



OFFICE OF INSPECTOR GENERAL

*Catalyst for Improving the Environment*

## Evaluation Report

# **New Source Review Rule Change Harms EPA's Ability to Enforce Against Coal-fired Electric Utilities**

Report No. 2004-P-00034

September 30, 2004



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**Abbreviations**

DOJ	Department of Justice
EPA	Environmental Protection Agency
GAO	General Accounting Office
CAIR	Clean Air Interstate Rule
NAPA	National Academy of Public Administration
NO <sub>x</sub>	Nitrogen Oxide
NSR	New Source Review
OAQPS	Office of Air Quality Planning and Standards
OAR	Office of Air and Radiation
OECA	Office of Enforcement and Compliance Assurance
OIG	Office of Inspector General
OGC	Office of General Counsel
RMRR	Routine Maintenance, Repair and Replacement
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
WEPCO	Wisconsin Electric Power Company

**Cover Photo:** Emissions from power generation. Source: U.S. Department of the Interior, U.S. Geological Survey, Center for Coastal Geology, presentation for the 1999 South Florida Restoration Science Forum, <http://sofia.usgs.gov/sfrsf/rooms/mercury/control/sources.html>



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
WASHINGTON, D.C. 20460

**THE INSPECTOR GENERAL**

September 30, 2004

**MEMORANDUM**

**SUBJECT:** Evaluation Report: New Source Review Rule Change Harms EPA's Ability to Enforce Against Coal-fired Electric Utilities  
Report No. 2004-P-00034

**TO:** Stephen L. Johnson  
Deputy Administrator

Thomas V. Skinner  
Acting Assistant Administrator for  
Enforcement and Compliance Assurance

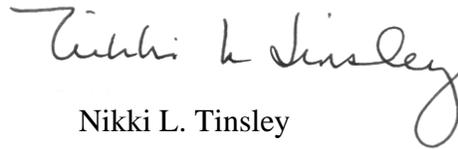
Jeffrey R. Holmstead  
Assistant Administrator for Air and Radiation

This memorandum transmits the results of an Office of Inspector General (OIG) evaluation of the basis for the October 27, 2003, change in the New Source Review (NSR) rule, and the NSR rule change's impact on EPA's enforcement policies, practices, and activities for coal-fired electric utilities. This report contains findings that describe how the NSR rule change has seriously hampered EPA settlement activities, existing enforcement cases, and the development of future cases. This report also contains corrective actions the OIG recommends. This report represents the opinion of the OIG and the findings contained in this report do not necessarily represent the final EPA position. Final determinations on matters in the report will be made by EPA managers in accordance with established procedures.

**Action Required**

In accordance with EPA Directive 2750, as the action official, you are required to provide this Office with a written response within 90 days of the final report date. The response should address all recommendations. For the corrective actions planned but not completed by the response date, please describe the actions that are ongoing and provide a timetable for completion. Where you disagree with a recommendation, please provide alternative actions for addressing the findings reported.

We appreciate the efforts of EPA officials and staff in working with us to develop this report. If you or your staff have any questions regarding this report, please contact me at (202) 566-0847 or Kwai Chan, Assistant Inspector General for Program Evaluation, at (202) 566-0827.

A handwritten signature in black ink, appearing to read "Nikki L. Tinsley". The signature is fluid and cursive, with a large loop at the end of the last name.

Nikki L. Tinsley

Attachment

cc: Pete Cosier, Audit Followup Coordinator, OAR  
Greg Marion, Audit Followup Coordinator, OECA  
Kwai Chan, Assistant Inspector General for Program Evaluation, OIG  
Mark Bialek, Counsel, OIG

# ***Executive Summary***

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## **Purpose**

The New Source Review (NSR) provisions of the Clean Air Act require that sources of air pollution, such as utilities, take steps to install and operate lower-emitting pollution control technologies at newly built major sources or modified major sources that significantly increase emissions. Controversy has surrounded implementation of NSR for years, including when the Environmental Protection Agency (EPA) issued a rule in October 2003 regarding NSR's application to existing facilities. NSR applies to stationary sources of air pollution, including the 1,032 coal-fired electric power-generating units in the United States that produce 59 percent of all sulfur dioxide (SO<sub>2</sub>) emissions and 18 percent of all nitrogen oxide (NO<sub>x</sub>) emissions nationwide. Both pollutants are associated with adverse health effects, including respiratory disease and infection, and premature mortality. As a result of Congressional interest, we evaluated the basis for the rule change and the rule change's impact on EPA's enforcement policies, practices, and activities for coal-fired electric utilities. Our objectives considered the impacts on facilities that have had their enforcement cases resolved as well as those that have not.

## **Results in Brief**

While many sources within the electric utility industry have made substantial progress in reducing emissions, some older sources have not. In 1996, EPA's Office of Enforcement and Compliance Assurance (OECA) began targeting older, dirtier utilities for compliance assessments, resulting in the identification of significant alleged violations. EPA has been taking enforcement actions against these coal-fired utilities, and this has proven to be an effective approach for requiring utilities to install pollution control devices when they are making other modifications. This has also resulted in significant reductions in harmful emissions. For example, settlements with 7 companies to date have already required owners to install emission control devices on 74 power-generating units over about a 10-year period, which is projected to reduce annual SO<sub>2</sub> emissions by more than 440,000 tons and NO<sub>x</sub> by more than 210,000 tons. Further, if allowed to continue unimpeded, ongoing NSR enforcement actions may garner even greater environmental benefits. For example, by requiring lower-emitting controls on 97 power-generating units, the enforcement cases<sup>1</sup> OECA is currently pursuing could reduce SO<sub>2</sub> emissions by 1,750,000 tons and NO<sub>x</sub> emissions by 629,000 tons annually.

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<sup>1</sup>EPA General Counsel and the Deputy Assistant Attorney General, Environment and Natural Resources Division, U.S. Department of Justice, asserted that, in this instance, disclosure of the precise number of cases OECA was pursuing at the time of our field work would have a detrimental impact on their ongoing investigations and enforcement actions; as such, this number was redacted from the final report.

The October 2003 NSR rule change has seriously hampered OECA settlement activities, existing enforcement cases, and the development of future cases. This is due largely to EPA's revised definition of routine maintenance, which allows utilities to undertake projects up to 20 percent of the cost of the power-generating unit without being subject to NSR requirements.<sup>2</sup> After the rule was issued on October 27, 2003, key officials from EPA's Office of Air and Radiation (OAR) (who wrote the 2003 NSR rule) and key enforcement officials from OECA expressed widely disparate views of the impact of the rule change.

OAR officials said the NSR rule change is not retroactive and therefore should not impact OECA's ongoing litigation with utility companies alleged to have violated NSR prior to October 2003. In OAR's opinion, the 20-percent threshold will allow utility owners to replace components under a wider variety of circumstances, provide more certainty to owners and to reviewing authorities, and enhance key operational elements such as efficiency, safety, reliability, and environmental performance.

In contrast to OAR's view that the 20-percent threshold would not impact enforcement, key OECA enforcement officials informed OIG that the exemption threshold for utilities should be no higher than 0.75 percent. Since a new 1000 megawatt coal-fired power plant could cost up to \$800 million, using a 0.75-percent threshold could allow up to a \$6 million project for a coal-fired electric utility before triggering NSR, as long as other NSR provisions are met, whereas a 20-percent threshold could allow as much as a \$160 million project before triggering NSR.

According to key enforcement officials, the NSR rule change is so dramatic that it has impacted OECA's ongoing litigation, out-of-court settlements, and new enforcement actions against coal-fired electric utilities. This is because, even though a court in December 2003 issued a stay delaying implementation of the NSR rule, OECA's ability to obtain appropriate controls through settlements or court-imposed remedies has been weakened. Three of nine utilities in ongoing active litigation with EPA have asserted that enforcement actions should cease or be significantly reduced based on the contention that the maintenance activities in question would no longer be considered a violation under the 2003 NSR rule. Similarly, soon after the NSR rule was made public on August 27, 2003, a major utility ceased negotiations with EPA. Agency officials attributed it to the announcement of the rule as well as an adverse court ruling in an ongoing NSR enforcement case against a coal-fired utility. Similar to their views on the NSR rule change's impact on NSR enforcement, Agency officials did not agree on the extent to which the NSR rule change, as opposed to the adverse court ruling, impacted these negotiations.

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<sup>2</sup>The rule change exempts the replacement of components from NSR if (a) replacement is with identical components or functional equivalents; (b) cost is below 20 percent of replacement value of the entire process unit; (c) the replacement does not change the unit's basic design parameters; and (d) the unit continues to meet enforceable emission and operational limitations. Replacement cost can be either an estimate of the fixed capital cost of constructing a new process unit or the current appraised value of the process unit.

No new enforcement actions have been taken against coal-fired utilities alleged to have violated the old NSR rule due to the new rule's adverse impact on OECA's leverage in settlements or court remedies. If the October 2003 rule is eventually implemented as promulgated, OECA officials estimate that, of the utilities alleged to have violated NSR in the past, only five smaller utilities, emitting a relatively small amount of SO<sub>2</sub> and NO<sub>x</sub>, would still be in violation of NSR. All of OECA's other cases would be in compliance with NSR under the 20-percent threshold and thus the installation of lower-emitting controls made more difficult, whether in settlements or by way of injunctive relief in court. As a result, nearly all of the projected emission reductions of 1.75 million tons of SO<sub>2</sub> and 629,000 tons of NO<sub>x</sub> would not be realized under NSR enforcement efforts.

Fourteen States, several cities, and environmental groups sued EPA over the 2003 NSR rule change, resulting in the December 2003 stay. Their concerns included insufficient support for how the 20-percent threshold was selected and the adverse impact on enforcement actions. We found little basis for the 20-percent threshold, and we saw no evidence that the percent of routine maintenance in ongoing enforcement actions was considered by OAR in determining the threshold. EPA recently announced its plans to reconsider the 2003 NSR rule before the court stay is lifted. This is an excellent opportunity for EPA to fully consider – in an open, public, and transparent manner – the environmental impact of proposed NSR changes at varying levels, including the impact on OECA enforcement activities.

## Recommendations

Because coal-fired electric utilities produce nearly 60 percent of all SO<sub>2</sub> and nearly 20 percent of all NO<sub>x</sub> emissions nationwide, it is important that NSR enforcement against coal-fired electric utilities continue in the same manner and to the same extent as before the 2003 NSR rule was issued. This would include both the pursuit of ongoing cases and the development of new cases. As such, we recommend that:

- The EPA Administrator, through the reconsideration process of the NSR rule, specifically address the impact on enforcement activities as it relates to coal-fired electric utilities, including, if necessary, the issuance of a separate NSR rulemaking for coal-fired electric utilities that specifically considers and takes public comment on the resulting environmental impacts of a definition of routine maintenance at any threshold above the desired OECA threshold of 0.75 percent for coal-fired electric utilities, including:
  - < Publishing the environmental and health impacts of different thresholds, ranging from 0.75 percent (in 1 percent increments) up to 5 percent, and at 10 percent, 15 percent, and at the 20-percent threshold, along with explicit assumptions underlying each threshold and the model inputs used for each threshold; and

- < Soliciting and accepting public comments on the proposed reconsideration rule in an open, public, and transparent manner, and fully explaining the basis for the Agency's eventual decision on any NSR rule changes as it relates to utilities, including all steps taken to minimize the impact on enforcement activities and cases.
- The Acting Assistant Administrator for Enforcement and Compliance Assurance ensure that coal-fired electric utilities found in violation of NSR requirements are brought into compliance expeditiously, and that the necessary pollution control equipment is timely installed and operated, by:
  - < Vigorously pursuing ongoing court cases and settlement negotiations, including, where appropriate, prompt referrals of cases to the Department of Justice; and
  - < Identifying any additional coal-fired utilities in violation of the NSR requirements prior to October 27, 2003, by fully using the site-specific utility information obtained through Clean Air Act Section 114 information collection requests and other compliance assessment activities, and ensuring that these sources are brought into compliance in a timely manner.

## **Agency Comments and OIG Evaluation**

EPA generally disagreed with our draft report, asserting that it contained several major flaws and that it was inaccurate, misleading, incomplete, and superficial. We met the Assistant Administrators for OAR and OECA, and obtained additional information to support the Agency's viewpoints. Many of their comments centered around other ways the Agency proposes to achieve emissions reductions from utilities, which was outside the scope of this review. Our review focused on the basis for the NSR rule change and the rule change's impact on EPA enforcement policies, practices, and activities for coal-fired electric utilities. However, we modified the report as appropriate based on the Agency's comments. The Agency's responses (Appendices G and H) and our evaluation of those responses (Appendix I) are included as appendices to the report.

We also received three sets of comments from EPA's Office of General Counsel (OGC) asserting that portions of the report involved internal, deliberative communications, and thus were exempt from disclosure under exemption #5 of the Freedom of Information Act and should not be released because of the deliberative process privilege. OGC also asserted that certain information in the draft report was enforcement sensitive, and thus should not be included in the report. OGC recommended that these portions be deleted from the report and protected from public release. At the advice of OIG Counsel, we redacted some of the enforcement information from the final report, and we redacted some of the information asserted to involve internal deliberative communications. In other instances, upon the advice

of OIG Counsel, information asserted to be covered by the deliberative process privilege remained in our report. The three sets of comments from EPA's OGC asserting these exemptions and privileges were not included as appendices to the report because to do so would involve disclosing exempt and privileged information.

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# Chapter 1

## Introduction

### Purpose

The New Source Review (NSR) provisions of the Clean Air Act require that sources of air pollution, such as utilities, take steps to install and operate lower-emitting pollution control technologies at newly built major sources or modified major sources that significantly increase emissions. Controversy has surrounded implementation of NSR for years, including when the Environmental Protection Agency (EPA) issued a rule in October 2003 regarding NSR's application to existing facilities. After lawsuits were filed, this rule was stayed by the Court in December 2003, yet concerns have been raised about the rule's impact on enforcement of NSR violations.

As a result of Congressional interest, the Office of Inspector General (OIG) evaluated the support for the rule change and the change's impact on EPA's enforcement policies and practices. Specifically, for coal-fired electric utility facilities alleged to have violated the Clean Air Act's requirements prior to issuance of the 2003 NSR rule change, we compared and contrasted the level of emissions for those facilities that have had their enforcement cases resolved (either by court ruling or settlement) with those facilities that have not. The objectives of our evaluation were to answer the following questions:

- For facilities that have had their enforcement cases resolved, what level of emissions (a) did the facilities emit prior to enforcement action being taken by EPA, (b) will facilities emit as a result of the enforcement action, and (c) would facilities have emitted if an enforcement action had not been taken?
- For those facilities that have not had their enforcement cases resolved, what level of emissions (a) did the facilities emit prior to enforcement action being taken by EPA, (b) would facilities emit if the enforcement action is successful, and (c) would facilities emit in the absence of the enforcement action?

