE	7	Substitution	1,331	900	488	1,009	647	488		159
		8	Substitution	2,624	2,471	1,357	3,059	1,530	1,357		173
WV	WILLOW ISLAND	1	Substitution	2,007	1,921	2,099	1,855	2,359	2,099		260
		2	Substitution	8,440	6,436	7,908	7,765	8,692	7,908		784
WI	ALMA	CS1(B4,B5)		11,326	5,308	2,764					
		B4	Substitution				7,312	5,105	1,382	(f)	3,723
		B5	Substitution				8,845	8,155	1,382	(f)	6,773
WI	EDGEWATER	3	Substitution	3,098	6,385	1,166	4,493	4,493	1,166		3,327
		4	Table I	39,722	33,528	6,482	24,099	14,344	6,482		7,862
WI	GENOA	1	Table I	35,035	29,286	15,304	22,103	18,598	15,304		3,294
WI	J P MADGETT	B1	Substitution	6,092	7,292	5,746	6,862	6,862	5,746		1,116
WI	NELSON DEWEY	CS1(1,2)		25,562	5,798	4,127					
		1	Table I				5,852	3,352	1,940		1,412
		2	Table I				6,504	4,004	2,187		1,817
WI	NORTH OAK CREEK	1	Table I	6,810	0	0	5,083	0	0		
		2	Table I	7,916	0	0	5,005	0	0		

Appendix D: Emissions and Allowance Holdings of Phase I Units

State	Plant Name	Stack/Unit ID	Unit Type (a)	SO2 (b) Emissions 1985	SO2 (b) Emissions 1990	SO2 (b) Emissions 1995	1995 Allowances Allocated (c)	Held in Unit Accounts as of 1/30/96	Allowances Deducted for Emissions (d)	Allowances Deducted Under Special Phase I Provisions (e)	1995 Allowances Carried Over to 1996
		3	Table I	7,184	0	0	5,229	0	0		
		4	Table I	9,323	0	0	6,154	0	0		
WI	PORT WASHINGTON	CS7(1,2,3)		11,324	3,043	8,856					
		1	Substitution				1,968	1,536	1,394		142
		2	Substitution				3,782	3,924	3,570		354
		3	Substitution				3,108	4,282	3,892		390
		4	Substitution	4,040	965	2,242	2,745	2,466	2,242		224
		5	Substitution	189	0	0	3,412	0	0		
WI	PULLIAM	CS56(5,6)		3,680	5,624	1,152					
		5	Substitution				2,097	530	438		92
		6	Substitution				2,844	860	714		146
		7	Substitution	6,836	7,762	1,466	7,317	1,800	1,466		334
		8	Table I	10,446	11,151	2,087	7,312	2,500	2,087		413
WI	ROCK RIVER	1	Substitution	5,904	4,374	1,637	5,398	5,398	1,637		3,761
		2	Substitution	7,474	2,778	1,434	4,034	4,034	1,434		2,600
WI	SOUTH OAK CREEK	CS3(5,6)		34,334	19,412	11,006					
		5	Table I				9,416	5,588	5,080		508
		6	Table I				11,723	6,519	5,926		593
		CS4(7,8)		50,441	35,634	15,663					
		7	Table I				15,754	10,272	9,332		940
		8	Table I				15,375	6,958	6,331		627
WI	VALLEY	CS1(1,2)		8,295	7,664	8,518					
		1	Substitution				3,675	4,685	4,259		426
		2	Substitution				3,713	4,685	4,259		426
		CS2(3,4)		7,863	6,862	7,047					
		3	Substitution				3,404	3,953	3,594		359
		4	Substitution				3,311	3,799	3,453		346
WI	WESTON	1	Substitution	2,114	2,035	969	1,579	1,200	969		231
		2	Substitution	4,580	4,551	1,936	3,580	2,300	1,936		364
		3	Substitution	6,088	7,702	7,478	6,555	9,000	7,478		1,522
WY	JIM BRIDGER	BW71	Substitution	21,253	15,282	7,919	12,775	8,754	7,919		835
		BW72	Substitution	20,458	5,559	6,760	12,212	7,595	6,760		835
		BW73	Substitution	19,325	5,889	7,794	11,988	8,629	7,794		835
WY	WYODAK	BW91	Substitution	19,708	7,539	8,281	11,958	8,752	8,281		471
	Totals			10,678,798	9,955,291	5,298,429	6,936,618	7,482,355	5,298,429	4,080	2,179,846

Appendix D: Emissions and Allowance Holdings of Phase I Units - Notes

(a) Identifies affected unit as listed in Table 1, as a substitution unit or as a compensating unit.
(b) 1985 and 1990 emissions were estimated by emissions factors. 1995 emissions appear as reported by CEMS.
(c) This column represents the allowances granted to units based on their historic utilization, emission rates specified in the Clean Air Act and other provisions.
(d) This column equals the 1995 emissions for units that are not connected to a common stack. For units sharing a common stack, an apportionment was made either by the unit or by EPA to divide up the stack's emissions among the units sharing the stack.
(e) This column equals the sum of allowance deductions made for underutilization and control-by-contract units.
(f) As discussed under the state cap provisions, these units were allocated allowances to their 1995 accounts to cover 1995 deductions and an equivalent number of allowances have been deducted from future year accounts. These amounts are not included in this table, but are listed by unit as follows:

State	Plant Name	Unit ID	Number of Allowances
MA	Brayton Point	1	6,606
MA	Brayton Point	2	6,936
MA	Brayton Point	3	14,470
MA	Brayton Point	4	9,302
MA	Mount Tom	1	1,848
MA	Salem Harbor	1	2,501
MA	Salem Harbor	2	2,495
MA	Salem Harbor	3	3,966
NH	Newington	1	5,617
WI	Alma	B4	2,207
WI	Alma	B5	690