### Background

#### ***Coal-Fired Utilities Contribute to Air Pollution***

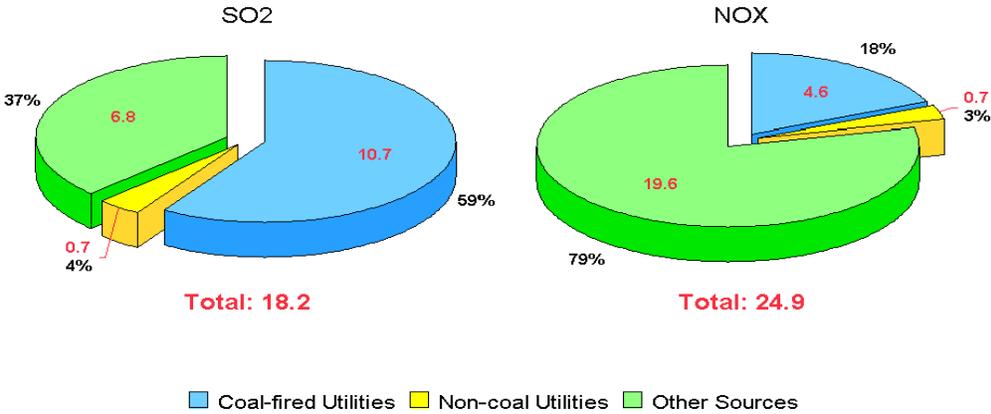
The primary fuel source for electricity generation in the United States is coal. According to the Department of Energy's Electric Power Annual Report for

2000,<sup>3</sup> there are 1,032 coal-fired, electric-generating units nationwide, representing 77 percent of the 1,336 electric-generating units in the United States. Electricity is usually generated by utilities that are public agencies or are privately owned. Details on the process for generating electricity are in Appendix A.

While many sources within the electric utility industry have made substantial progress in reducing emissions, some older sources have not. The coal-fired electric utility industry produces about 59 percent of all sulfur dioxide (SO<sub>2</sub>) emissions and 18 percent of all nitrogen oxide (NO<sub>x</sub>) emissions nationwide, according to the Department of Energy (see Chart 1.1).

**Chart 1.1: Emissions of SO<sub>2</sub> and NO<sub>x</sub> in 2000**

(in millions of tons)



SO<sub>2</sub> and NO<sub>x</sub> are the two primary pollutants targeted by EPA under the NSR enforcement initiative. SO<sub>2</sub> contributes to the formation of fine particles and acid rain, and NO<sub>x</sub> contributes to the production of ozone. Both pollutants are associated with adverse health effects, including respiratory disease and infection, lung inflammation, premature mortality, and aggravation of preexisting diseases such as asthma. In addition to SO<sub>2</sub> and NO<sub>x</sub>, coal-fired electric utilities also produce arsenic, chromium, fine particulates, hydrochloric acid, hydrofluoric acid, lead, manganese, mercury, nickel, and other air toxics. According to EPA’s 2003 National Air Quality Emissions Trends Report, approximately 146 million people live in U.S. counties where monitored air in 2002 was unhealthy at times. Coal-fired electric utilities contribute to ozone, acid rain, mercury deposition, haze, and

<sup>3</sup>Electric Power Annual 2000, November 2002, DOE\EIA-0348

other health and environmental problems. Appendix B provides more information on the health effects of SO<sub>2</sub> and NO<sub>x</sub>.

### ***New Source Review Established to Improve Air Quality***

Congress established NSR in the Clean Air Act Amendments of 1977<sup>4</sup> to strengthen measures available to States and the Federal government for improving air quality. Congress required that newly built and modified sources must prevent pollution, upgrade their equipment, or install pollution controls. In response to the 1977 Amendments, EPA issued a final NSR rule in January 1979, and revised that rule in August 1980 to specifically define emission limits, in response to the court decision on *Alabama Power*. Despite several proposed and final revisions and legal challenges over the intervening 24 years, the 1980 regulations are basically the rules still governing the NSR program. For a detailed chronology on NSR, see Appendix C.

The early years of the NSR program produced more judicial proceedings over the validity and interpretation of the regulations themselves rather than specific enforcement actions. It was not until the early 1990s that EPA began to focus significant attention on existing facilities that had undertaken substantial construction without obtaining NSR permits.

One of the most controversial NSR issues is the determination of what actions qualify as modifications at existing facilities, particularly in applying the exclusion for routine maintenance, repair and replacement (RMRR) activities. For purposes of NSR, the Clean Air Act defines modification as:

*. . . any physical change ... of a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted . . .*

Prior to issuing the NSR rule in 1980, EPA received no significant comments on its proposed routine maintenance exclusion and, therefore, promulgated the rule as proposed, with no further description of what the exclusion meant. Over the years, EPA used a case-by-case approach to determine whether modifications were considered routine and thus excluded from NSR applicability, due largely to differences in industries.

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<sup>4</sup>The Act established the NSR preconstruction permitting program requiring that both new and modified sources install lower-emitting pollution control technologies to ensure that advances in pollution control occur concurrently with industrial expansion.

## ***Application of NSR Within the Electric Utility Industry***

For the electric utility industry, clarification of the routine maintenance exclusion within the electric utility industry came about as a result of a legal ruling based on a suit filed by the Wisconsin Electric Power Company (WEPCO). WEPCO proposed a “life extension project” at a coal-fired power plant in 1988 and requested an NSR applicability determination by EPA. In 1990, the U.S. Seventh Circuit Court of Appeals, in *WEPCO v. EPA*, upheld EPA’s interpretation that, based on a testing of five factors (see box), the modification taking place did not qualify for the routine maintenance exemption and thus was subject to NSR. EPA then used these five factors – nature and extent, purpose, frequency, cost, and other relevant factors – as the basis for making future NSR decisions within the electric utility industry. As a result of the WEPCO case, in 1992 EPA promulgated a special rule for estimating emissions increases at electric utility steam-generating units, regarding NSR application for utilities. Details on the WEPCO case are in Appendix D.

### ***Factors That Determine Whether a Utility Is Subject to NSR***

- Nature and extent
- Purpose
- Frequency
- Cost
- Other relevant factors

## ***October 2003 NSR Rule Creates Equipment Replacement Provision***

On October 27, 2003, EPA issued the *Prevention of Significant Deterioration (PSD) and Non-Attainment New Source Review (NSR): Equipment Replacement Provision of the Routine Maintenance, Repair, and Replacement Exclusion; Final Rule*. Known as the NSR Equipment Replacement Provision, the 2003 NSR rule specifies that the replacement of components of a process unit with identical components or their functional equivalents will be considered routine maintenance and thus exempt from NSR requirements if:

- the cost of replacing the component is below 20 percent of the replacement value<sup>5</sup> of the entire process unit;
- the replacement does not change the unit’s basic design parameters; and
- the unit continues to meet enforceable emission and operational limitations.

Through this rule, EPA intended to provide a “bright line” regarding those activities that would be considered routine maintenance and thus excluded from NSR. According to the preamble in the new rule, EPA’s case-by-case

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<sup>5</sup>Replacement cost can be either an estimate of the fixed capital cost of constructing a new process unit or the current appraised value of the process unit.

determinations had been criticized for giving the routine maintenance exclusion a narrow scope that disallowed the replacement of significant plant components with identical or functionally equivalent components. According to the preamble, critics contend that this has discouraged plant owners from undertaking replacement activities that are important to restoring, maintaining, and improving plant safety, reliability, and efficiency. The critics further contend that the effect is exacerbated by what they believe are the uncertainties inherent in the case-by-case approach. In issuing the rule change, EPA stated that this October 2003 NSR rule will allow owners to replace components under a wider variety of circumstances; provide more certainty to owners and reviewing authorities; and enhance efficiency, safety, reliability, and environmental performance.

Nevertheless, 14 States,<sup>6</sup> several cities, and environmental groups filed a legal challenge against this rule immediately after the rule was issued in October 2003. Issues included how EPA defined routine maintenance (the percentage arrived at), the legal basis for the rule, and the effect of the change on enforcement actions. On December 24, 2003, the District of Columbia Court of Appeals stayed implementation of the rule, and its status was still pending as of mid-September 2004.

### ***NSR Enforcement Emphasized Starting in 1990s***

During the mid-1990s, EPA began to concentrate its efforts on NSR compliance for industry sectors that produced significant amounts of air pollution. After nearly 25 years of Clean Air Act implementation, EPA compliance officials became increasingly concerned with the sparse number of requests for NSR permits by facilities in some industrial sectors. In particular, EPA focused its compliance efforts on (a) industrial sectors operating with fewer facilities and at the same time operating for many years at high emissions without any record of NSR permits, and (b) those with increased demand and no or few NSR permits. During this time, there was tremendous economic growth, and expanding industries were making large capital investments. EPA became concerned that some sources in these industries had made major modifications without obtaining NSR permits and, as such, had not installed the required lower-emitting technologies.

Initially, EPA targeted its NSR enforcement efforts on petroleum refineries, steel mini-mills, chemical manufacturers, wood products companies, and the pulp and paper industry. Most of the cases resulted in settlements, with companies

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<sup>6</sup> New York, California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New Mexico, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

agreeing to pay penalties and to install new pollution control equipment. For example, EPA reached settlements with three wood product manufacturers wherein they agreed to pay \$289 million in penalties and reduce more than 177,000 tons of pollutants.

Similarly, EPA's National Petroleum Refinery Initiative included many enforcement actions against a number of the approximately 150 refineries in the United States. At the same time, EPA embarked upon a series of innovative, multi-issue/facility settlement negotiations with major petroleum refining companies. Since March 2000, EPA has entered into 11 multi-issue/facility-wide settlements with petroleum refiners that together represent approximately 40 percent of the domestic petroleum refining capacity in the Nation.

Beginning in 1996, EPA enforcement staff turned their attention to the coal-fired electric utility industry, particularly the older, dirtier utilities. In May 2001, the National Energy Policy Development Group asked the Department of Justice (DOJ) to review EPA's NSR enforcement actions to ensure that they are consistent with the Clean Air Act. In January 2002, DOJ reported that EPA's enforcement actions have been consistent with the Clean Air Act. Details on the status and success of EPA's enforcement initiative for electric utilities are in Chapter 3.

## Scope and Methodology

We conducted our field work from December 2003 to June 2004, and did so in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. We performed field work at EPA's Office of Air and Radiation (OAR) locations in Washington, DC, and Research Triangle Park, North Carolina, and at the Office of Enforcement and Compliance Assurance (OECA) in Washington, DC. OAR is primarily responsible for developing the NSR rules, and OECA is primarily responsible for enforcing them. We interviewed staff from OAR and OECA to gain an understanding of the proposed changes to the Equipment Replacement Provision rule, including the basis and development of the 20-percent threshold, and whether and how the rule impacted existing and future enforcement cases after the rule was issued on October 27, 2003. We also interviewed OAR and OECA staff to gain an understanding of the assumptions used in developing projections of future emission reductions from enforcement of the existing NSR rules, as well as to understand how NSR has been enforced in the past.

To determine how EPA's October 2003 NSR rule impacted enforcement policies and practices, and in turn the environment, we reviewed EPA's documentation concerning NSR and the proposed revisions related to equipment replacement at air-polluting facilities. This documentation included the October 27, 2003 rule, the Regulatory Impact Analysis supporting this rule, internal Agency

documentation leading up to the proposed changes, and applicable information in EPA's rulemaking docket related to the 20-percent threshold.

We also reviewed documentation for NSR settlements with coal-fired power plant owners, including the Complaints, Notices of Violations, Consent Decrees, press releases, and other information. We also reviewed OECA's documentation for ongoing court cases, including publicly available information and confidential enforcement and enforcement sensitive information. For instances where NSR enforcement actions were taken, we reviewed OECA estimates of future emission reductions from known violators. We also reviewed information related to selected air pollution regulations impacting coal-fired electric utility emissions; enforcement policies, procedures, and past practices; effectiveness of selected control technologies for coal-fired electric utilities for NO<sub>x</sub> and SO<sub>2</sub> and health effects studies.

We reviewed and discussed with OAR and OECA officials selected recent reports related to NSR, including the following:

- National Academy of Public Administration report, *A Breath of Fresh Air, Reviving the New Source Review Program*, April 2003.
- General Accounting Office Report #GAO-03-947, *EPA Should Use Available Data to Monitor the Effects of Its Revisions to the New Source Review Program*, August 2003.
- General Accounting Office Report #GAO-04-58, *New Source Review Revisions Could Affect Utility Enforcement Cases and Public Access to Emissions Data*, October 2003.

### **Limitations**

We limited our review to coal-fired power plants identified by OECA as having violated the NSR provisions of the Clean Air Act prior to issuance of the Equipment Replacement Provision rule on October 27, 2003. We evaluated the Equipment Replacement Provision rule's impact on enforcement of NSR violations that occurred prior to the rule's issuance as well as the rule's potential impact on future cases against coal-fired power plants that violated NSR prior to October 27, 2003. We did not review other industry sectors, and only included coal-fired power plants in our evaluation. We did not assess the impact of other proposed reforms that may impact future utility emissions, such as the Clean Air Interstate Rule (CAIR), the proposed Utility (Mercury) Maximum Achievable Control Technology Standards, or the proposed Clear Skies legislation.

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## Chapter 2

### October 2003 NSR Rule Change Adversely Impacts OECA Enforcement Efforts

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The October 2003 NSR rule change has seriously hampered OECA settlement activities, existing enforcement cases, and the development of future cases. This is due largely to EPA's revised definition of routine maintenance, which allows utilities to undertake projects up to 20 percent of the cost of the power-generating unit without being subject to NSR requirements. OAR officials, who wrote the 2003 NSR rule, and OECA officials, who are responsible for enforcing NSR, expressed widely disparate views of the impact of the rule change after EPA issued the rule on October 27, 2003.<sup>7</sup>

OAR officials said the rule is not retroactive and therefore should not impact OECA's ongoing litigation with utilities alleged to have violated NSR prior to October 2003. However, the change is so dramatic that even though a court in December 2003 issued a stay delaying implementation of the rule, EPA's underlying legal arguments may have still been weakened. For example:

- Three of nine utilities in ongoing litigation have asserted that their actions would not be a violation under the new rule and that, as a result, enforcement should cease or the court-imposed remedy be heavily reduced.
- Soon after the NSR rule was made public on August 27, 2003, a major utility ceased negotiations with EPA. Agency officials attributed it to the announcement of the rule change, as well as an adverse court ruling in an ongoing NSR enforcement case against a coal-fired utility.
- No new enforcement actions have been taken against coal-fired utilities alleged to have violated the old NSR rule due to the new rule's impact on OECA's leverage in settlements or court remedies.

If the October 2003 rule is implemented as promulgated, OECA officials estimate that of the utilities alleged to have violated NSR in the past, only five smaller utilities, emitting a relatively small amount of SO<sub>2</sub> and NO<sub>x</sub>, would still be in violation of NSR. In fact, one of the five utilities (East Kentucky Power), has been the only case filed since October 2003. All of OECA's other cases, with

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<sup>7</sup>In December 2003 and January 2004, views of key OECA officials were expressed to us by the (then) Assistant Administrator for Enforcement and Compliance Assurance and the (then) Director of OECA's Air Enforcement Division responsible for enforcing NSR cases at utilities. Both officials have since left the Agency. These views were also expressed by OECA staff; however, the Acting Assistant Administrator for Enforcement and Compliance Assurance expressed support for the rule when we met with him in September 2004.

significant emissions, would be in compliance with NSR under the 20-percent threshold. As a result, nearly all of the projected emission reductions of 1.75 million tons of SO<sub>2</sub> and 629,000 tons of NO<sub>x</sub> would not be realized under NSR enforcement efforts (see Table 3.3 in Chapter 3). Both pollutants are associated with adverse health effects, as discussed in Appendix B.

## **Key Reasons EPA Issued New Rule**

On October 27, 2003, EPA issued the Equipment Replacement Provision rule for NSR. The rule specifies that the replacement of components of a process unit with identical components or their functional equivalents will be considered routine maintenance, repair, and replacement and thus exempt from NSR requirements. One of the provisions of the rule states that any projects costing less than 20 percent of the cost of the unit would be considered routine and thus not subject to NSR requirements. The NSR rule would allow sources to use any of the following approaches to determine the replacement value of a new process unit:

- replacement cost;
- invested cost, adjusted for inflation;
- the insurance value of the equipment, where the insurance value covers complete replacement of the process unit; or
- another accounting procedure, based on Generally Accepted Accounting Principles.

According to OAR officials, one of the key reasons that the routine maintenance, repair, and replacement exclusion is needed is to better define what actions constitute an NSR violation that would provide companies with a “bright line” for making maintenance and repair decisions. OECA officials agreed that this bright line needed to be defined. Prior to the new rule, the exclusion had been applied on a case-by-case basis, which OAR believed caused confusion as to what actions constituted an NSR violation and whether NSR applied.

The new rule was issued in draft for comment in a December 2002 Federal Register Notice, along with other proposed NSR changes. However, at that time, the proposed rule did not include a specific percentage; instead, EPA solicited comments on what the percentage should be.

In August 2003, EPA issued a Regulatory Impact Analysis that was used for the proposed rule. According to the analysis, NSR has discouraged plant owners or operators from replacements that are important to restoring, maintaining, and improving plant safety, reliability, and efficiency. Specifically, the analysis states:

*. . . Our experience suggests that under the current NSR program, managers of coal-fired electric generating facilities take whatever actions are necessary to avoid triggering NSR, primarily because of its very high retrofit control costs and the substantial opportunity costs associated with regulatory delays . . . where NSR would be triggered, the project will generally not go forward . . . thus, to analyze the [impact of] the current rule, EPA assumed that facilities undertake only limited maintenance, and . . . take other actions to stay out of the program . . . this results in gradual deterioration in performances, resulting in higher heat rates and lower capacities. . .*

Also, OAR maintains that the October 2003 rule is not about reducing emissions by limiting production; instead, it is about the intent of NSR, which is installing controls. OAR also stated that the new rule may produce better environmental improvements than the old NSR rule by providing companies with greater flexibility when making facility improvements.

## **Differing Views on Impact of New Rule**

After the rule was promulgated, OECA officials disagreed with the rule change, particularly because of the adverse impact of the 20-percent threshold on coal-fired electric utilities. For example, since a new 1000 megawatt coal-fired power plant could cost \$800 million, the NSR rule change could allow up to a \$160 million project for a coal-fired electric utility without triggering NSR, as long as other NSR provisions are met. Current and former OECA officials suggested this level of expenditures could allow coal-fired utilities to operate for a long time without triggering NSR. For the example above, OECA's desired threshold of 0.75 percent for coal-fired electric utilities would allow up to a \$6 million project for a coal-fired utility without triggering NSR, or about \$154 million less than allowed under the NSR rule change.

### ***Longstanding, Unresolved Differences About NSR Rule***

One of the more troubling aspects of the new rule is the length and level of disagreement among EPA officials regarding how the new rule will impact enforcement of the NSR requirements of the Clean Air Act at coal-fired utilities. OECA officials stated that the new rule will seriously undermine OECA's efforts in enforcing NSR requirements against coal-fired utilities and would result in significant amounts of lost emissions reductions. For example, in December 2003, the Director of OECA's Air Enforcement Division, told us that OECA performed an impact analysis and distributed the routine maintenance threshold at levels of 0.5 percent, 1.0 percent, 2.0 percent, and 5.0 percent. In their analysis, they found that at a level of 2.0 percent most of the cases would be gone, and at a 5.0 percent level all the enforcement cases would be shut down. Based on the

results of the OECA impact analysis, a routine maintenance threshold not to exceed 0.75 percent was considered to be appropriate for coal-fired electric utilities.

Also, in January 2004, the Assistant Administrator for Enforcement and Compliance Assurance – generally known as EPA’s top enforcement official – told us that a 3-percent routine maintenance threshold for coal-fired electric utilities would result in about 90 to 95 percent of the NSR enforcement cases disappearing, and that even more cases would disappear when the level is set higher than 3 percent. He said that, in his view, there is not a person in OECA, given the choice, who would agree with the new rule.

OAR officials did not agree and stated that the rule change would not have a negative impact on NSR enforcement cases. According to OECA officials we contacted, the opposite is the case for coal-fired electric utilities. For example, on January 13, 2004, the Assistant Administrator of OECA told the OIG that, while NSR needed some reforming, this new rule – expanding the routine maintenance threshold to 20 percent – will “eviscerate the air enforcement program,” particularly as it impacts coal-fired utilities. He said that he had expressed this opinion to others within the Agency on several occasions. He said that it became clear to him, after talking with the EPA Administrator’s office in September 2003, that OECA would not be able to file new NSR cases under the old rule, and thus he made the decision not to enforce the old NSR rule. Otherwise, OECA staff would have been working on cases that they would have difficulty enforcing. This decision was publicly announced in a November 20, 2003, presentation to the District of Columbia Bar Association, which was closely followed by OECA staff. He explained that the NSR rule change was not simply a policy change. In his view, it was a fundamental change in NSR enforcement and interpretation that harmed OECA’s enforcement of NSR violations.

Views about the potential impact on enforcement activities were also expressed by EPA Administrator Christine Whitman to Vice President Cheney in a May 4, 2001, memorandum. In commenting on the draft of the Nation’s Energy Report in 2001, the EPA Administrator provided comments on several parts of the report, including NSR.

We were unable to discern the exact time frame, but at some point between the Administrator’s stated position in May 2001 and October 2003 when the NSR rule was issued, EPA changed its position on issuing the “routine maintenance” rule. As stated in the NSR rule’s preamble, the Agency believed that the new rule would not result in emissions increases, nor would it adversely affect NSR enforcement. OAR used the Integrated Planning Model to conduct its analysis and concluded that the rule “will not have a significant impact, up or down, on emissions from the power sector,” and would only improve safety, reliability, and other relevant operational parameters. One assumption is critically important in

understanding OAR’s analysis. In projecting the emissions impact of its NSR actions, OAR assumed that industry will avoid NSR requirements at all costs, and as such, OAR did not consider NSR enforcement in its analyses. Table 2.1 shows some of the more significant differences in views expressed by key OAR and OECA<sup>8</sup> officials after issuance of the NSR rule on October 27, 2003.

**Table 2.1: Differences in OAR and OECA Views on Enforcement Impacts After Issuance of the Final Rule on October 27, 2003**

Enforcement Impact	Views of Selected OAR Officials	Views of Selected OECA Officials
Ongoing Enforcement Cases	No impact on ongoing enforcement cases because new rule is prospective only.	Adversely impacts ongoing cases in that industry will use RMRR to seek a lesser remedy because, if the conduct was performed after implementation of the NSR rule change, the conduct would be legal and there would be no basis for requiring pollution controls.
New Enforcement Cases	No impact on OECA’s ability to bring new enforcement cases for violations occurring before 10/27/03 because rule is prospective only.	Adversely impacts new cases because industry will use RMRR provision to seek lesser remedy in court as it would no longer be in violation. In fact, thus far, EPA has chosen to only pursue new cases that violate the 20-percent threshold. <sup>a</sup>
Enforcement Leverage in Settlements	No impact on OECA’s leverage in settlement negotiations because rule is prospective only.	Reduced incentives to reach settlement with OECA because, even if violations proven in court, injunctive relief is likely to consider that, under the new RMRR provision, the utility would not be in violation.
Impact on Emissions Reductions	Will not have a significant impact, up or down, on emissions from the power sector.	Would result in significant amount of lost emissions reductions.
Reasonableness of 20-percent routine maintenance threshold for utilities	20 percent reasonable; provides ability to replace components under wider circumstances, more certainty, allows utilities to enhance efficiency, safety, reliability, and environmental performance.	Unreasonable for utilities; the threshold should not exceed 0.75 percent; likely to “eviscerate the air enforcement program” against coal-fired utilities.

<sup>a</sup>As evidenced in November 20, 2003 presentation to the District of Columbia Bar Association (by Assistant Administrator for OECA).

<sup>8</sup>See footnote #7 for description of key OECA officials contacted about their views. Some of these officials have since left the Agency. The Acting Assistant Administrator for Enforcement and Compliance Assurance expressed support for the rule when we met with him in September 2004.

## OAR Maintains Other Rules Will Achieve Environmental Goals

OAR officials believe other programs are or will be more effective than NSR at achieving emissions reductions, including the Acid Rain Cap-and-Trade Program, the NO<sub>x</sub> State Implementation Plan (SIP) Call, the planned Clean Air Interstate Rule (CAIR), and the Clear Skies Initiative being debated in Congress. In the Regulatory Impact Analysis dated August 2003, EPA projects the impact of the October 2003 rule based on the assumption that a combination of other programs will keep emissions from utilities in check. Specifically, the analysis states:

*New Source Review is one of many programs created by the Clean Air Act to limit emissions of air pollutants emitted from a wide variety of sources which have an adverse impact on human health and the environment. Other key programs include: the title IV Acid Rain Program which has reduced SO<sub>2</sub> emissions from the electric utility industry by more than 7 million tpy [tons per year] and will ultimately result in reductions of approximately 10 million tpy; the Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements which will ultimately achieve NO<sub>x</sub> reductions of 2.8 million tpy; standards for highway heavy-duty vehicles and engines which will reduce NO<sub>x</sub> emissions by 2.6 million tpy; standards for non-road diesel engines which are anticipated to reduce NO<sub>x</sub> emissions by about 1.5 million tpy; and the NO<sub>x</sub> "SIP call" which will reduce NO<sub>x</sub> emissions by over 1 million tpy. Altogether, these and other similar programs achieve emissions reductions that far exceed those attributable to the major NSR program and dwarf any possible emissions consequences attributable to the final rule.*

However, our estimates of emission reductions from future cases (see Chapter 3) already account for benefits derived from the Acid Rain Cap-and-Trade Program and the NO<sub>x</sub> SIP Call (see Appendix F for further details). While making projections for emission reductions from other initiatives, OAR did not include emission reduction estimates achieved from settled cases or projected for ongoing cases. OAR asserted that plant managers take whatever actions are necessary to avoid triggering NSR, even though the basic premise of the ongoing enforcement actions is that the companies did in fact violate NSR and thus should have been considered in the analysis.

In our September 2004 meeting with EPA's Assistant Administrator for Air and Radiation and the Acting Assistant Administrator for Enforcement and Compliance Assurance, they further emphasized that EPA believes the emissions reductions at coal-fired utilities would be better achieved through a more market-based approach, such as the CAIR rule, rather than enforcement of NSR. They also told us they expect to have a draft final CAIR rule completed by mid-October 2004, and that the EPA Administrator has stated in both internal Agency

meetings and in public speeches that he plans to finalize the CAIR rule by the end of calendar year 2004.

In the same meeting, the Assistant Administrators emphasized to us that a far better approach for reducing emissions from coal-fired electric utilities would be to implement the CAIR rule. Similar to the Acid Rain Program and the NO<sub>x</sub> SIP Call, CAIR is a broad cap-and-trade approach, which the Assistant Administrators believe is the most cost-effective approach for reducing emissions from the power sector. When comparing an NSR-type approach to CAIR, the Assistant Administrators also stated that they believe emissions reductions would be realized sooner and that the emissions reductions would be greater than under the NSR approach. They also said that the emissions reductions under the CAIR rule would be more certain, since a similarly proposed rule (NO<sub>x</sub> SIP Call) has already been upheld in the District of Columbia Circuit Court. Appendix H provides additional details about the many benefits of the proposed CAIR approach to addressing emissions from utilities.

We recognize that there are multiple regulatory approaches available to EPA for controlling emissions at coal-fired electric utilities, and commend EPA's efforts to address pollution from coal-fired electric utilities in as many approaches as the Agency deems necessary to achieve clean air goals. However, in our view the CAIR rulemaking is separate and distinct from the NSR rule change, and has no bearing on either the basis for the NSR rule change or the rule change's impact on EPA's enforcement policies, practices, and activities for coal-fired electric utilities – the objectives of our evaluation. If EPA's CAIR rulemaking is successfully promulgated, EPA will expect and desire its implementation to be enforced just as vigorously as the NSR rule was prior to the October 2003 rule change.

There are uncertainties with whatever course(s) of action EPA decides upon, including NSR, CAIR, and other proposals. Because EPA is still drafting the CAIR, it is not certain whether it will be challenged, and what controls would be required. When CAIR is implemented, it is not yet known what level of controls will be required nor the length of time permitted for utilities to install the controls. Further, when CAIR is implemented, there will still need to be an enforcement mechanism in place to identify and enforce against those facilities not complying with the requirements. Similarly, because the Clear Skies Initiative has not been passed by Congress, its impact is also uncertain.

## **Many Express Concerns Regarding New Rule**

Many interested and affected parties expressed concerns with the issuance of the new rule. The National Academy of Public Administration (NAPA), the Environmental Integrity Project, and others disagree with OAR's contention that

there will be minimal increases in emissions in the future. By assuming that electric utilities will avoid NSR at all costs, OAR concluded that the October 2003 rule would result in no increase in SO<sub>2</sub> emissions and, depending on assumptions used in the model, either a decrease or a small relative increase in NO<sub>x</sub>. OAR used the Integrated Planning Model to conduct its analysis and concluded that the rule “will not have a significant impact, up or down, on emissions from the power section,” and would only improve safety, reliability, and other relevant operational parameters. Several key aspects of the rule were questioned, which ultimately resulted in the rule being stayed in the District of Columbia Court of Appeals. Some of the concerns are described below.

### **GAO Cites Lack of Support For EPA’s Decision to Issue New Rule**

The General Accounting Office (GAO) expressed concern with an assumption similar to one used in the Regulatory Impact Analysis for the new rule that companies have and will continue to do whatever it takes to avoid NSR, including only performing minimum maintenance. Further, while the analysis states that uncertainty under NSR has resulted in delays or cancellation of beneficial projects, GAO notes no support is given other than anecdotal evidence. As GAO noted in its August 2003 report:<sup>9</sup>

*EPA relied primarily on anecdotal information from the industries most affected by NSR in concluding that (prior to the final rule) the program discouraged some energy efficiency projects, including some that would have reduced air emissions. EPA staff responsible for this analysis said they relied on anecdotal information from industry sources such as electricity producers, chemical and forest products manufacturers, and petroleum refiners because they lacked comprehensive data on the number of projects that did not go forward as a result of NSR, such as upgrades to industrial boilers. . . . Because EPA based its conclusion that NSR discouraged some energy efficiency projects on anecdotal information rather than a comprehensive survey or representative sample of industries subject to the program, its findings are not necessarily representative of the program’s effect on energy efficiency projects throughout the industries subject to the program.*

OECA’s compliance assessments of coal-fired power plants have found significant noncompliance with NSR rules over the years, suggesting that some utilities have been doing capital projects without obtaining the necessary permits.

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<sup>9</sup>CLEAN AIR ACT: EPA Should Use Available Data to Monitor the Effects of Its Revisions to the New Source Review Program, U.S. GAO, Rpt. No. GAO-03-947, August 2003.