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
AL	CHARLES R LOWMAN	2	Substitution	-34.6%	12,638,639	18,517,705	46.5%	
		3	Substitution	-10.4%	11,408,599	15,804,365	38.5%	
AL	COLBERT	CSCO14(1,2,3,4)		-57.8%				
		1	Table I		10,858,504	11,218,752	3.3%	
		2	Table I		12,246,491	14,777,014	20.7%	
		3	Table I		12,322,029	12,558,560	1.9%	
		4	Table I		12,331,389	12,545,848	1.7%	
		5	Table I	-24.7%	29,743,540	24,231,736	-18.5%	PH1
AL	E C GASTON	CS0CAN(1,2)		-64.8%				
		1	Table I		14,478,587	13,211,865	-8.7%	SF
		2	Table I		14,832,588	12,384,326	-16.5%	SF, IUE
		CS0CBN(3,4)		-63.6%				
		3	Table I		14,647,557	15,654,771	6.9%	
		4	Table I		15,423,298	11,600,402	-24.8%	SF, IUE
		5	Table I	-66.1%	47,874,093	36,743,938	-23.2%	SF, IUE
AL	GADSDEN	1	Substitution	-40.8%	3,729,147 (d)	3,096,772	-17.0%	SF
		2	Substitution	-43.3%	3,855,547	2,922,701	-24.2%	SF
FL	BIG BEND	CS001(BB01,BB02)		-35.1%				
		BB01	Table I		22,556,547	31,440,408	39.4%	
		BB02	Table I		22,515,697	31,053,170	37.9%	
		CXX158(BB03,BB04)		-49.0%				
		BB03	Table I		20,869,469	27,394,634	31.3%	
		BB04	Substitution		25,098,088 (d)	31,933,590	27.2%	
FL	CRIST	4	Substitution	-62.3%	4,460,224	5,460,857	22.4%	
		5	Substitution	-64.7%	4,395,842	3,045,556	-30.7%	SF, PH1
		6	Table I	-64.8%	15,362,937	13,987,547	-9.0%	SF
		7	Table I	-67.2%	22,528,658	26,191,935	16.3%	
FL	SCHOLZ	1	Substitution	-73.4%	3,691,249	939,799	-74.5%	SF, PH1
		2	Substitution	-68.1%	3,826,391	1,185,473	-69.0%	SF, PH1
GA	ARKWRIGHT	CS001(1,2,3,4)		-82.5%				

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		1	Substitution		2,453,329	598,922	-75.6%	SF
		2	Substitution		2,573,689	502,753	-80.5%	SF
		3	Substitution		2,931,462	731,829	-75.0%	SF
		4	Substitution		2,387,839	528,757	-77.9%	SF
GA	BOWEN	1BLR	Table I	-54.3%	43,813,560	40,189,922	-8.3%	SF
		2BLR	Table I	-37.8%	45,059,610	48,181,454	6.9%	
		3BLR	Table I	-48.9%	57,403,345	52,104,185	-9.2%	SF
		4BLR	Table I	-47.2%	57,390,393	57,205,135	-0.3%	SF
GA	HAMMOND	CS001(1,2,3)		-74.4%				
		1	Table I		7,025,262	4,615,977	-34.3%	SF, IUE
		2	Table I		7,373,479	2,407,951	-67.3%	SF
		3	Table I		7,128,888	2,687,402	-62.3%	SF
		4	Table I	-59.8%	30,112,958	18,893,171	-37.3%	SF
GA	HARLLEE BRANCH	CS001(1,2)		-30.8%				
		1	Substitution		18,775,003	13,369,418	-28.8%	SF
		2	Substitution		22,207,693	16,458,597	-25.9%	SF, IUE
		CS002(3,4)		-12.3%				
		3	Substitution		30,554,284	29,080,722	-4.8%	SF
		4	Substitution		30,321,694	31,152,770	2.7%	
GA	JACK MCDONOUGH	CS001(MB1,MB2)		-70.5%				
		MB1	Table I		15,927,350	13,691,408	-14.0%	SF
		MB2	Table I		16,482,662	16,567,755	0.5%	
GA	KRAFT	CS001(1,2,3)		-62.6%				
		1	Substitution		2,912,683	1,073,163	-63.2%	SF, PH1
		2	Substitution		2,787,111	974,178	-65.0%	SF, PH1
		3	Substitution		5,642,512	1,981,050	-64.9%	SF, PH1
GA	MCINTOSH	1	Substitution	1.8%	10,579,684	6,058,266	-42.7%	SF, PH1
GA	MITCHELL	3	Substitution	-69.3%	10,403,018	3,821,605	-63.3%	SF
GA	SCHERER	3	Substitution		14,209,142 (d)	60,539,454	326.1%	
GA	WANSLEY	1	Table I	-79.1%	56,615,799	39,368,026	-30.5%	SF, IUE

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		2	Table I	-77.5%	52,340,528	40,298,273	-23.0%	SF, IUE
GA	YATES	Y1BR	Table I	-99.0%	5,765,788	3,253,721	-43.6%	SF
		CS001(Y2BR,Y3BR)		-82.0%				
		Y2BR	Table I		5,631,235	2,701,265	-52.0%	SF
		Y3BR	Table I		5,561,276	2,129,655	-61.7%	SF
		CS002(Y4BR,Y5BR)		-86.9%				
		Y4BR	Table I		7,129,643	2,143,461	-69.9%	SF
		Y5BR	Table I		7,524,796	2,640,857	-64.9%	SF
		Y6BR	Table I	-84.5%	19,809,154	9,589,905	-51.6%	SF
		Y7BR	Table I	-76.3%	19,484,602 (d)	8,868,859	-54.5%	SF
IL	BALDWIN	1	Table I	-15.9%	33,607,644	28,381,136	-15.6%	SF
		2	Table I	32.7%	35,532,559	39,231,680	10.4%	
		3	Table I	-10.4%	34,041,875	32,553,530	-4.4%	SF
IL	COFFEEN	CS0001(01,02)		-77.8%				
		01	Table I		9,433,951	9,910,849	5.1%	
		02	Table I		28,532,475	28,368,686	-0.6%	PH1
IL	COLLINS	CS1230(1,2,3)		-88.1%				
		1	Substitution		3,439,161	12,406,868	260.8%	
		2	Substitution		2,939,355	9,562,665	225.3%	
		3	Substitution		5,187,348	8,382,516	61.6%	
IL	GRAND TOWER	07	Substitution	1.1%	471,861	445,074	-5.7%	PH1
		08	Substitution	-2.9%	448,425	447,459	-0.2%	PH1
		09	Table I	-28.7%	4,724,734	3,000,220	-36.5%	PH1
IL	HAVANA	CXX159(1,2,3,4,5,6,7,8)		-100.0%				
		1	Substitution		80,100	0	-100.0%	SF
		2	Substitution		100,085 (d)	0	-100.0%	SF
		3	Substitution		80,100	0	-100.0%	SF
		4	Substitution		80,100	0	-100.0%	SF
		5	Substitution		80,100	0	-100.0%	SF
		6	Substitution		80,100	0	-100.0%	SF
		7	Substitution		80,100	0	-100.0%	SF
		8	Substitution		80,100	0	-100.0%	SF