## ***State and Local Agencies Question Support, Legal Basis, and Impact of New Rule***

OAR officials acknowledged a number of commenters disagreed with its analysis, asserting that emissions would be significantly higher. For example, one commenter said that the proposal lacks any reference to the gains accomplished by NSR enforcement, the ongoing enforcement actions, settlements reached, or the potential gains from the cases now pending. During November and December of 2003, the October 2003 rule met resistance from 14 States, several local agencies, and environmental groups, who sued EPA over the NSR rule change. Among their chief concerns were:

- Insufficient support for how the 20-percent threshold was selected;
- The legal basis for the rule; and
- The adverse effect of the rule on past enforcement actions.

The Court of Appeals for the District of Columbia stated that the petitioners had demonstrated the “likelihood of success” and “irreparable harm” necessary to grant a stay of the rule. As a result, the October rule was stayed by the court on December 24, 2003, just prior to its effective date of December 26, 2003.

On June 30, 2004, EPA announced its plans to reconsider three aspects of the 2003 NSR rule before the court issues its opinion on the stayed rule. The three aspects include the legal basis for the rule, the basis for the 20-percent cost threshold, and whether EPA provided adequate notice for an administrative change to correct cross references in the codified rules.

## ***NAPA’s Assessment Cited Concerns With NSR Rule Change***

Recognizing the controversy surrounding implementation of NSR, Congress asked NAPA to perform “an independent evaluation” of NSR and publish a report of its findings and recommendations to EPA and the Congress on how to better manage or reform the NSR program. The April 2003 study concluded that the NSR program is not working as Congress intended when it passed the 1977 Clean Air Act and, as a result, public health is being adversely affected. However, in opposition to OAR’s solution, NAPA concluded that NSR should be strengthened by retaining the NSR provisions from the 1977 Act, strengthening its impact by ending grandfathering over a 10-year period, vigorously enforcing NSR’s permitting requirements for existing facilities during the interim 10-year period, and improving EPA and State information systems and public accountability. The NAPA study resulted in recommendations directed to both EPA and Congress which, if implemented, would result in emission reductions even higher than estimated by OECA, and much higher than OAR’s analysis suggested.

NAPA criticized the draft NSR proposed rule that preceded EPA's October 2003 rule. Specifically, NAPA reported that:

*EPA's enforcement actions since 1988 against facilities that have made major investments in modifications without obtaining NSR permits have highlighted industry abuses of EPA's routine maintenance exclusion. Yet, EPA has recently proposed further expanding this exclusion . . . The Panel believes that simply allowing more modifications to be excluded from NSR will not solve the problems with NSR, nor will it improve environmental protection . . .*

One recommendation made by NAPA was for EPA to continue enforcing NSR vigorously and that these actions would:

*. . . deter future violations, and encourage other modified facilities to comply with NSR until Congress has adopted the Panel's other recommended reforms.*

NAPA also recommended that Congress end "grandfathering" in the next 10 years by requiring all major sources that have not obtained an NSR permit since 1977 to upgrade their emissions control equipment and lower emissions. EPA responded that it believes the 10-year horizon to be unrealistic for full implementation.

If the recommendations in NAPA's report are adopted, substantial emission reductions far greater than those estimated by OECA would occur. In response to the NAPA report, EPA stated that the NAPA report misstates Congressional intent for NSR, and that NAPA's recommendations would require significant statutory revisions and could result in costly, inefficient requirements that are difficult to implement.

## **Little Basis for 20-Percent Threshold**

According to the preamble to the October 2003 NSR rule, commenters suggested a wide range of percentages, from 0.1 percent to 50 percent. Also in the preamble, OAR noted the 20 percent was less than half of the 50 percent applicability threshold for triggering New Source Performance Standards<sup>10</sup> reconstruction, and thus within the range of the commenters' suggestions. However, OAR provided little support for why the 20-percent figure, in particular, was appropriate.

The preamble also noted that the 20-percent threshold was below the cost percentage in the *WEPCO v. EPA* case, based on EPA's interpretation that

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<sup>10</sup>The New Source Performance Standards provision of the Clean Air Act requires owners to install air pollution controls when capital costs exceed 50 percent of the cost of the unit.

modifications made by WEPCO amounted to 22 percent of the total unit cost. The court found that these modifications triggered NSR (see Appendix D for details on the WEPCO decision). However, the fact that the WEPCO case involved modifications that amounted to 22 percent of the total unit cost at that particular facility does not preclude NSR from being triggered for other companies undertaking modifications involving a lesser percentage. Although the preamble states that the 20-percent threshold is supported by available data for the electric utility sector, and that EPA has a detailed set of information available on maintenance, repair, and replacement activities for the electric utility sector, OAR was unable to provide further support to us as to how the 20-percent threshold was determined.

After reviewing documents provided by OAR and interviewing Office of Air Quality Planning and Standards (OAQPS) officials knowledgeable of how the RMRR percentage was determined, the only documented reason we could find for the Agency's 20-percent threshold was the WEPCO ruling. We saw no evidence that the percent of RMRR in ongoing enforcement actions was considered by OAR in determining the RMRR percentage. The WEPCO ruling, in effect, established a ceiling or limit, above which it would have been difficult for EPA to reasonably justify a threshold exemption. However, as some OECA officials pointed out, this did not provide a basis for why the threshold should be established at 20 percent versus 0.75 percent, as both are under the 22-percent threshold decision in WEPCO. The OAQPS official in charge of developing the 20-percent threshold told us that he was never told to justify the 20-percent figure, but that he was well aware of the Assistant Administrator for OAR and his Special Assistant's desire for that amount.

EPA has reached settlements with companies that were below the 20-percent threshold. According to OECA officials, 88 percent of the pending enforcement cases<sup>11</sup> are below this 20-percent threshold. Regarding future cases not yet initiated, if companies perform similar activities as those performed in pending enforcement cases, their activities would not violate NSR requirements.

## **New Rule Hampering Enforcement Despite Court Stay**

As noted above, the October 2003 rule affected ongoing cases since, on November 20, 2003, the Assistant Administrator for OECA announced to his enforcement staff that they should "stop enforcing" NSR unless the utility violated the "new" rule. Moreover, three of the nine utilities charged with violations are citing the new rule as grounds for dismissing their cases. Settlement activity has slowed down, and one company ceased negotiations with OECA. This essentially halted progress with nearly all of OECA's NSR case development.

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<sup>11</sup> The precise number of pending enforcement cases was considered enforcement sensitive and has been redacted from the report.

In contrast to the OECA Assistant Administrator's statements, in January 2004, the EPA Administrator announced that EPA is still enforcing NSR under the "old" existing NSR guidance, pending the outcome of the court stay. However, in tracking OECA's work from November 2003 to June 2004, we found that the only new NSR enforcement efforts involved those few facilities that violated the new rule. The one case recently filed, in February 2004, was against a company that violated the 20-percent threshold. In June 2004, some progress was made with an ongoing case against a utility alleged to have violated the pre-October 2003 NSR guidance. For the ongoing court case, EPA identified new violations that were not part of the original lawsuit, and amended the complaint to include these power units. This is an encouraging sign that EPA intends to pursue existing cases. However, we have seen no evidence that EPA has continued to pursue new NSR enforcement actions against coal-fired electric utilities in the same manner and to the same extent as it did prior to October 27, 2003. OECA officials stated that discussions have recently resumed with some companies.

## **National Academy of Sciences' Ongoing Evaluation of NSR Changes**

In addition to NAPA, the National Academy of Sciences/National Research Council's Board on Environmental Studies and Toxicology is expected to provide by January 2005 an interim report on potential air quality, public health, and other impacts of the October 27, 2003 rule change. The National Academy of Sciences is also expected to address the impact of EPA's other NSR rule changes proposed December 31, 2002. Their final report is expected by December 2005. To the extent possible, the National Academy of Sciences' study, sponsored by EPA, will evaluate the increases or decreases in efficiency of facility operations, including energy efficiency, at new and existing facilities covered by the NSR rule, as well as the resulting increases or decreases in emissions of pollutants regulated under the NSR program, among other things.

## **Conclusions**

The October 2003 NSR rule change has seriously hampered OECA settlement activities, existing enforcement cases, and the development of future cases. Although OAR has stated that the NSR rule change is not retroactive, the dramatic nature of the change has seriously undermined EPA's ability to effectively enforce longstanding NSR requirements. OECA staff reported less willingness among utilities to settle cases, and direct use of the new rule as a basis for significantly reducing any court-approved remedy for past violations, even when violations have been legally proved.

Industry should be allowed and encouraged to improve the efficiency and effectiveness of its operations, but not at continued cost to the environment. OAR and OECA need to work together closely in developing a new definition of

routine maintenance that allows for plant efficiency improvements while adequately safeguarding the public and the environment against excess emissions from coal-fired electric utilities. EPA's decision to reconsider the October 2003 NSR rule change provides an excellent opportunity for the Agency to fully consider – in an open, public, and transparent manner – the environmental impact of proposed NSR changes at varying levels, including the impact on OECA enforcement activities.

As it relates to utilities, because of their unique nature among U.S. air pollution sources, full consideration needs to be given to the impact on enforcement activities if OAR goes beyond OECA's 0.75 percent threshold. Further, reports and recommendations by NAPA and the National Academy of Sciences should be adequately considered and addressed before an NSR reconsideration rule is proposed. Lastly, when proposing the NSR reconsideration rule specifically for utilities, EPA should publish the environmental and health impacts of different thresholds, ranging from 0.75 percent (in 1 percent increments) up to the 20-percent threshold, along with explicit assumptions underlying each threshold and the model inputs used for analyses of each threshold. Then, the Agency should solicit and accept public comments on the proposed reconsideration rule in an open, public, and transparent manner, and fully explain the basis for the Agency's eventual decision on any NSR rule reconsideration as it relates to utilities.

## Recommendations

Because coal-fired electric utilities produce nearly 60 percent of all SO<sub>2</sub> and nearly 20 percent of all NO<sub>x</sub> emissions nationwide and are unique among U.S. air pollution sources, we believe it is important that NSR enforcement against coal-fired electric utilities continue in the same manner and to the same extent as before the 2003 NSR rule was issued. As such, we recommend that:

- 2-1 The EPA Administrator, through the reconsideration process of the NSR rule, specifically address the impact on enforcement activities as it relates to coal-fired electric utilities, including, if necessary, the issuance of a separate NSR rulemaking for coal-fired electric utilities that specifically considers and takes public comment on the resulting environmental impacts of a definition of routine maintenance at any threshold above the OECA desired threshold of 0.75 percent for coal-fired electric utilities, including:
  - (a) specifically addressing the reports and recommendations of NAPA and the National Academy of Sciences before an NSR reconsideration rule is proposed;

- (b) when proposing the NSR reconsideration rule for utilities, EPA should publish the environmental and health impacts of different thresholds, ranging from 0.75 percent (in 1-percent increments) up to 5 percent, and at 10 percent, 15 percent, and at the 20 percent threshold, along with explicit assumptions underlying each threshold and the model inputs used for each threshold; and
- (c) soliciting and accepting public comments on the proposed reconsideration rule in an open, public, and transparent manner; and fully explaining the basis for the Agency's eventual decision on any NSR rule changes as it relates to utilities, including all steps taken to minimize the impact on enforcement activities and cases.

## **Agency Comments and OIG Evaluation**

EPA generally disagreed with our draft report, asserting that it contained several major flaws and that it was inaccurate, misleading, incomplete, and superficial. We generally disagreed with Agency's response. Many of the Agency's comments centered around ways the Agency proposes to achieve emissions reductions from coal-fired utilities by means other than NSR, such as the proposed CAIR rule. However, a comparison of alternative approaches to achieving emissions reductions from coal-fired electric utilities was not the objective of our review. Our review focused on the basis for the NSR rule change and the rule change's impact on EPA enforcement policies, practices, and activities for coal-fired electric utilities. CAIR and NSR enforcement are two distinct efforts intending to achieve the same goal. We do not believe that the Agency must select one approach over the other, but instead should pursue both courses of action. In addition to not comparing CAIR and NSR enforcement, we did not perform a cost-effectiveness analysis between the two initiatives, or other ongoing or planned actions to address pollution from coal-fired electric utilities. We modified the report as appropriate based on the Agency's comments.

We disagreed with the Agency's comment that the 20-percent threshold is not relevant to the issue of whether the NSR rule change is having an impact on coal-fired utility enforcement cases because the rule is prospective. To the contrary, we continue to believe that the NSR rule promulgated on October 27, 2003 – which set a 20-percent threshold for routine maintenance – has substantially impacted ongoing NSR enforcement. For example, three of nine utilities in ongoing litigation have asserted that their actions would not be a violation under the new rule and that, as a result, enforcement should cease or the court-imposed remedy be substantially reduced.

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## **Chapter 3**

### **EPA's NSR Enforcement Actions Are Reducing Emissions**

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EPA's NSR enforcement actions against coal-fired electric utilities have proven to be an effective approach for requiring utilities to install pollution control devices. Settlements with 7 companies to date have required owners to install and operate emission control devices on a total of 74 power-generating units, which is projected to reduce SO<sub>2</sub> emissions by more than 440,000 tons and NO<sub>x</sub> by more than 210,000 tons annually. Although there are also uncertainties involved with OECA's ongoing NSR enforcement initiative for coal-fired electric utilities, NSR enforcement actions have resulted in proven environmental benefits and, if allowed to continue unimpeded, may garner even greater results. If successful, the enforcement cases<sup>12</sup> OECA is currently pursuing could reduce SO<sub>2</sub> emissions by 1,750,000 tons and NO<sub>x</sub> emissions by 629,000 tons by requiring lower-emitting controls on 97 power-generating units. However, as discussed in Chapter 2, the October 27, 2003, NSR rule change has seriously hampered OECA's future enforcement efforts.

#### **Status of Coal-Fired Electric Utility Enforcement Actions**

OECA has focused its attention on the coal-fired electric utility sector because officials suspected that the owners of the aging coal-fired power plants made large capital investments by replacing or repairing key components of the power plants' equipment without obtaining NSR permits. Enforcement officials estimate that these projects have enabled electric power generation from coal-fired power plants to nearly double since Congress enacted the NSR requirements in 1977. EPA began its efforts basically by reminding the utility sector to comply with the NSR rules; however, over time, as EPA pursued this effort, violations were identified throughout the sector that supported the utility enforcement initiative. EPA currently has categorized compliance assessment activities into the five stages, which are presented in Table 3.1 in the chronological order typically followed by OECA in developing a case. The process can take years due to: the size of utilities; the amount and complexity of historical information involved; the type of utility expertise needed to effectively develop an NSR case; and the limited EPA, State, and local agency enforcement resources. Senior EPA officials told us that the Agency launched its power plant initiative in 1998, and has been aggressively

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<sup>12</sup>EPA General Counsel and the Deputy Assistant Attorney General, Environment and Natural Resources Division, U.S. Department of Justice, asserted that, in this instance, disclosure of the precise number of cases OECA was pursuing at the time of our field work would have a detrimental impact on their ongoing investigations and enforcement actions; as such, this number was redacted from the final report.

pursuing it since that time. They further stated that the power plant NSR enforcement cases have occupied the largest share of OECA's resources for the last several years, and we [EPA] understand that DOJ is also devoting substantial resources to these cases.

**Table 3.1: Steps Taken by EPA to Develop a Case<sup>a</sup>**

Case Activity	Description
<b>Section 114 Requests</b>	Under Section 114 of the Clean Air Act, EPA may obtain information to determine whether violations have occurred. The information obtained suggested that facilities in some sectors might have been making major modifications without obtaining NSR permits. The information requested includes detailed cost information of capital construction projects suspected by OECA to be NSR violations.
<b>Settlement Negotiations</b>	After reviewing facility records for capital projects, EPA determines whether NSR violations have occurred, and will notify facility owners. EPA will explain the violation and suggest resolutions, generally encouraging the facility to install the required pollution control devices. Because enforcement proceedings to this point are informal, EPA has not yet issued a notice of violation. It is EPA's intent to initially try to resolve the violations through settlement and thus save a significant amount of cost and time. Also, through settlement, EPA is more likely to achieve controls company-wide.
<b>Could Be Referred Within 30 Days of EPA Approval</b>	If settlement negotiations with the company are unsuccessful, EPA will determine whether enough evidence exists to refer the case to DOJ for potential litigation. At this stage, EPA only needs about 30 days to prepare the referral to DOJ.
<b>Referrals to DOJ</b>	In prioritizing which cases to refer, EPA projects the extent of violations and the emissions impact, and generally refers the most substantial cases to DOJ first. EPA officials said DOJ is selective in choosing cases to take to court due to its limited resources.
<b>Filed Cases</b>	After receiving a NSR case from EPA, DOJ will review the accumulated evidence to determine whether there is merit to file suit against the utility. Before filing the case in court, DOJ generally discusses the matter with the utility in a further attempt to settle.

<sup>a</sup>Steps developed by OIG based on discussions with OECA officials.

### ***EPA Settlements With Coal-Fired Electric Utility Companies***

As of May 2004, EPA has entered into settlements with seven companies that operate coal-fired power plants. OECA projected that these settlements will result in SO<sub>2</sub> reductions of over 444,000 tons and NO<sub>x</sub> reductions of over 213,000 tons per year. Specifically, the settlements require owners to install and operate pollution controls costing a total of \$2.9 billion on 74 electric-generating units at 23 power plants. In addition, companies are required to pay civil penalties of \$17.4 million and fund additional environmentally beneficial projects. These emission reductions are to be phased in over an agreed-upon time frame, usually 10 years. Table 3.2 provides details regarding these settlements.

**Table 3.2: NSR Settlement Summary**

Company	Settlement Date	Penalties (millions)	Reductions (Tons)		Sites/ Units
			SO <sub>2</sub>	NO <sub>x</sub>	
Tampa Electric Power	February 2000	\$3.5	70,000	53,000	2/10
PSE&G Fossil	January 2002	\$1.4	35,937	18,273	2/3
Alcoa <sup>a</sup>	March 2003	\$1.5	52,899	15,482	1/3
Virginia Electric Power	April 2003	\$5.3	176,545	61,651	8/20
Wisconsin Electric Power <sup>b</sup>	April 2003	\$3.1	65,053	31,770	5/23
SIGECO	June 2003	\$0.6	6,384	4,232	1/3
Santee Cooper <sup>b</sup>	June 2004	\$2.0	37,500	29,500	4/12
<b>Totals</b>		<b>\$17.4</b>	<b>444,320</b>	<b>213,908</b>	<b>23/74</b>

<sup>a</sup> Not a utility, but operates large coal-fired generators to supply power for its operations.

<sup>b</sup> Consent Decrees for these two settlements have been filed but not approved by the Court.

These estimated reductions are based on requirements in the agreements that companies install control equipment on the units identified in the settlement negotiations. The agreements will result in control equipment being installed on an average of 84 percent of the total system-wide production capacity of the seven utilities for NO<sub>x</sub>, and 80 percent of the total system-wide production capacity of the seven for SO<sub>2</sub>. The range of controls was from 66 to 100 percent of the system-wide production capacity. Five of the settlements were company-wide settlements – Virginia, Wisconsin, Tampa, PSE&G, and Santee Cooper. For these settlements, the companies agreed to put controls on units comprising most of their production capacity. In return, the companies are provided with long-term regulatory certainty of compliance into the next decade.

When controls are installed, excess allowances of SO<sub>2</sub> emissions are created, and it is vital that these allowances not be used. Consequently, all seven settlement agreements included an Emissions Trading Clause requiring the company not to use or sell any emission reductions. Also, all the settlement agreements required the surrender of allowances, except for Tampa Electric Power, which prohibited the selling and trading of SO<sub>2</sub> allowances. If a facility is able to use allowances elsewhere at a plant or sell them to another facility, there will be no environmental benefit achieved.

## Projected Emission Reductions From Potential Enforcement Cases

In addition to the emission reductions achieved through settlements, OECA has a number of cases<sup>13</sup> that, if fully pursued, could result in additional emission reductions of 1,750,361 tons of SO<sub>2</sub> and 628,865 tons of NO<sub>x</sub> (see Table 3.3). We developed these estimates by taking into consideration the impact of existing regulations on coal-fired electric utilities – such as the NO<sub>x</sub> SIP Call and the Acid Rain Cap-and-Trade regulation (see Appendix F for details) – but not proposed regulations or proposed legislation. We also assumed that OECA would seek to require companies to surrender emission allowances based on its ability to do so in the seven settlement cases. (For details of our calculation methods, see Appendix E.) Table 3.3 presents a summary of the number of NSR enforcement cases currently being brought forth by EPA’s enforcement staff and the potential emission reductions as a result of these actions, as calculated by the OIG.

**Table 3.3: Estimated Emissions Reductions From Active Cases**

Case Activity	No. of Companies	SO <sub>2</sub> Reductions (Tons)	NO <sub>x</sub> Reductions (Tons)
Filed Cases	9	1,534,236	479,185
Referred to DOJ But Not Filed <sup>a</sup>	Note b	113,657	93,231
Could Be Referred Within 30 Days of EPA Approval But Not Filed <sup>a</sup>	Note b	102,468	56,449
<b>Totals</b>	<b>Note b</b>	<b>1,750,361</b>	<b>628,865</b>

<sup>a</sup> Emissions projections based on power-generating units cited in OECA enforcement case files; projections do not assume company-wide settlements although five of seven OECA settlements to date have involved company-wide settlements that obtained even greater emissions reductions.

<sup>b</sup> EPA General Counsel and the Deputy Assistant Attorney General, Environment and Natural Resources Division, U.S. Department of Justice, asserted that, in this instance, disclosure of the precise number of cases OECA was pursuing at the time of our field work could have a detrimental impact on their ongoing investigations; as such, this number was redacted from the final report.

Based on the seven settlements EPA has already reached with utility companies, OECA officials said there is a high likelihood of success with the NSR enforcement cases shown above. Generally, OECA officials attribute a utility company’s willingness to settle due to a reluctance to engage in litigation and the associated costs, the company’s desire to have long-term assurance from EPA that the company is operating in compliance with the Clean Air Act, and the company’s desire to make efficiency and other improvements. Conversely, OAR officials maintain that estimated reductions from enforcement cases are uncertain, and that while some settlements have been reached, none of the court cases have yet reached the remedy phase. OAR officials questioned whether litigants will be required to install controls to the level prescribed in the lawsuit. It is OAR’s

<sup>13</sup>See footnote 12 for discussion of redacted information.

opinion that the utility industry historically has done whatever it takes to avoid making modifications that would trigger or make them subject to NSR requirements, and will continue to do so. However, in contrast to OAR's view, OECA's compliance assessments suggest that some coal-fired power plants have been making modifications and doing capital projects that trigger NSR without obtaining the necessary permits.

Since 1997, EPA has sent 143 Section 114 information requests to over 75 coal-fired electric utilities for purposes of identifying potential NSR violations. Enforcement officials stated they are confident that, if pursued, this information will lead to the official identification of numerous NSR violations. In December 2003, the Director of the OECA Air Enforcement Division told us that as many as 100 more cases could be successfully brought against these other utilities, given enough time and enforcement resources. Similarly, in January 2004 the EPA Assistant Administrator for OECA said he believed many more cases could be successfully brought against these other utilities. Again, limited EPA and DOJ enforcement resources were cited as a key factor that more progress had not been made to date.

### ***OECA's Litigation Against Coal-Fired Electric Utility Companies***

On November 3, 1999, DOJ filed seven lawsuits against utility companies and one administrative compliance order against the Tennessee Valley Authority charging these companies with NSR violations (shown in Table 3.3 as "Filed Cases"). The lawsuits seek to require the facilities to install the necessary air pollution controls and pay significant civil penalties. The 9 filed cases, involving 49 plants, are at varying stages of progress and are summarized in Table 3.4.

**Table 3.4: Status of Ongoing Litigation With Coal-Fired Electric Utilities**

Company	No. of Plants	Status
Alabama Power (subsidiary of Southern Company)	5	In January 2004 DOJ requested court stay be lifted; court stay lifted June 16, 2004; OECA actively in discovery, trial date pending.
American Electric Power Service Corp. (AEP)	14 <sup>a</sup>	Trial January 2005. Awaiting preliminary motion decisions and discovery. In July 2004, prior to trial, court has ordered mediation.
Cinergy	6	Liability trial scheduled for June 2005.
Duke Energy	8	Summary judgment granted in part and denied in part in August 2003. Judge accepted joint motion to terminate case in April 2004 to allow Government to prepare its appeal. Government filed notice of appeal case in June 2004 to the 4th U.S. Circuit Court of Appeals.
East Kentucky Power	2	Government filed complaint in January 2004. Company responded in June 2004 requesting court to dismiss complaint; decision pending.
Georgia Power & Savannah Electric & Power (subsidiaries of Southern Company)	3	On hold pending outcome of Tennessee Valley Authority case
Illinois Power and Dynegy	1	Liability phase of trial ended in June 2003. Awaiting decision.
Ohio Edison	1	Court ruled against company, saying it violated NSR program's routine maintenance exemption and also that the projects led to a significant increase in emissions. Remedy phase scheduled for January 2005.
Tennessee Valley Authority (TVA)	9	Administrative Order case dismissed by District Court, and Supreme Court denied <i>certiorari</i> petition in May 2004, leaving DOJ with option of dropping case or filing it in Federal district court.

<sup>a</sup> In June 2004, EPA issued a Notice of Violation that identified 26 new claims against the company. While some claims identified violations at previously identified plants, three new plants were cited (number in table includes the three new plants).

Two of the nine NSR cases have reached liability decisions. If found liable, the remedy phase will set forth actions that the utility will be required to take to rectify these violations. To date, the two cases have reached conflicting decisions on essentially identical claims:

- The court found Ohio Edison<sup>14</sup> liable for NSR violations and has scheduled a remedy trial for January 2005. The court accepted EPA's arguments and concluded that the 11 activities did not fall under the regulatory exemption for

<sup>14</sup>U.S. v. *Ohio Edison*, No. 2:99-CV-1181 (S.D. Ohio. August 7, 2003)

routine maintenance, and decided the company was in violation of the NSR requirements with respect to all 11 activities. In this case, the Court agreed with EPA's use of the five factors – nature and extent, purpose, frequency, cost, and other relevant factors – to determine that the utility had made physical changes that triggered NSR, and that emissions increases had resulted.

- A summary judgment was granted in the *U.S. v Duke Energy* matter<sup>15</sup> in favor of Duke Energy. At issue in the Duke Energy summary judgment motions was the methodology EPA used in calculating a net significant emissions increase. Duke Energy's method was to calculate the maximum hourly rate of emissions, whereas EPA's method was to calculate annual emissions. The court in this case favored Duke Energy's methodology and judged that EPA had not proven a net significant emissions increase. On June 10, 2004, DOJ appealed the judgment to the 4<sup>th</sup> U.S. Circuit Court of Appeals.

The divided rulings illustrate the uncertainty with EPA's litigation efforts. Nonetheless, to date, these litigated cases represent a promising course of action for EPA to take in dealing with aging power plants and should continue to be pursued.

## Conclusions

EPA's NSR enforcement actions against coal-fired electric utilities have proven effective in requiring some aging utilities to install needed pollution control devices when they are making other modifications that increase emissions. This was Congress' intent when it added the New Source Review provisions to the 1977 Clean Air Act. There continues to be some uncertainty associated with EPA's litigation efforts. However, the Agency's settlements with seven companies requiring owners to install emission control devices on 74 power-generating units over about a 10-year period is projected to reduce annual SO<sub>2</sub> emissions by more than 440,000 tons and NO<sub>x</sub> by more than 210,000 tons. If allowed to continue unimpeded, ongoing NSR enforcement actions may garner even greater environmental benefits. However, the October 2003 NSR rule change diminishes the likelihood that OECA's NSR enforcement activities would have increasingly resulted in aging utilities installing lower-emitting control technologies as they decided to make efficiency and other improvements. EPA's issuance of the October 2003 NSR rule has now cast doubt on OECA's enforcement activities.

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<sup>15</sup>*U.S. v. Duke Energy*, Civ. No. 1:00CV01262 (M.D.N.C. August 26, 2003);

## Recommendations

- 3-1 We recommend that the Acting Assistant Administrator for Enforcement and Compliance Assurance ensure that coal-fired electric utilities found in violation of NSR requirements are brought into compliance expeditiously, and that the necessary pollution control equipment is timely installed and operated, by:
- (a) Vigorously pursuing ongoing court cases and settlement negotiations, including prompt referrals of cases to DOJ; and
  - (b) Identifying any additional coal-fired utilities in violation of the NSR requirements prior to October 27, 2003, by fully using the site-specific utility information obtained through Clean Air Act Section 114 information collection requests, and other compliance assessment activities, and ensuring that these sources are brought into compliance in a timely manner.

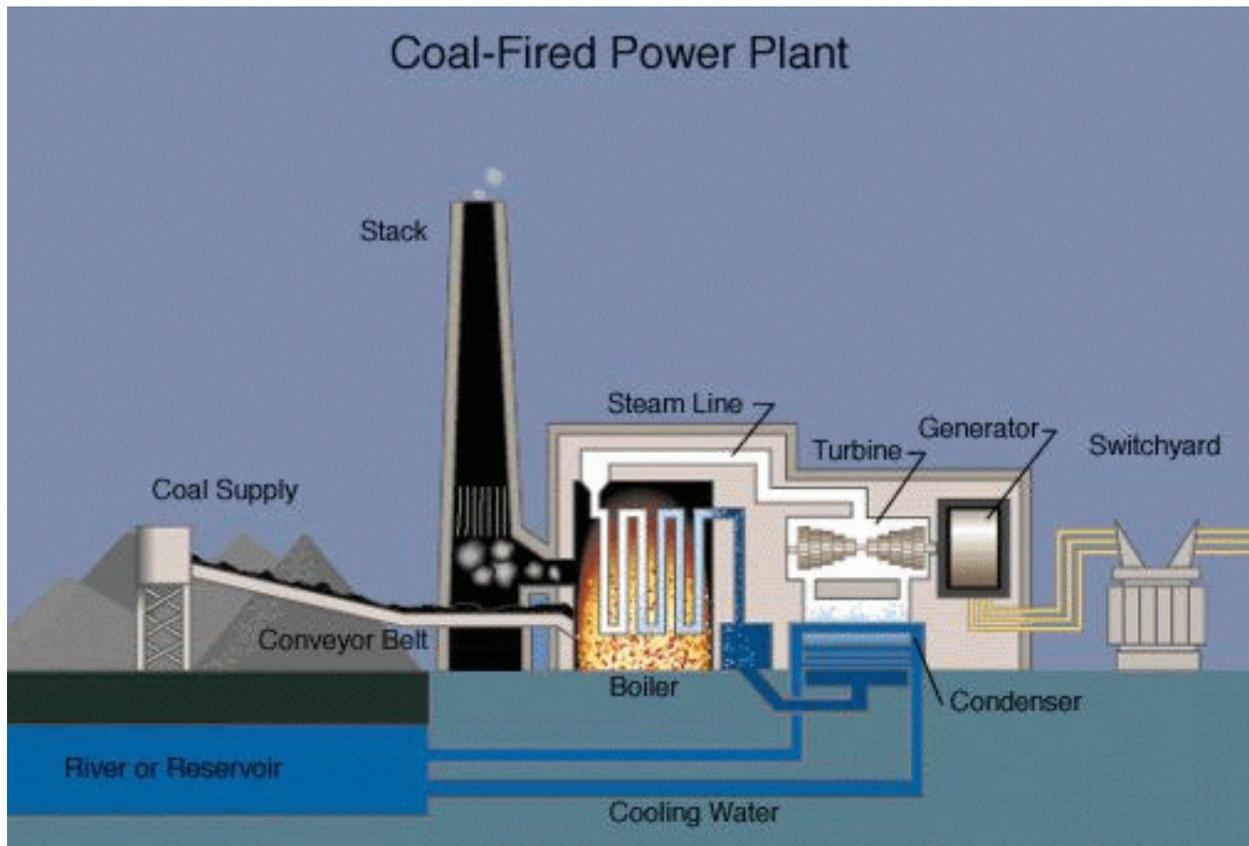
## Agency Comments and OIG Evaluation

EPA stated that a number of factors affect the decision to file a case, including resource commitments by EPA and DOJ to the ongoing prosecution of existing cases. The Agency further stated that it believed more emphasis should be placed on these other factors, particularly resources committed by EPA and DOJ to the ongoing prosecution of existing cases, and the effect these limited resources have on filing cases. We agree that there are factors other than the rule change influencing the pursuit of enforcement cases, such as resource constraints on the part of EPA and DOJ, and we pointed out to EPA officials that we had already referred to these limited resources three times in our draft report. Nonetheless, we have modified the final report to add even more emphasis to the resource issue influencing the development of NSR enforcement cases.