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
IL	HENNEPIN	2	Table I	-30.1%	14,728,915	11,110,630	-24.6%	SF
IL	HUTSONVILLE	05	Substitution	-51.5%	4,234,116	2,158,806	-49.0%	PH1
		06	Substitution	-70.9%	4,384,682	1,609,690	-63.3%	PH1
IL	JOPPA STEAM	CS1(1,2)		-76.8%				
		1	Table I		10,069,844	14,837,967	47.4%	
		2	Table I		8,613,561	15,478,622	79.7%	
		CS2(3,4)		-79.6%				
		3	Table I		9,814,095	14,490,731	47.7%	
		4	Table I		9,090,001	14,707,065	61.8%	
		CS3(5,6)		-66.0%				
		5	Table I		9,132,382	13,848,945	51.6%	
		6	Table I		8,493,430	16,605,286	95.5%	
IL	KINCAID	CS0102(1,2)		-93.6%				
		1	Table I		25,223,820	10,956,972	-56.6%	SF
		2	Table I		27,793,383 (d)	17,559,881	-36.8%	SF
IL	MEREDOSIA	CS0001(01,02,03,04)		-28.2%				
		01	Substitution		567,656	474,083	-16.5%	PH1
		02	Substitution		610,982	457,564	-25.1%	PH1
		03	Substitution		532,516	425,038	-20.2%	PH1
		04	Substitution		485,124	511,152	5.4%	
		05	Table I	-27.4%	11,113,830	10,666,246	-4.0%	PH1
		06	Substitution	125.0%	139,866	219,206	56.7%	
IL	NEWTON	1	Substitution	-34.5%	26,664,336	36,812,602	38.1%	
		2	Substitution	30.6%	13,959,133	27,313,916	95.7%	
IL	VERMILION	CS3(1,2)		-90.8%				
		1	Substitution		5,398,717	977,411	-81.9%	SF
		2	Table I		7,106,446	1,817,754	-74.4%	SF
IL	WOOD RIVER	1	Substitution	0.0%	120,651 (d)	0	-100.0%	PH1
		4	Substitution	-37.5%	3,348,591	2,290,999	-31.6%	PH1

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
IN	BAILLY	CXX162(7,8)		-84.1%				
		7	Table I		8,925,417	12,771,576	43.1%	
		8	Table I		12,746,042 (d)	21,796,237	71.0%	
IN	BREED	1	Table I	-100.0%	14,796,195	0	-100.0%	PH1
IN	CAYUGA	1	Table I	-21.4%	26,695,990	30,209,082	13.2%	
		2	Table I	-32.9%	27,300,097	33,199,670	21.6%	
IN	CLIFTY CREEK	CS001(1,2,3)		-65.1%				
		1	Table I		16,122,191	16,650,268	3.3%	
		2	Table I		15,851,580	16,005,819	1.0%	
		3	Table I		16,328,991	15,832,010	-3.0%	PH1
		CS002(4,5,6)		-66.9%				
		4	Table I		16,063,212	15,290,483	-4.8%	PH1
		5	Table I		15,487,031	16,748,991	8.1%	
		6	Table I		16,301,256	15,945,886	-2.2%	PH1
IN	ELMER W STOUT	50	Table I	-6.8%	3,107,209	4,089,451	31.6%	
		60	Table I	-20.6%	3,818,078	4,830,084	26.5%	
		70	Table I	-21.7%	18,885,930	21,935,232	16.1%	
IN	F B CULLEY	CXX164(2,3)		-95.3%				
		2	Table I		3,263,023 (d)	5,447,464	66.9%	
		3	Table I		13,576,425	19,155,053	41.1%	
IN	FRANK E RATTS	1SG1	Table I	-47.4%	6,666,560	8,434,296	26.5%	
		2SG1	Table I	-42.5%	6,787,542	9,072,148	33.7%	
IN	GIBSON	CS0003(1,2)		-33.0%				
		1	Table I		32,316,745	45,987,068	42.3%	
		2	Table I		32,804,885	42,943,632	30.9%	
		3	Table I	-10.1%	32,861,248	44,354,520	35.0%	
		4	Table I	-95.1%	32,258,311	35,663,082	10.6%	
IN	H T PRITCHARD	CS592(3,4)		-58.1%				
		3	Substitution		456,419	669,187	46.6%	
		4	Substitution		1,015,254	1,057,438	4.2%	
		CS596(5,6)		-45.5%				