In its response, EPA recognized that NSR enforcement is an important tool, and asserted that the Agency is vigorously pursuing the existing NSR enforcement cases and pursuing new cases as appropriate. While we agree that NSR enforcement is an important tool, we did not see evidence that EPA was continuing to pursue enforcement of NSR in the same manner and to the same extent as before the October 27, 2003, rule was promulgated. Since the new rule was stayed in court on December 24, 2003, there have been no new enforcement actions taken against coal-fired utilities alleged to have violated the old NSR rule. The only additional case filed by EPA is against a utility alleged to have violated the new rule, exceeding the 20-percent threshold.

## ***Process for Generating Electricity***

The diagram below illustrates the basic steps in the process of generating electricity by combustion in boilers. First, some form of fossil fuel (e.g., coal, petroleum, natural gas, biomass) is burned in a combustion unit or boiler to produce steam. The steam turns a large turbine, which then powers an electric generator. The electricity produced from the generator is then distributed to switchyards and, from there, electricity is transmitted to homes and businesses.



Whether the unit is gas or steam, waste heat is emitted from the plant into the atmosphere or through a cooling system (e.g., cooling tower). Air pollution occurs in the first stage of making electricity, when the fuel is burned in the boiler to make the steam. Air pollution control equipment is installed between the boiler and the stack to capture the pollutants before they are released into the atmosphere. The primary fuel source for electricity generation in the United States is coal. According to the Department of Energy's Electric Power Annual Report for 2000, there are 1,032 coal-fired electric-generating units nationwide, representing 77 percent of the 1,335 electric-generating units in the United States.

## ***Health Effects***

Power plants are a major contributor of both SO<sub>2</sub> and NO<sub>x</sub> pollution. SO<sub>2</sub> and NO<sub>x</sub> contribute to the formation of fine particles and acid rain, and NO<sub>x</sub> contributes to the production of ozone.

High concentrations of SO<sub>2</sub> can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of such individuals to elevated SO<sub>2</sub> levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer-term exposures to high concentrations of SO<sub>2</sub>, in conjunction with high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lung's defenses. Population subgroups that may be affected by SO<sub>2</sub> include individuals with heart or lung disease, as well as children and the elderly.

Nitrogen oxides, or NO<sub>x</sub>, is a generic term for a group of highly reactive gases that contain nitrogen and oxygen in varying amounts, and play a major role in the formation of ozone, particulate matter, haze, and acid rain. Short-term (1- to 3-hour) and prolonged (6- to 8-hour) exposures to ambient ozone have been linked to a number of health effects. For example, ozone exposure can lead to increased respiratory symptoms (chest pain, cough), increased susceptibility to respiratory infection, lung inflammation, aggravation of preexisting respiratory diseases such as asthma, and significant decreases in lung function. Also, increased hospital admissions and emergency room visits for respiratory problems have been associated with ambient ozone exposures. These effects generally occur while individuals are actively exercising, working, or playing outdoors. Ozone also adversely impacts vegetation and ecosystems, leading to reductions in agricultural crop and commercial forest yields; reduced growth and survivability of tree seedlings; and increased plant susceptibility to disease, pests, and other environmental stresses.

Together, SO<sub>2</sub> and NO<sub>x</sub> are the major precursors to acidic deposition (acid rain), which is associated with the acidification of soils, lakes, and streams, and accelerated corrosion of buildings and monuments. SO<sub>2</sub> also is a major precursor to fine particulate matter, which is a significant health concern and a main contributor to poor visibility. In addition to SO<sub>2</sub> and NO<sub>x</sub>, coal-fired electric utilities also produce arsenic, chromium, hydrochloric acid, hydrofluoric acid, lead, manganese, mercury, nickel, and other air toxics. Many of these pollutants are known or suspected carcinogens, and adversely impact various systems of the human body, including the respiratory and nervous systems and the brain.

There have been several studies performed to estimate the emissions generated from the electric utility industry and the associated health impacts of those emissions. According to the former Director of the OECA Air Enforcement Division, for every dollar spent on controls, four to five dollars would be saved in health costs. He also noted that this data does not include the cost of missed work time, so the savings could be higher. Similar monetized benefits were included in OECA's August 2002 Clear Skies briefing for the Assistant Administrator, which noted that for this particular proposal, annualized costs would total \$3.69 billion, while benefits would total

\$44 billion annually. These estimated costs and benefits include the reduction of SO<sub>2</sub>, NO<sub>x</sub>, Particulate Matter, and Mercury from utilities. There have also been studies to estimate the health impact of SO<sub>2</sub> and NO<sub>x</sub> emissions. Although the specific results of these studies differ, as illustrated below, they nonetheless suggest that significant adverse health effects are associated with emissions from electric utilities.<sup>16</sup> The studies are listed in chronological order from most recent to oldest.

**U.S. Public Interest Research Group Education Fund, *Lethal Legacy, A Comprehensive Look at America's Dirtiest Power Plants*, October 2003**

- Nationwide, the 548 dirtiest plants emitted 10.1 million tons of SO<sub>2</sub> in 2002. This is about 64 percent of total SO<sub>2</sub> emissions (about 15.8 million tons) from all sources in the United States in 2001. Of this pollution, 70 percent (7.1 million tons) was “excess,” or could be eliminated if the plants met modern emissions standards.
- Nationwide, these 548 plants emitted 4.4 million tons of NO<sub>x</sub> in 2002. This is nearly 20 percent of total NO<sub>x</sub> emissions (about 22 million tons) from all sources in the United States in 2001. Of this pollution, 62 percent (2.7 million tons) was “excess,” or could be eliminated if the plants met modern NO<sub>x</sub> emission standards.
- Millions of tons of soot- and smog-forming emissions each year will go unchecked. This pollution will cause as many as 400,000 asthma attacks and 20,000 premature deaths each year.

**Abt Associates, *The Particulate Related Health Impacts of Emissions in 2001 from 41 Major US Power Plants*, November 2002**

- Power plants were responsible for about two-thirds of the SO<sub>2</sub> emissions and one-quarter of the NO<sub>x</sub> emitted in the year 2001.
- Between 4,800 and 5,600 premature deaths in 2001 are associated with emissions from 41 major power plants.
- Over 3,000 hospital admissions or emergency room visits, 930,000 work loss days, 111,000 asthma attacks, and other health effects are associated with the emissions from the 41 power plants.

**American Lung Association, *Electric Utilities*, April 2000**

- Nationwide, electric utilities produce 66 percent of all SO<sub>2</sub> emissions and 29 percent of all NO<sub>x</sub> emissions.
- The 50 dirtiest power plants are responsible for 78 percent of all SO<sub>2</sub> emissions produced by the electric power industry.

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<sup>16</sup>EPA performed two other studies of the adverse impact of SO<sub>2</sub> and NO<sub>x</sub> emissions: (1) *Analysis of the Acid Deposition and Ozone Control Act*, July 2000; and (2) *Regulatory Impact Analysis for the Final Section 126 Petition Rule*, July 2000.

In its response, EPA took exception to our characterizing the above as “health/science studies,” noting that in their view these groups simply applied EPA’s own health and benefits data to an estimated amount of emissions reductions, which typically comes from EPA. In response to the cost benefit statements of the OECA Air Enforcement Division Director, EPA stated that these were “advocacy pieces” that apply other data to make a point, and suggested that better analyses would include: (1) Section B of the 2003 Clear Skies Technical Package; (2) Technical Addendum: Methodologies for the Benefit Analysis of the Clear Skies Act of 2003; and (3) Benefits of the Proposed Interstate Air Quality Rule (January 2004). These and other health effects analyses and studies are publicly available on the EPA web site.

## ***Highlights of the Chronology of NSR Program***

<b><u>Date</u></b>	<b><u>Description</u></b>
<b>December 1970</b>	Clean Air Act of 1970 became law (P.L. 91-604) and newly created EPA was authorized to carry out the provisions of the Act.
<b>1972</b>	EPA created the Prevention of Significant Deterioration Program by rulemaking. This program implemented NSR in areas that meet air quality standards.
<b>1977</b>	Clean Air Act Amendments of 1977 enacted, establishing the NSR preconstruction permitting program requiring that both new and modified sources install lower-emitting pollution control technologies to ensure that advances in pollution control occur concurrently with industrial expansion.
<b>August 1980</b>	EPA revised the NSR rule to specifically define emission limits, in response to the court decision in <i>Alabama Power</i> .
<b>1990</b>	Clean Air Act Amendments of 1990 became law.
<b>1992-1994</b>	EPA issued notices of violation to companies in the plywood and wood products industry.
<b>1993</b>	EPA convened a federal advisory committee to address policy and technical issues associated with revising NSR.
<b>1996</b>	EPA issued NSR Simplification Proposal to streamline permitting, relieve regulatory burden, and provide States with flexibility. EPA also began enforcement initiatives targeting coal-fired electricity producers, petroleum refiners, and pulp and paper industry for violations of NSR rules.
<b>1998</b>	EPA solicited further public comment on proposed NSR revisions.
<b>1999</b>	DOJ filed lawsuits against seven electricity producers charging that 17 coal-fired power plants made major modifications without installing required pollution control equipment.
<b>February 2000</b>	EPA settles first NSR case with Tampa Electric Power Company for \$3.5 million in civil penalties, and over \$10 million in permanent emissions-control equipment to meet stringent pollution limits, projected to reduce SO <sub>2</sub> emissions by 70,000 tons and NO <sub>x</sub> by 50,000 tons annually.
<b>May 2001</b>	The administration's proposed energy policy called for EPA and the Department of Energy to review the implementation of NSR regulations,

and for DOJ to review existing NSR legal actions. DOJ later reported that the actions were consistent with the Clean Air Act.

- June 2001** EPA issued NSR background paper as a partial response to recommendations in the energy plan.
- January 2000 - March 2004** EPA settled multiple NSR cases with petroleum refiners and electricity producers (six coal-fired utilities agreed to pay \$13.9 million in fines, and to spend nearly \$2.9 billion to install lower-emitting controls on 74 power-generating units, projected to reduce SO<sub>2</sub> emissions by more than 370,000 tons and NO<sub>x</sub> by more than 150,000 tons annually).
- June 2002** EPA issued *New Source Review: Report to the President*, and recommendations for improving the NSR program.
- December 2002** EPA issued the NSR final rule and nine northeast States filed suit challenging the final rule.
- January 2003** A tenth northeast State filed suit challenging the rule, and these 10 States, along with California and four California air quality agencies, petitioned EPA to reconsider the final rule.
- July 2003** EPA announced that it would reconsider parts of the NSR final rule.
- October 27, 2003** EPA issues Equipment Replacement Provision of the routine maintenance, repair, and replacement exclusion for the NSR rule (the 20-percent threshold amount is specifically stated for the first time).
- October 27, 2003** Fourteen States, several cities, and environmental groups sue EPA over the Equipment Replacement Provision of the 2003 NSR rule.
- November 20, 2003** Assistant Administrator for OECA announced Agency's policy stopping all enforcement activity with the exception of only enforcing violations of the new rule's 20-percent threshold.
- December 24, 2003** U.S. Court of Appeals for the District of Columbia Circuit ruled that opponents to EPA's rule changes "demonstrated the irreparable harm and likelihood of success" of their case, thereby meeting the legal tests required to stop a regulation from taking effect.
- January 9, 2004** EPA Administrator announced that the Agency would pursue new NSR cases using the previous interpretation of the law.
- June 30, 2004** EPA announced that it would reconsider three aspects of the NSR Equipment Replacement Provision rule published on October 27, 2003, including the legal basis for the rule, the basis for the rule's 20-percent cost threshold, and whether EPA provided adequate notice for an administrative change to correct cross references in the codified rules.

## ***Details on WEPCO Case***

In 1988, Wisconsin Electric Power Company (WEPCO) proposed a “life extension project” at a coal-fired power plant and requested an NSR applicability determination by EPA. The Agency determined that the project did not qualify for the routine maintenance exclusion and, as such, NSR requirements were applicable. WEPCO sued EPA, but the court upheld EPA’s applicability determination. When the Seventh Circuit Court of Appeals issued its decision in *WEPCO v. EPA* in 1990, it addressed two important issues involving NSR.

First, the court was asked to determine whether renovations at a coal-fired steam-generating unit were “modifications” triggering compliance with NSR. WEPCO asserted that its replacement of large steel drums and air heaters was simply routine maintenance and did not qualify as a modification, making it exempt from NSR. EPA had used a set of five factors – including the nature and extent, purpose, frequency, and cost of the work – to determine that WEPCO’s large “life extension” project did not qualify for the routine maintenance exemption. The court upheld EPA’s interpretation that the renovation was a modification covered by NSR. Since that time, EPA has informed the electric utility industry numerous times of the five factors – nature and extent, purpose, frequency, cost, and other relevant factors – against which physical changes at power plants would be gauged.

The second issue addressed by the Court in the WEPCO case was whether the modification produced a significant emissions increase. EPA had compared WEPCO’s pre-change actual emissions to its post-change potential emissions (round-the-clock maximum capacity) to determine that a significant increase would occur, even though WEPCO had never operated its electric-generating unit that way. The court held that EPA could not assume post-change continuous operation, but instead had to base predicted future emissions on the unit’s emissions history. The court required WEPCO to make pollutant-specific data available to EPA and remanded the case to EPA for further proceedings. EPA subsequently determined that WEPCO increased its emissions. In 1992, EPA promulgated a special rule for electric utility steam-generating units, wherein the utility compares its actual annual emissions before the change with projected annual emissions after the change to determine if the change would result in a significant increase in emissions that will trigger NSR. This rulemaking clarified NSR application for utilities by providing them the opportunity, beforehand, to specify their intended operation of the unit once the desired changes had been made.