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		5	Substitution		1,134,454	1,310,910	15.6%	
		6	Table I		4,614,221	4,434,954	-3.9%	PH1
IN	MICHIGAN CITY	12	Table I	-73.0%	18,648,642	28,031,314	50.3%	
IN	PETERSBURG	CXX161(1,2)		-16.3%				
		1	Table I		13,147,692	13,400,952	1.9%	
		2	Table I		25,906,160	27,389,587	5.7%	
		3	Substitution	15.6%	28,031,400	37,055,680	32.2%	
		4	Substitution	1228.3%	25,639,170 (d)	38,725,744	51.0%	
IN	R GALLAGHER	CS0001(1,2)		21.2%				
		1	Table I		5,395,895 (d)	8,580,819	59.0%	
		2	Table I		5,823,005	8,017,569	37.7%	
		CS0002(3,4)		-38.8%				
		3	Table I		5,223,929	8,244,314	57.8%	
		4	Table I		5,441,145	10,139,139	86.3%	
IN	TANNERS CREEK	U4	Table I	-50.8%	19,857,628	22,957,388	15.6%	
IN	WABASH RIVER	1	Table I	-97.1%	3,197,126	900,120	-71.8%	PH1
		CXX163(2,3,5,6)		-52.7%				
		2	Table I		2,581,163 (d)	2,791,626	8.2%	
		3	Table I		2,998,794	3,065,847	2.2%	
		5	Table I		2,935,576	2,545,794	-13.3%	PH1
		6	Table I		9,824,056	13,535,943	37.8%	
IN	WARRICK	4	Table I	-35.9%	19,496,974	25,255,490	29.5%	
IA	BURLINGTON	1	Table I	-60.9%	8,568,559	8,818,996	2.9%	
IA	DES MOINES	11	Table I	-100.0%	464,210	0	-100.0%	PH1
IA	GEORGE NEAL NORTH	1	Table I	263.7%	686,741	9,246,893	1246.5%	
IA	MILTON L KAPP	2	Table I	-76.3%	11,036,019	11,498,280	4.2%	
IA	PRAIRIE CREEK	4	Table I	-57.7%	6,540,214	8,771,126	34.1%	

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
IA	RIVERSIDE	9	Table I	-61.2%	3,322,793 (d)	4,381,656	31.9%	
KS	LA CYGNE	1	Substitution	-83.5%	27,386,538	26,648,414	-2.7%	PH1
		2	Substitution	71.7%	30,400,383	58,488,230	92.4%	
KS	QUINDARO	2	Table I	-11.1%	3,958,377 (d)	5,381,937	36.0%	
KY	COLEMAN	C1	Table I	-15.0%	9,003,830	9,614,411	6.8%	
		C2	Table I	-6.9%	10,270,669	11,221,953	9.3%	
		C3	Table I	-5.2%	9,875,822	11,051,816	11.9%	
KY	COOPER	CS1(1,2)		-21.7%				
		1	Table I		5,957,039	5,608,823	-5.8%	PH1
		2	Table I		12,257,638	12,063,229	-1.6%	PH1
KY	E W BROWN	1	Table I	-31.8%	5,688,249	4,080,757	-28.3%	PH1
		CS003(2,3)		-51.8%				
		2	Table I		10,774,640 (d)	8,859,559	-17.8%	PH1
		3	Table I		20,876,760	15,233,699	-27.0%	PH1
KY	EAST BEND	2	Substitution	-48.9%	33,874,389	46,794,633	38.1%	
KY	ELMER SMITH	CXX165(1,2)		-78.7%				
		1	Table I		5,204,162 (d)	11,396,536	119.0%	
		2	Table I		11,527,094	16,833,098	46.0%	
KY	GHENT	1	Table I	-88.3%	22,729,560	37,305,085	64.1%	
KY	GREEN RIVER	5	Table I	-19.3%	6,254,436	4,948,596	-20.9%	PH1
KY	H L SPURLOCK	1	Table I	-48.6%	18,224,334	22,412,764	23.0%	
KY	HMP&L STATION 2	CXX167(H1,H2)		-52.7%				
		H1	Table I		10,682,813	11,541,841	8.0%	
		H2	Table I		11,011,514	9,513,945	-13.6%	PH1

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
KY	PARADISE	3	Table I	45.7%	47,335,710	63,202,168	33.5%	
KY	R D GREEN	G1	Substitution	-69.4%	16,710,514	19,523,824	16.8%	
		G2	Substitution	-74.9%	16,325,684	14,243,216	-12.8%	PH1
KY	SHAWNEE	10	Table I	-91.3%	8,136,938	10,752,771	32.1%	
MD	C P CRANE	1	Table I	-36.9%	8,281,748	10,403,533	25.6%	
		2	Table I	-37.6%	7,698,716	9,920,042	28.9%	
MD	CHALK POINT	CSE12(1,2)		-13.9%				
		1	Table I		17,524,319	17,440,446	-0.5%	PH1
		2	Table I		19,461,764	20,961,601	7.7%	
		3	Substitution	-66.2%	9,942,310	6,119,037	-38.5%	PH1
		4	Substitution	-54.1%	7,217,523	10,668,616	47.8%	
MD	MORGANTOWN	1	Table I	-4.6%	32,247,498 (d)	27,858,112	-13.6%	PH1
		2	Table I	1.4%	30,830,810	37,190,575	20.6%	
MD	R P SMITH	9	Substitution	-68.6%	533,659	170,583	-68.0%	PH1
		11	Substitution	-47.0%	4,320,533	2,125,734	-50.8%	PH1
MA	BRAYTON POINT	1	Compensating	-27.2%	16,153,172	17,047,825	5.5%	
		2	Compensating	-23.8%	16,969,854	16,572,457	-2.3%	SF
		3	Compensating	10.5%	35,472,495 (d)	30,515,946	-14.0%	SF
		4	Compensating	-64.2%	22,092,681	13,883,378	-37.2%	SF
MA	MOUNT TOM	1	Substitution	-16.1%	10,687,035	9,923,946	-7.1%	SF
MA	SALEM HARBOR	1	Compensating	-51.6%	6,359,301 (d)	5,584,688	-12.2%	SF
		2	Compensating	-53.2%	6,491,850	5,434,378	-16.3%	SF
		3	Compensating	-48.8%	10,400,203	9,230,595	-11.2%	SF
MI	DAN E KARN	1	Substitution	-40.7%	14,876,531	12,444,982	-16.3%	SF
MI	J H CAMPBELL	CS0009(1,2)		-78.2%				

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		1	Table I		15,423,035	16,333,282	5.9%	
		2	Table I		18,444,255	4,809,230	-73.9%	SF, EC, PH1
MI	J R WHITING	2	Substitution	-6.7%	6,653,711	6,980,071	4.9%	
		3	Substitution	3.6%	8,510,937	7,936,734	-6.7%	SF
MN	HIGH BRIDGE	CS0001(3,4,5,6)		-59.9%				
		3	Substitution		1,512,129	1,203,949	-20.4%	PH1
		4	Substitution		1,168,382	2,203,745	88.6%	
		5	Substitution		2,067,122	4,590,541	122.1%	
		6	Table I		3,527,493	7,723,726	119.0%	
MN	SHERBURNE COUNTY	CS1(1,2)		-58.0%				
		1	Substitution		41,556,761	46,196,144	11.2%	
		2	Substitution		41,848,412	47,197,300	12.8%	
MS	JACK WATSON	4	Table I	-29.1%	14,329,813	11,344,947	-20.8%	SF
		5	Table I	-18.0%	29,357,704	23,456,288	-20.1%	SF, IUE
MS	R D MORROW	1	Substitution	-32.1%	9,937,638	9,255,066	-6.9%	U, PH1
		2	Substitution	-42.6%	10,104,584	10,149,701	0.4%	
MS	VICTOR J DANIEL JR	1	Substitution	11.9%	21,042,335	22,072,677	4.9%	
		2	Substitution	3.5%	21,943,762	28,195,408	28.5%	
MO	ASBURY	1	Table I	-88.2%	12,950,803 (d)	13,925,197	7.5%	
MO	HAWTHORN	5	Substitution	-75.9%	23,401,867	22,867,020	-2.3%	PH1
MO	IATAN	1	Substitution	19.3%	40,201,396	54,010,979	34.4%	
MO	JAMES RIVER	3	Substitution	-70.6%	1,294,717	2,314,728	78.8%	
		4	Substitution	-81.1%	2,382,380	3,675,945	54.3%	
		5	Table I	-77.4%	3,956,833	6,161,194	55.7%	
MO	LABADIE	1	Table I	-68.0%	32,563,673 (d)	32,420,157	-0.4%	PH1

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		2	Table I	-63.5%	30,354,497	36,144,760	19.1%	
		3	Table I	-43.7%	32,439,633	35,134,368	8.3%	
		4	Table I	-32.6%	28,910,160	40,613,571	40.5%	
MO	MERAMEC	1	Substitution	1.7%	1,956,794	2,966,463	51.6%	PH1
		2	Substitution	-42.0%	2,102,486	1,938,813	-7.8%	
		3	Substitution	-9.2%	4,489,755	6,008,665	33.8%	
		4	Substitution	2.3%	4,856,047	5,918,092	21.9%	
MO	MONTROSE	1	Table I	-91.9%	5,915,154	8,891,517	50.3%	
		CS023(2,3)		-91.6%				
		2	Table I		6,557,924	10,710,072	63.3%	
		3	Table I		8,068,862	11,390,992	41.2%	
MO	NEW MADRID	1	Table I	-88.1%	22,589,265	37,073,840	64.1%	
		2	Table I	-89.8%	25,987,902	39,093,068	50.4%	
MO	RUSH ISLAND	1	Substitution	-19.7%	26,426,063	39,390,852	49.1%	
		2	Substitution	-31.4%	29,503,312	32,955,086	11.7%	
MO	SIBLEY	CS0001(1,2,3)		-65.8%				
		1	Substitution		988,218	3,275,126	231.4%	
		2	Substitution		1,214,123	3,201,052	163.7%	
		3	Table I		14,164,092 (d)	21,806,789	54.0%	
MO	SIOUX	1	Table I	-35.6%	20,080,645	20,429,379	1.7%	
		2	Table I	40.5%	17,609,008 (d)	16,935,316	-3.8%	PH1
MO	SOUTHWEST	1	Substitution	-47.7%	7,495,221	9,023,810	20.4%	
MO	THOMAS HILL	MB1	Table I	-92.1%	8,201,280	13,435,098	63.8%	
		MB2	Table I	-93.4%	13,787,251	17,244,380	25.1%	
		MB3	Substitution	-25.0%	34,223,144	49,236,656	43.9%	
NH	MERRIMACK	1	Table I	-31.5%	8,165,874	8,230,447	0.8%	
		2	Table I	-34.1%	17,599,473	22,133,654	25.8%	
NH	NEWINGTON	1	Substitution	-26.1%	20,177,931	16,127,739	-20.1%	SF

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
NJ	B L ENGLAND	1	Table I	11.0%	7,258,421	8,141,332	12.2%	
		2	Table I	-79.7%	9,390,759	10,819,425	15.2%	
NY	C R HUNTLEY	CS0002(63,64,65,66)		-18.5%				
		63	Substitution		4,687,500 (d)	2,983,979	-36.3%	SF
		64	Substitution		4,988,506 (d)	2,858,527	-42.7%	SF
		65	Substitution		5,129,026	5,346,518	4.2%	
		66	Substitution		5,195,873	5,859,576	12.8%	
NY	DUNKIRK	CS0003(3,4)		-1.3%				
		3	Table I		10,077,242	10,143,622	0.7%	
		4	Table I		11,247,647	12,425,425	10.5%	
NY	GREENIDGE	6	Table I	-14.9%	6,065,265 (d)	7,184,237	18.4%	
NY	MILLIKEN	CXX173(1,2)		-62.2%				
		1	Table I		9,385,074 (d)	12,731,349	35.7%	
		2	Table I		9,931,805	10,409,978	4.8%	
NY	NORTHPORT	1	Table I	-85.0%	15,849,288	7,303,890	-53.9%	U, SF, PH1
		2	Table I	-91.6%	19,291,039	17,624,404	-8.6%	U, PH1
		3	Table I	-84.4%	21,183,345	7,703,107	-63.6%	U, SF, EC, PH1
		4	Substitution	-88.7%	17,057,066	23,759,787	39.3%	
NY	OSWEGO	3	Substitution	-100.0%	220,411	36,931	-83.2%	SF
		4	Substitution	-100.0%	994,936	0	-100.0%	SF
		5	Substitution	-100.0%	15,831,640	0	-100.0%	SF
		6	Substitution	-82.2%	11,858,015	4,261,424	-64.1%	SF
NY	PORT JEFFERSON	3	Table I	-65.7%	8,374,175	6,598,425	-21.2%	U, PH1
		4	Table I	-78.4%	9,866,670	4,722,844	-52.1%	U, SF, PH1
NY	ROSETON	1	Substitution	-92.5%	27,628,703	7,175,269	-74.0%	U, SF, EC, Sales
		2	Substitution	-89.7%	24,642,662	10,692,101	-56.6%	U, SF, EC, Sales