The preamble also noted that the 20-percent threshold was below the cost percentage in the *WEPCO v. EPA* case, based on EPA’s interpretation that modifications made by WEPCO amounted to 22 percent of the total unit cost.

## ***OIG Method For Estimating Emissions Impact***

In calculating potential emissions reductions, we consulted with OECA and OAR officials to determine the proper approach to develop these estimates. In doing so, we determined that the estimates must consider a number of factors involved in achieving these reductions and project how these factors influence the end result of reducing pollution. For example, the estimates consider:

- the type and effectiveness of pollution control equipment installed;
- the level of controls when compared to the facility's overall production capacity;
- the amount of time needed to install the controls; and
- emission reductions of other environmental regulations intended to reduce the amount of SO<sub>2</sub> and NO<sub>x</sub> emitted from the electric utility industry.

When considering these factors, we made certain assumptions that affected the emission estimates, and ultimately how successful and effective the enforcement case will be. These factors and assumptions are listed below.

**Type and Effectiveness of Control Equipment** - There is general agreement about the type of control equipment that would be installed to control SO<sub>2</sub> and NO<sub>x</sub> emissions from electric utilities. A Selective Catalytic Reduction unit would be used to reduce NO<sub>x</sub>, while a Flue Gas Desulfurization unit, or scrubber, would be installed to lower SO<sub>2</sub> emissions. For any piece of control equipment, there is an assumed level of operating efficiency. For example, based on discussions with OECA and OAR officials, we assumed that a Selective Catalytic Reduction unit would achieve 90-percent removal of NO<sub>x</sub>, and that a Flue Gas Desulfurization unit will achieve a 95-percent removal of SO<sub>2</sub> emissions. Our projections assume these removal efficiencies.

**Level of Controls Versus Production Capacity** - For the seven settlements EPA has reached with coal-fired electric utilities, controls were placed on 66 to 100 percent of the company's production capacity. The average level of controls from these settlements has been 80 percent for SO<sub>2</sub> and 84 percent for NO<sub>x</sub>. Our projections were calculated using these averages.

**Schedule for Installing Controls** - As part of the terms and conditions of the settlement or lawsuit, a facility is given a pre-determined schedule for obtaining, installing, and operating the required pollution-control devices. For those cases where EPA and the electric utility companies have reached settlement, the agreements have called for the pollution control equipment to be fully installed and all of the estimated reductions to be achieved no later than 2012. Our projections also assume full implementation by 2012.

**Impact of Other Environmental Regulations** - Coal-fired utilities are required to reduce emissions based on other environmental regulations. Appendix F provides more details on these other regulations. The impact on our emissions analysis follows.

- *NO<sub>x</sub> SIP Call* – Each year during the ozone season (May 1 to September 30), the NO<sub>x</sub> SIP Call requires utilities in prescribed States to increase controls, or buy allowances for NO<sub>x</sub> emissions from a fixed pool of allowances, thereby reducing emissions. In estimating potential emission reductions from pending enforcement cases, we reduced beneficial emissions reductions by the amount of emission reductions that would already be achieved through the requirements of the NO<sub>x</sub> SIP Call.
- *Acid Rain Program* – The Acid Rain Program introduced an allowance trading system that uses the incentives of the free market to reduce pollution. Under this system, affected utility units are allocated allowances based on their historic fuel consumption and a specific emissions rate. The net effect of the Acid Rain Program is a reduction in SO<sub>2</sub> emissions. Different than how they handle the NO<sub>x</sub> SIP Call, OECA does not account for the Acid Rain Program, which resulted in a slight overstatement when estimating potential emission reductions from pending enforcement cases. We accounted for the Acid Rain Program emissions reductions in our estimates.

## ***Selected Other Regulations Impacting Power Plants***

In addition to NSR, two other environmental regulations presently impacting coal-fired electric utilities are the NO<sub>x</sub> SIP Call and the Acid Rain Cap-and-Trade Program.

### **NO<sub>x</sub> SIP Call**

The rule, *Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone*, commonly known as the NO<sub>x</sub> SIP Call, was issued final on October 27, 1998. This regulation required 22 jurisdictions (21 States and the District of Columbia) in the eastern half of the United States to revise their SIP to help ensure that NO<sub>x</sub> emissions reductions are achieved to mitigate the regional transport of ozone precursors across State boundaries. The NO<sub>x</sub> SIP Call rulemaking requires that these 22 jurisdictions adopt and submit SIP revisions that contain provisions adequate to prohibit sources from emitting NO<sub>x</sub> in amounts that can contribute significantly to non-attainment of the 1-hour and 8-hour ozone national ambient air quality standards. The States were required to tighten controls on NO<sub>x</sub>-emitting facilities during the ozone season, which covers a 5-month period from May 1 through September 30 each year. States had to be in compliance by May 31, 2004, with the exception of Georgia and Missouri, which must comply by May 1, 2005. The coal-fired electric utility industry was one of the industrial sectors that was required to comply with the NO<sub>x</sub> SIP Call.

### **Acid Rain Cap-and-Trade Program**

As part of a two-phased approach, the Clean Air Act set a goal of reducing annual SO<sub>2</sub> emissions by 10 million tons below 1980 levels by placing a cap on the total emissions from a select group of the nation's largest fossil fuel-fired power plants. Phase I began in 1995 and affected 263 units at 110 mostly coal-burning electric utility plants located in 21 eastern and Midwestern States. An additional 182 units joined the first phase of the program as substitution or compensating units. Emissions data for 1995 indicate that SO<sub>2</sub> emissions at these units were reduced nearly 40 percent below their required level.

Phase II, which began November 2000, tightened the annual emissions limits imposed on these large, higher-emitting plants and also set restrictions on smaller, cleaner plants fired by coal, oil, and gas, encompassing over 2,000 units in all. The program affects existing utility units serving generators with an output capacity greater than 25 megawatts, as well as all new utility units.

The Acid Rain Program introduced an allowance trading system that uses the incentives of the free market to reduce pollution. Under this system, affected utility units are

allocated allowances<sup>17</sup> based on their historic fuel consumption and a specific emissions rate. Allowances may be bought, sold, or banked. Anyone may acquire allowances and participate in the trading system. This second phase set a permanent ceiling of 8.95 million allowances for total annual allowance allocations to utilities.

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<sup>17</sup> Each allowance permits a unit to emit 1 ton of SO<sub>2</sub> during or after a specified year.

## ***EPA Summary Response To Draft Report***

September 7, 2004

### **MEMORANDUM**

**SUBJECT:** Comments on Draft Evaluation Report Entitled “New Source Review Change Harms EPA’s Ability to Enforce Against Electric Utilities”

**To:** Nikki Tinsley  
Inspector General, U.S. Environmental Protection Agency

**From:** Jeffrey R. Holmstead  
Assistant Administrator for Air and Radiation

Thomas V. Skinner  
Acting Assistant Administrator for Enforcement and Compliance Assurance

Thank you for giving us the opportunity to review the draft report referenced above. Unfortunately, the draft contains several major flaws that must be addressed before the report is finalized. If these flaws are not corrected, the report will be inaccurate, misleading, incomplete, and superficial. This memorandum briefly summarizes our major concerns. We will also provide your staff with more detailed comments under separate cover.

**1. The draft report is misleading because it ignores the Clean Air Interstate Rule, which will mandate substantial reductions in power plant emissions.** The Report asserts, without any explanation, that NSR enforcement is the “most promising” course of action for reducing power plant emissions and that the emission reductions that could be achieved through enforcement actions “would not be realized” under other programs. These assertions are simply not true – and can hardly be made without an evaluation of the other tools the Agency has used, and is now using, to reduce power plant emissions. The draft report is dismissive of the Agency’s proposed Clean Air Interstate Rule (CAIR) because it is not yet final, even though Administrator Leavitt has publicly announced that it will be finalized before the end of the year (and even though it is closer to being finalized than most enforcement actions evaluated in the draft report).

See Appendix I Note 1
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The draft report estimates that all settled, filed, and referred NSR cases against power plants, as well as other cases that could be referred within 30 days, would eventually reduce power plant emissions of SO<sub>2</sub> by 2.2 million tons and NO<sub>x</sub> by 0.8 million tons if the government prevails in all the cases. These reductions fall far short of the mandatory reductions required under CAIR:

6.7 million tons of SO<sub>2</sub> and 2.4 million tons of NO<sub>x</sub>. In fact, compared to the NSR enforcement actions evaluated in draft report, the Clean Air Interstate Rule will achieve emissions reductions that (1) are greater; (2) are more cost-effective; (3) are more certain to occur; (4) will likely be realized sooner; and (5) can be achieved at far lower cost to the government. We would be happy to provide you with information and analysis on each of these points.

**2. The draft report does not accurately characterize EPA’s enforcement efforts.**

We also recognize that NSR enforcement is an important tool, and we are vigorously pursuing the existing NSR enforcement cases and pursuing new cases as appropriate. The report mistakenly concludes that the absence of new enforcement cases is solely the result of the ERP rule. In reality, a number of factors – not discussed at all in the draft report – affect the decision to file a case, including resource commitments by EPA and DOJ to the ongoing prosecution of existing cases. The final report must accurately characterize the state of EPA’s NSR enforcement efforts and the factors that influence our ability to pursue them.

See Appendix I  
Note 2

**3. The central conclusion of the draft report is not supported by any data or analysis.**

The draft report’s conclusion that the ERP rule has “seriously impacted” the enforcement cases is based almost entirely on interviews with a limited number of former EPA officials. The draft report makes no effort to analyze or validate the views expressed in these interviews. Although the draft report notes that several companies have pointed to the ERP rule as part of their defense to NSR enforcement actions, no court has given any weight to these defenses, and to date there is no evidence that the ERP will actually diminish EPA’s ability to prevail on the merits or to obtain satisfactory remedies. In fact, DOJ has argued otherwise in court filings (although these filings are not mentioned in the report).

See Appendix I  
Note 3

The draft report either fails to mention or glosses over other evidence that is not consistent with its conclusion. It asserts, for example, that the ERP rule has caused a number of companies to withdraw from settlement discussions with EPA, without even considering other factors that likely have affected the willingness of companies to engage in such discussions. There is no discussion at all of the *Duke Power* decision (which was issued the day before the ERP rule was signed) on subsequent decisions by companies to withdraw from settlement discussions. Nor was there any attempt to compare companies that have settled with those that have not settled to evaluate all the factors that have affected their willingness to engage in settlement discussions – e.g., their business plans, their need to obtain permits for new plants, the pollution control strategies that they were pursuing even before the NSR enforcement actions were taken, and the settlement positions taken by the government in each case.

The report also fails to distinguish between the possible impact of the ERP rule on courts’ decisions on the merits of the NSR cases and the possible impact on remedies imposed by the courts. In contrast, the GAO carefully made this distinction in its report, concluding that the ERP rule should have no impact on the merits of the cases, but that it “may affect” judges’ decisions regarding remedies. The draft report does not contain any basis for disagreeing with the GAO report in this regard.

**4. The draft report includes a premature and inappropriate discussion of the basis for the 20 percent cost test.** The draft report devotes several pages to discussing whether the selection of 20 percent as the cost threshold for the ERP is supported as a legal and policy matter. Any discussion of this issue is both premature and inappropriate because the Agency has granted administrative reconsideration on this issue and has not yet completed those proceedings. This discussion is also unnecessary, since it is not relevant to the issue of whether the ERP is having an impact on the cases. We recommend deleting this entire discussion. If such a discussion is included, it should be significantly revised because the discussion in the draft report is inaccurate and incomplete. For example, the draft report states that 20 percent threshold is based entirely on the WEPCO case, even though the preamble for the rule discusses other key factors, including the NSPS preconstruction test, project and cost data from the utility sector (including enforcement cases), case studies from other industry sectors, and comparisons with control cost data.

See Appendix I  
Note 4

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Again, thank you for the opportunity to review the draft report. We understand that your office does not have a deadline for issuing the final report, but we would be happy to work with you and your staff to ensure that you promptly receive all the information and analysis you need to finalize the report. The final report must include a discussion of (1) the mandatory emission reductions that the Clean Air Interstate Rule will achieve; (2) the substantial resources we are devoting to NSR enforcement actions against power plants; and (3) the various factors that influence the willingness of companies to enter into settlement discussions. Otherwise, the final report will be inaccurate, misleading, incomplete, and superficial.

**Note: On September 9, 2004 EPA submitted 3 additional summary comments.**

**Summary of Additional Major Issues**  
September 9, 2004

The following supplements the list of major issues described in the preliminary comments submitted to the OIG on September 7:

**5. The Report Reflects an Inaccurate Understanding of the Final ERP Rule and of NSR in General.** In several instances, the report inaccurately describes how the final rule works (e.g., ignoring its requirement that projects must be identical or functionally equivalent replacements, or ignoring the additional safeguards in the rule), or confuses it with the proposed facility maintenance allowance that was never finalized. Similarly, it misstates the basic intent of the overall NSR program and mistakenly describes key elements of the program. For example the report fails to acknowledge that NSR only applies when a physical or operational change results in a significant net emissions increase. And, in several places, the report suggests that NSR is an emissions reduction strategy for grandfathered sources. This unsupported opinion is in direct conflict with the position adopted by the U.S. Government in litigation before the D.C. Circuit.

See Appendix I  
Note 5

**6. The Report Reflects Serious Misunderstandings about the Development of the ERP within EPA.** The report incorrectly states that OAR issued the ERP rule. The ERP rule was signed by the Administrator and issued by EPA after a full intra-agency process. OECA, OAR, and other offices participated in this process, advocated their positions, and provided input into the Administrator’s decision. The report also makes much of a June 2002 memo from OECA to OAR. This memo is a deliberative agency document that should not be disclosed in this report. In any event, the report mischaracterizes its content. The report also implies in several places that the rule was not developed using an “open, public, and transparent” process, which is simply not the case. These major errors create a vastly different picture of the ERP rulemaking process than the one that actually occurred, and must be corrected.

See Appendix I  
Note 6

**7. The Report confuses the issue of enforcement against pre-ERP conduct with the question of how to structure the NSR program for future purposes.** For example, the preamble to the proposed ERP rule includes a discussion of how power plant operators are expected to behave when given the choice of submitting to NSR or choosing one of several lawful alternatives. EPA concluded that power plant operators would avoid NSR in virtually all circumstances given the substantial operational and economic ramifications of retrofitting state of the art air pollution control devices. Yet, in several places, the Report mistakenly cites this conclusion as evidence that EPA had failed to consider the possible impact of the ERP on pending and possible enforcement cases against past activities. In fact, EPA’s projection of future behavior under a revised NSR program has no bearing whatsoever on EPA’s ability to enforce against pre-ERP conduct. Similar analytical mistakes appear throughout the Report.

See Appendix I  
Note 7

## ***Additional Information Submitted By EPA Supplementing Summary Comments to Draft Report***

Thanks again for taking the time to meet with Tom and me on the 14<sup>th</sup> to discuss OIG's draft report on the Equipment Replacement Rule. Listed below is the additional information you requested at the meeting. Please feel free to call me if you have more questions about the ERP or our comments on the draft report.