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
OH	ACME	13	Substitution	-100.0%	17,852 (d)	0	-100.0%	SF
		14	Substitution	-100.0%	24,062 (d)	0	-100.0%	SF
		15	Substitution	-100.0%	32,988	0	-100.0%	SF
		16	Substitution	-100.0%	3,741,746	0	-100.0%	SF
		91	Substitution	-100.0%	1,372,387	0	-100.0%	SF
		92	Substitution	-100.0%	1,254,139	0	-100.0%	SF
OH	ASHTABULA	7	Table I	-51.7%	13,393,847	5,511,963	-58.8%	SF
OH	AVON LAKE	9	Substitution	-74.5%	4,888,132	2,236,810	-54.2%	SF
		10	Substitution	-62.7%	4,292,320	4,989,579	16.2%	
		11	Table I	-100.0%	9,323,193	0	-100.0%	SF
		12	Table I	-47.0%	28,196,404 (d)	32,497,742	15.3%	
OH	BAY SHORE	CS5(1,2,3,4)		-22.9%				
		1	Substitution		8,987,460	7,651,417	-14.9%	SF
		2	Substitution		8,560,673 (d)	7,419,431	-13.3%	SF
		3	Substitution		8,145,027	7,676,340	-5.8%	SF
		4	Substitution		13,403,509 (d)	9,735,000	-27.4%	SF
OH	CARDINAL/TIDD	1	Table I	20.5%	27,415,083	33,575,480	22.5%	
		2	Table I	-69.0%	30,658,317	39,902,156	30.2%	
OH	CONESVILLE	CS012(1,2)		46.6%				
		1	Table I		3,365,681	3,180,516	-5.5%	PH1
		2	Table I		3,915,191	6,148,562	57.0%	
		3	Table I	-15.8%	4,396,298	4,371,286	-0.6%	PH1
		4	Table I	-35.9%	39,016,416	29,868,708	-23.4%	PH1
OH	EASTLAKE	1	Table I	-47.8%	6,243,187	4,959,011	-20.6%	SF, PH1
		2	Table I	-24.6%	6,909,424	7,087,542	2.6%	
		3	Table I	-26.1%	8,013,541	8,096,208	1.0%	
		4	Table I	-6.4%	11,609,910	12,634,666	8.8%	
		5	Table I	-27.6%	30,805,513 (d)	26,915,088	-12.6%	SF
OH	EDGEWATER	11	Substitution	-100.0%	802,339	0	-100.0%	SF
		12	Substitution	-100.0%	864,622	0	-100.0%	SF
		13	Table I	-99.8%	4,043,097	1,649,050	-59.2%	SF

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
OH	GEN J M GAVIN	1	Table I	-93.3%	63,261,039	86,515,632	36.8%	
		2	Table I	-93.8%	64,446,119	68,002,336	5.5%	
OH	GORGE	25	Substitution	-100.0%	1,369,039	0	-100.0%	SF
		26	Substitution	-100.0%	1,533,302	0	-100.0%	SF
OH	J M STUART	1	Substitution	-42.1%	37,388,667	32,762,470	-12.4%	PH1
		2	Substitution	-16.8%	35,445,378	44,629,995	25.9%	
		3	Substitution	-35.5%	35,145,074	34,990,744	-0.4%	PH1
		4	Substitution	-35.4%	37,145,195	38,786,248	4.4%	
OH	KYGER CREEK	CS001(1,2,3,4,5)		-58.3%				
		1	Table I		15,427,334	15,812,450	2.5%	
		2	Table I		14,849,116	15,962,478	7.5%	
		3	Table I		14,327,951	16,634,018	16.1%	
		4	Table I		14,968,097	15,557,962	3.9%	
		5	Table I		14,995,184	16,166,596	7.8%	
OH	LAKE SHORE	18	Substitution	-100.0%	9,267,644	0	-100.0%	SF
		91	Substitution	-100.0%	85,642	0	-100.0%	SF
		92	Substitution	-100.0%	153,208	0	-100.0%	SF
		93	Substitution	-100.0%	119,220	0	-100.0%	SF
		94	Substitution	-100.0%	195,421	0	-100.0%	SF
OH	MIAMI FORT	CS056(5-1,5-2,6)		-80.4%				
		5-1	Table I		265,326	196,579	-25.9%	PH1
		5-2	Table I		265,326	196,579	-25.9%	PH1
		6	Table I		9,107,080	4,580,562	-49.7%	PH1
		7	Table I	-65.9%	30,809,109	28,213,054	-8.4%	PH1
OH	MUSKINGUM RIVER	CS014(1,2,3,4)		-33.4%				
		1	Table I		11,900,608	5,416,381	-54.5%	PH1
		2	Table I		11,333,631	7,060,761	-37.7%	PH1
		3	Table I		11,162,690	7,503,635	-32.8%	PH1
		4	Table I		9,421,117	8,997,649	-4.5%	PH1
		5	Table I	-85.2%	32,372,087	27,541,864	-14.9%	PH1
OH	NILES	1	Table I	-6.9%	5,555,354	6,798,223	22.4%	
		2	Table I	-24.1%	7,278,519	5,531,406	-24.0%	SF

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
OH	PICWAY	9	Table I	-65.5%	3,946,903	1,792,457	-54.6%	PH1
OH	POSTON	1	Substitution	-100.0%	1,499,225	0	-100.0%	PH1
		2	Substitution	-100.0%	1,392,884	0	-100.0%	PH1
		3	Substitution	-100.0%	1,822,165	0	-100.0%	PH1
OH	R E BURGER	CS0001(1,2,3,4,5,6,7,8)		-44.0%				
		1	Substitution		1,126,895	308,726	-72.6%	SF
		2	Substitution		1,102,310	263,393	-76.1%	SF
		3	Substitution		1,138,731	226,002	-80.2%	SF
		4	Substitution		1,165,903	92,323	-92.1%	SF
		5	Table I		2,465,197	491,027	-80.1%	SF
		6	Table I		2,457,308	491,368	-80.0%	SF
		7	Table I		8,622,688	6,031,625	-30.0%	SF
		8	Table I		9,944,647	10,268,509	3.3%	
OH	TORONTO	9	Substitution	-100.0%	1,711,592	0	-100.0%	SF
		10	Substitution	-100.0%	3,055,179	0	-100.0%	SF
		11	Substitution	-100.0%	3,302,232 (d)	0	-100.0%	SF
OH	W H SAMMIS	5	Table I	-63.5%	19,333,165	20,924,484	8.2%	
		6	Table I	-56.0%	37,017,265 (d)	44,119,407	19.2%	
		7	Table I	-59.4%	34,578,951	33,827,070	-2.2%	SF
OH	WALTER C BECKJORD	5	Table I	-34.5%	7,157,125	9,616,651	34.4%	
		6	Table I	-55.3%	18,413,265	21,792,036	18.3%	
PA	ARMSTRONG	1	Table I	-71.3%	11,529,530	3,503,406	-69.6%	PH1
		2	Table I	11.5%	12,345,327	13,270,697	7.5%	
PA	BRUCE MANSFIELD	1	Substitution	-33.3%	43,403,725	47,151,736	8.6%	
		2	Substitution	-51.9%	48,021,040	34,343,992	-28.5%	SF
PA	BRUNNER ISLAND	CS102(1,2)		-38.0%				
		1	Table I		22,209,952	18,577,384	-16.4%	PH1
		2	Table I		24,882,645	17,525,951	-29.6%	PH1
		3	Table I	-4.2%	43,059,448	49,753,884	15.5%	

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
PA	CHESWICK	1	Table I	2.3%	31,334,157	35,130,348	12.1%	
PA	CONEMAUGH	1	Table I	-94.9%	48,123,667	72,404,491	50.5%	
		2	Table I	-18.3%	53,342,327	52,129,065	-2.3%	PH1
PA	HATFIELD'S FERRY	CXX176(1,2,3)		2.3%				
		1	Table I		30,261,852	39,196,629	29.5%	
		2	Table I		29,858,773	28,031,200	-6.1%	PH1
		3	Table I		32,214,666	29,440,740	-8.6%	PH1
PA	MARTINS CREEK	CS102(1,2)		-62.6%				
		1	Table I		10,125,145	5,495,084	-45.7%	PH1
		2	Table I		10,256,839	4,380,845	-57.3%	PH1
PA	MITCHELL	33	Substitution	-64.4%	10,574,676	13,990,360	32.3%	
PA	NEW CASTLE	1	Substitution	-100.0%	1,181,264	0	-100.0%	SF
		2	Substitution	-100.0%	1,314,372	0	-100.0%	SF
PA	PORTLAND	1	Table I	72.3%	4,750,788	7,308,370	53.8%	
		2	Table I	1.5%	8,187,865	7,470,403	-8.8%	PH1
PA	SHAWVILLE	1	Table I	5.8%	8,216,953	9,567,429	16.4%	
		2	Table I	-24.3%	8,266,173	6,931,655	-16.1%	PH1
		CS1(3,4)		-8.4%				
		3	Table I		11,338,843	12,104,776	6.8%	
		4	Table I		11,262,096	11,393,059	1.2%	
PA	SUNBURY	3	Table I	-2.0%	7,589,583	8,181,105	7.8%	
		4	Table I	-32.4%	9,740,428	8,087,213	-17.0%	PH1
TN	ALLEN	1	Table I	-39.9%	12,258,214	14,735,570	20.2%	
		2	Table I	-36.5%	13,414,908	15,702,330	17.1%	
		3	Table I	-5.5%	12,533,052	15,721,586	25.4%	
TN	CUMBERLAND	1	Table I	-91.6%	69,359,586	125,433,200	80.8%	
		2	Table I	-93.0%	75,871,835	120,376,016	58.7%	

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
TN	GALLATIN	CSGA12(1,2)		-20.3%				
		1	Table I		14,107,703	15,506,107	9.9%	
		2	Table I		13,846,605	14,797,124	6.9%	
		CSGA34(3,4)		-28.1%				
		3	Table I		16,018,016	16,469,892	2.8%	
		4	Table I		17,006,177	14,950,402	-12.1%	PH1
TN	JOHNSONVILLE	CSJO10(1,2,3,4,5,6,7,8,9,10)		19.3%				
		1	Table I		6,230,808	6,322,332	1.5%	
		2	Table I		6,428,930	6,033,143	-6.2%	PH1
		3	Table I		6,728,842	5,555,598	-17.4%	PH1
		4	Table I		6,388,243	6,407,192	0.3%	
		5	Table I		6,589,217	7,955,222	20.7%	
		6	Table I		6,315,401	6,882,233	9.0%	
		7	Table I		7,181,760	10,264,280	42.9%	
		8	Table I		6,962,855	8,061,575	15.8%	
		9	Table I		5,662,279	8,643,472	52.7%	
		10	Table I		6,042,356	8,447,830	39.8%	
UT	GADSBY	3	Substitution	-99.9%	3,342,405	4,783,491	43.1%	
WV	ALBRIGHT	1	Substitution	-58.9%	3,760,554	1,931,826	-48.6%	PH1
		2	Substitution	-60.6%	3,911,462	1,915,246	-51.0%	PH1
		3	Table I	-4.1%	8,530,935	8,920,319	4.6%	
WV	FORT MARTIN	1	Table I	-39.5%	33,271,266	21,629,768	-35.0%	SF, PH1
		2	Table I	-3.7%	32,960,639	33,891,670	2.8%	
WV	HARRISON	CXX178(1,2,3)		-95.8%				
		1	Table I		38,894,488	46,581,148	19.8%	
		2	Table I		36,920,578	47,280,205	28.1%	
		3	Table I		33,203,032	45,540,215	37.2%	
WV	KAMMER	CS013(1,2,3)		-22.2%				
		1	Table I		14,993,458	12,853,671	-14.3%	PH1
		2	Table I		15,565,093	14,982,618	-3.7%	PH1

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		3	Table I		13,911,671	15,522,353	11.6%	
WV	MITCHELL	CS012(1,2)		-40.4%				
		1	Table I		35,180,616	35,522,720	1.0%	
		2	Table I		36,404,118	47,106,040	29.4%	
WV	MT STORM	CS0(1,2)		12.8%				
		1	Table I		34,978,581	36,081,280	3.2%	
		2	Table I		32,815,818 (d)	39,353,660	19.9%	
		3	Table I	-94.2%	33,941,590	38,955,084	14.8%	
WV	PLEASANTS	1	Substitution	56.7%	36,945,779	48,333,636	30.8%	
		2	Substitution	12.9%	35,813,603	46,848,420	30.8%	
WV	RIVESVILLE	7	Substitution	-63.3%	1,322,872	620,003	-53.1%	PH1
		8	Substitution	-48.3%	3,965,119	1,686,555	-57.5%	PH1
WV	WILLOW ISLAND	1	Substitution	4.6%	1,828,855	1,956,598	7.0%	
		2	Substitution	-6.3%	7,658,295	7,872,392	2.8%	
WI	ALMA	CS1(B4,B5)		-75.6%				
		B4	Substitution		2,272,063 (d)	748,608	-67.1%	PH1
		B5	Substitution		3,629,644	2,871,171	-20.9%	PH1
WI	EDGEWATER	3	Substitution	-62.4%	2,354,883	4,313,093	83.2%	
		4	Table I	-83.7%	19,799,349	20,198,330	2.0%	
WI	GENOA	1	Table I	-56.3%	15,273,007	18,701,692	22.4%	
WI	J P MADGETT	B1	Substitution	-5.7%	16,966,527	18,886,080	11.3%	
WI	NELSON DEWEY	CS1(1,2)		-83.9%				
		1	Table I		4,805,962	7,294,124	51.8%	
		2	Table I		5,346,927	7,415,426	38.7%	
WI	NORTH OAK CREEK	1	Table I	-100.0%	4,032,602	0	-100.0%	PH1
		2	Table I	-100.0%	3,961,713	0	-100.0%	PH1
		3	Table I	-100.0%	4,056,008 (d)	0	-100.0%	PH1

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		4	Table I	-100.0%	4,727,542 (d)	0	-100.0%	PH1
WI	PORT WASHINGTON	CS7(1,2,3)		-21.8%				
		1	Substitution		1,005,865	1,404,855	39.7%	
		2	Substitution		1,965,223	3,488,401	77.5%	
		3	Substitution		1,634,661	3,796,478	132.2%	
		4	Substitution	-44.5%	1,530,919	2,639,249	72.4%	
		5	Substitution	-100.0%	2,022,260 (d)	0	-100.0%	PH1
WI	PULLIAM	CS56(5,6)		-68.7%				
		5	Substitution		1,156,179 (d)	1,980,594	71.3%	
		6	Substitution		1,506,372	3,300,915	119.1%	
		7	Substitution	-78.6%	3,877,204	6,450,858	66.4%	
		8	Table I	-80.0%	6,004,297	9,292,156	54.8%	
WI	ROCK RIVER	1	Substitution	-72.3%	2,970,329	3,796,701	27.8%	
		2	Substitution	-80.8%	2,822,212	3,299,817	16.9%	
WI	SOUTH OAK CREEK	CS3(5,6)		-67.9%				
		5	Table I		7,399,184	12,605,832	70.4%	
		6	Table I		9,258,401	13,360,404	44.3%	
		CS4(7,8)		-68.9%				
		7	Table I		12,388,721	20,300,114	63.9%	
		8	Table I		12,171,598	12,620,790	3.7%	
WI	VALLEY	CS1(1,2)		2.7%				
		1	Substitution		2,984,011	3,895,619	30.5%	
		2	Substitution		3,014,760	3,823,984	26.8%	
		CS2(3,4)		-10.4%				
		3	Substitution		2,763,874	3,268,209	18.2%	
		4	Substitution		2,688,278	3,082,424	14.7%	
WI	WESTON	1	Substitution	-54.2%	1,452,260	3,302,695	127.4%	
		2	Substitution	-57.7%	3,446,201	6,891,829	100.0%	
		3	Substitution	22.8%	21,097,846	24,560,312	16.4%	
WY	JIM BRIDGER	BW71	Substitution	-62.7%	33,121,600	53,237,281	60.7%	
		BW72	Substitution	-67.0%	32,391,665	44,157,743	36.3%	

Appendix E: Utilization of Units Participating in Phase I

State	Plant Name	Stack/Unit ID	Unit Type (a)	Change in Emissions (b) 1985 - 1995 (%)	Adjusted Baseline Utilization (c) (mmBtu)	Utilization 1995 (mmBtu)	Change in Utilization: From Baseline to 1995 (%)	Comments Related to Underutilization (e)
		BW73	Substitution	-59.7%	31,031,486	51,064,868	64.6%	
WY	WYODAK	BW91	Substitution	-58.0%	28,092,014	34,062,900	21.3%	

Notes:

(a) Identifies affected unit as listed in Table 1, as a substitution unit or as a compensating unit.
(b) Represents the percentage change of emissions from 1985 emissions estimated by emission factors and 1995 emissions monitored by CEMS.
(c) Defined as heat input, expressed in mmBtu, averaged across the baseline period (1985-1987) and adjusted for certain units because of accidents or outages that occured during the baseline period.
(d) Specifically identifies which unit's have had their baseline heat input adjusted.
(e) Utility units that experienced a decline in utilization relative to their baseline provided the listed reasons for such underutilization:

EC Unit within dispatch system that undertook energy conservation measures reducing the dispatch system's overall load.
IUE Unit undertook technological improvements to increase its combustion efficiency.
PH1 Unit's underutilization accounted for by an increase in utilization at another Phase I unit.
Sales Unit demonstrates a decline in overall sales of the dispatch system.
SF Unit demonstrates replacement of utilization by a sulfur-free generator.
U Unit surrendered allowances for underutilization.