### **1. Additional Information on Clean Air Interstate Rule (CAIR):**

**(a) Emissions reductions under CAIR will be greater.** The draft report estimates that all settled, filed, and referred NSR cases against power plants, as well as other cases that could be referred within 30 days, would eventually achieve the following emission reductions, assuming that the government prevails in all the cases or settles them on favorable terms:

See Appendix I Note 1
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- **2.2 million tons of SO<sub>2</sub> per year**
- **0.8 million tons of NO<sub>x</sub> per year.**

These reductions fall far short of the mandatory reductions required under CAIR:

- **6.7 million tons of SO<sub>2</sub> per year**
- **2.4 million tons of NO<sub>x</sub> per year.**

**(b) Emissions reductions under CAIR will be more cost-effective.** As demonstrated by the Acid Rain Program and the NO<sub>x</sub> SIP Call, a cap-and-trade approach is the most cost-effective approach for reducing emissions from the power sector. We have learned that, among other things, a cap-and-trade approach generally results in emission controls being installed at the largest plants. On the other hand, an enforcement approach is generally limited to plants at which NSR violations have occurred – and not necessarily the plants that are most cost-effective to control. Settlements may allow EPA and an individual company to focus on achieving the most cost-effective reductions available from that company. But by definition, an NSR-type approach cannot be as cost-effective as a broad cap-and-trade approach like CAIR.

See Appendix I Note 1
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**(c) Emissions reductions under CAIR are more certain.** The legal basis for CAIR is same as the legal basis that the Agency employed in the NO<sub>x</sub> SIP Call. This approach has already been upheld by the D.C. Circuit – the only Court in which CAIR can be challenged. Because we have closely followed the NO<sub>x</sub> SIP

See Appendix I Note 1
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Call precedent, we are highly confident that CAIR will be upheld in Court, and that the projected emission reductions will be achieved as scheduled.

For a number of reasons, there is much more uncertainty about the emission reductions that will be achieved through NSR enforcement actions. First, the enforcement actions are being litigated in several different courts around the country, and most of them are far from being resolved. Thus far, only two district courts have made substantive rulings in power plant NSR enforcement cases – one siding strongly with EPA (against Ohio Edison) and the other siding strongly with the defendant (Duke Power). Even in the Ohio Edison case, the emission reductions that will occur are uncertain. Although the Court found in favor of EPA on liability, the Court has scheduled a second trial to determine what the remedy will be. Even this second trial is not necessarily the end of the matter. Both the finding of liability and the decision on remedy are subject to further judicial appeals.

See Appendix I  
Note 3

Another major issue in the NSR cases is the relationship between NSR and the Acid Rain program. In NSR enforcement cases, the courts clearly have authority to order a power company to install emission controls at any plant that was modified without obtaining the necessary NSR permit. However, no court has addressed the issue of whether, as a remedy in an NSR enforcement case, it can eliminate or “retire” SO<sub>2</sub> allowances that Congress has granted under another section of the Act – allowances that companies, by statute, continue to receive every year. Unless these allowances are retired, total emissions from the power sector will remain the same. Although the affected plants may be required to reduce their emissions, an equivalent amount of emissions will be emitted elsewhere else in the U.S.

See Chapter 3 of  
Report - section  
titled “EPA  
Settlements With  
Coal-Fired Electric  
Utility Companies”

A similar issue arises under the NO<sub>x</sub> SIP Call, which created a cap-and-trade program to reduce summertime Nox emissions in the eastern U.S. It is patterned after the Acid Rain Program, so the number of summertime Nox allowances in the SIP Call region remains the same, regardless of whether certain plants are required to go through NSR. It likewise could mean that if an enforcement action requires Nox reductions at one plant, the same amount of Nox will be emitted somewhere else in the SIP Call region – at least during the five-month ozone season.

**(d) Emission reductions under CAIR will likely be realized sooner.** The timing of the emission reductions from the NSR cases is very case-specific, so it is difficult to compare CAIR to NSR enforcement on this metric. It is clear that the settled NSR cases will result in earlier wintertime Nox reductions than would occur under CAIR, because the defendants in these cases have agreed to operate their SCRs year-round several years earlier than would be required under CAIR. As for the NSR cases still in litigation, both the timing and magnitude of further Nox reductions are uncertain.

See Appendix I  
Note 1

With respect to SO<sub>2</sub>, NSR enforcement actions do not reduce SO<sub>2</sub> emissions from the power sector until the targeted company is required to retire some of its Acid Rain allowances. In the settled cases, companies have agreed to retire a specific number of allowances, but not until 2012 in most cases. Because CAIR provides for “banking” of early reductions, our analysis shows that actual reductions in SO<sub>2</sub> emissions will occur shortly after the rule is finalized – and that substantial emission reductions will occur well before 2012.

**(e) Emission reductions under CAIR can be achieved far lower cost to the government.** It would take time to gather comprehensive data on this issue, but there is no doubt that the development and implementation of CAIR will be less costly for the government than the NSR enforcement initiative has been. The Agency launched its power sector NSR enforcement initiative in 1998, and has been aggressively pursuing it since that time. The power plant NSR enforcement cases have occupied the largest share of OECA’s resources for the last several years, and we understand that DOJ is also devoting substantial resources to these cases. Even though OAR has been devoting substantial resources to the development of CAIR, case-by-case litigation (especially district court litigation with substantial discovery on both sides) is much more resource intensive than rulemaking.

See Appendix I  
Note 1

**2. Update on the Status of finalizing CAIR:** As you noted in the meeting, the Administrator has stated both in internal Agency meetings and in public speeches that he plans to finalize CAIR by the end of calendar 2004. OAR is on track to have a draft final rule completed in the next few weeks.

See Appendix I  
Note 1

**3. Support for the 20 Percent Rule Other Than the WEPCO Ruling:** I am sending you hard copies of excerpts from two Federal Register notices that explain the basis for selecting 20%. Section III.C. of the final rule preamble identifies five separate factors that we relied upon in selecting 20%. 68 Fed. Reg. 61248, 61255-8 (Oct. 27, 2003). A more concise explanation of these factors is provided in the notice granting administrative reconsideration on the basis for the 20% threshold. 69 Fed. Reg. 40278, 40282. The analysis in both of these documents relies on additional materials that can readily be retrieved from the docket for the ERP rulemaking.

See Appendix I  
Note 4

As noted in our comments on the draft report, it is very important to remember that the 20% threshold is only one of four criteria for determining whether an activity qualifies for the ERP. *Most important, a project can only qualify for the ERP if it involves the replacement of equipment with equipment that is identical or functionally equivalent and if the project does not change the basic design parameters of the emissions unit.*

See Appendix I  
Note 5

**4. GAO Report and Page Number Cited in EPA Comment #3:** Again, I am sending you a copy of the cover page of the relevant GAO report, along with the particular page cited in Comment #3. The entire report can be downloaded from GAO’s website ([www.gao.gov](http://www.gao.gov)).

See Appendix I  
Note 3

**5. Court Case Cited In EPA Comment #5:** I am sending over the cover page and relevant text pages from the brief the U.S. Government recently filed in the D.C. Circuit litigation over the December 2002 NSR improvement rules. Subsection b, which begins on the bottom of page 73, explains that NSR is not a program intended or designed to reduce emissions from existing sources. Rather, it is a program to control emissions increases from the construction of new major emitting facilities and the modification of existing major emitting facilities where the modification would result in a significant net emissions increase.

See Chapter 1 of Report - section titled "New Source Review Established to Improve Air Quality"

**6. Explanation of How Report Mischaracterizes June 2002 Memo From OECA to OAR Cited in EPA Comment #6:** Contrary to its characterization in the draft report, the June 2002 memo does not address what has come to be called the Equipment Replacement Provision. Instead, it addresses a different approach called the "Annual Maintenance Allowance." We proposed an Annual Maintenance Allowance rule as part of the package that included the Equipment Replacement Provision proposal; however, the Administrator decided not to finalize the Annual Maintenance Allowance. In short, the comments and recommendations in the June 2002 memo do not relate to the Equipment Replacement Provision.

See Appendix I Note 6

**7. Explanation of How the Future Effect of Rule Changes is a Distinct Issue From the Possible Impacts of a Rule on Past Activities:** This is a fundamental point and one that is confused in the draft report. When OAR analyzes a rule, we assume that sources covered by the rule will comply with the rule in the most cost-effective way possible. We do not assume that a significant number of affected sources will choose not to comply – or that they will choose to comply in ways that are more costly than required. In our analysis of the NSR program, we used this same approach.

See Appendix I Note 7

As explained in both the preamble and the RIA to the proposed ERP rule, we concluded that, in virtually all cases, power plants that currently do not have state-of-the-art pollution controls will employ legally permissible strategies to avoid triggering NSR when planning for future changes of their facilities. The reason is easy to understand. If they were to trigger NSR, they would be required (in most cases) to install pollution controls costing tens to hundreds of millions of dollars, depending on the size of the affected unit. Few, if any, projects provide the economic return to the company that would justify such expenditures. Thus, rather than choosing to trigger NSR, they will choose other legally permissible ways to comply with the program (such as taking a "permit limit").

This conclusion is consistent with our experience with the NSR program. We are not aware that any existing power plant has chosen to go through the NSR program when replacing equipment or components at its plant. (In other words, no existing power plant has voluntarily gone through the NSR program and, as a result, installed modern pollution controls.)

It appears that, in the past, many power plants chose *not* to comply with the program. Instead, they went ahead with equipment replacement projects without going through NSR and installing modern pollution controls. Their argument is that these projects were simply "routine

maintenance” and thus did not trigger NSR. These issues are at the heart of the current NSR enforcement initiative against the power sector.

However, because of the high profile enforcement initiative, it is no longer feasible for power plants to choose not to comply with the NSR program. Again, the reason is easy to understand. In the past, perhaps they thought that EPA would not bring enforcement cases for NSR violations in the power sector. Because it is now clear that we are willing to bring such cases, it would be extremely unwise for power plants to choose not to comply with NSR – because the expected result of that choice would be very costly to the company. Again, our analysis found that, rather than choosing to trigger NSR or not to comply with it, they will choose other legally permissible ways to comply with the program.

Thus, when analyzing the ERP rule, we used the same assumption that we always use when conducting regulatory analysis: that affected sources will comply with the NSR program (either the pre-existing NSR program or the program as revised by the ERP rule) and that they will choose the most cost-effective way of doing so.

It is important to distinguish this type of analysis from the analysis that OIG was called upon to conduct. We analyzed the NSR program (and the ERP rule) as an ongoing regulatory program that will affect decisions companies make *in the future*. This is very different from the analysis that is needed to determine how the ERP (or any other change to the existing NSR program) might affect the Government’s ability to prosecute (or settle) claims related to activities that companies have undertaken *in the past*.

## ***OIG Evaluation of Agency Responses to Draft Report***

**Note 1 -** We reviewed the Agency's comments on the proposed CAIR initiative and appreciate EPA's efforts to finalize this rule. The draft report did not address EPA's other proposed and implemented reform initiatives to reduce emissions at coal-fired utilities including CAIR (previously known as the Interstate Air Quality Rule) because it was not the objective of this review. Our review assessed the rule change's impact on EPA's enforcement policies, practices, and activities for coal-fired electric utilities. The Agency response provided a detailed comparison between the merits of NSR enforcement compared to CAIR, which we included in Appendix G. CAIR and NSR enforcement are two distinct efforts intending to achieve the same goal of emissions reductions. We do not believe that the Agency must select one approach over the other, but instead should pursue both courses of action. In addition to not comparing CAIR and NSR enforcement, we did not perform a cost-effectiveness analysis between the two initiatives, or other ongoing or planned actions to address pollution from coal-fired electric utilities. Nonetheless, we have revised our report to more fully describe the CAIR rule and the current status of EPA's efforts to issue it.

We have revised the report to reflect EPA's comment regarding the use of the phrase "most promising" when referring to NSR enforcement. We recognize that there are uncertainties with whatever approach the Agency employs to achieve emissions reductions. We changed the final report to state that, to date, NSR enforcement is "a promising" course of action.

We disagree with the Agency's comment that our draft report suggests that emissions reductions "would not be realized" under programs other than NSR enforcement. Again, our evaluation did not compare NSR enforcement to projected emissions reductions from "other programs." We did, however, modify our report to clarify this statement.

**Note 2 -** We agree that there are factors other than the rule change influencing the pursuit of enforcement cases, such as resource constraints on the part of EPA and DOJ. As such, we note that we had already referred to these limited resources three times in our draft report. In its response, the Agency believed that more emphasis should be placed on these other factors, particularly resources committed by EPA and DOJ to the ongoing prosecution of existing cases, the effect these limited resources have on filing cases, and the potential for other factors to affect the decision to file a case. We have modified the report to add even more emphasis to the resource issue influencing the development of NSR enforcement cases.

EPA responded that it is enforcing the old NSR rule. However, the one new enforcement case filed (East Kentucky) since issuance of the October 27, 2003, rule violates the ERP limit of 20 percent (the new rule). Therefore, we continue to believe that our observation that no new enforcement actions have been taken against coal-fired utilities alleged to have violated the old NSR rule is accurate.

**Note 3 -** We have revised Table 2.1 to more accurately reflect the specific sources of the views of OAR and OECA officials, as well as when these viewpoints were expressed to us. However, we disagree with the Agency's comment that the interviews represented a limited number of former EPA officials and did not constitute support for our conclusions. Our interviews were with EPA staff who were current EPA employees at time of the interviews. More importantly, these were key officials and some of the most knowledgeable individuals of EPA's air enforcement efforts against coal-fired electric utilities. In December 2003 and January 2004, views of key OECA officials were expressed to us by the (then) Assistant Administrator for Enforcement and Compliance Assurance, and the (then) Director of OECA's Air Enforcement Division responsible for enforcing NSR cases at utilities. Both officials have since left the Agency. These views were also expressed by OECA staff. The views of the Acting Assistant Administrator for Enforcement and Compliance Assurance were different when we met with him in September 2004 in that he expressed support for the rule. Nonetheless, we have modified our report to clarify these distinctions.

Interviews were just one of many sources of data we used to support our report and the conclusions we formed. This data included enforcement records for cases in litigation, settled, and being developed. We also performed extensive work in understanding how potential emissions reductions were calculated by both OECA and OAR. For example, as described in Appendix E of the report, our calculations accounted for emission reductions achieved by both the NO<sub>x</sub> SIP call and the Acid Rain Program. Also, we reviewed OAR's and OECA's impact analyses of the new rule.

We disagree with the Agency's assertion the "draft report either fails to mention or glosses over evidence that is not consistent with its conclusion." Our draft report included a discussion of the *U.S. v Duke Energy* ruling, as well as the *U.S. v Ohio Edison* ruling. Our draft report stated these two divided rulings illustrate the uncertainty with EPA's litigation efforts. We agree with EPA's response that, in settlement negotiations, it is not always clear why companies cease negotiations, and that the *Duke* summary judgment may have been a contributing factor to the breakdown in negotiations with the utility in question, as well as with other utilities. However, enforcement experts in OECA stated that they believe this company withdrew primarily because of the NSR rule change, also known as the ERP rule.

The Agency commented that page 26 of GAO report No. *GAO-04-58* concluded that the ERP rule will have no impact on the merits of ongoing cases, and “may affect” judges’ decisions regarding remedies. We also acknowledge EPA reference to DOJ’s opinion on the impact of the new rule, which is stated on page 27 of the same GAO report: “DOJ also reiterated that its position as to the potential impact of the NSR rule announced in August 2003 has always been consistent and is reflected in its court filings – ‘that the rule only governs prospective conduct and should not impact the liability of companies who violated the law in the past.’”

However, we note that on page 26 of the report where GAO concluded that there may be an impact on ongoing cases, the report subsequently stated that:

*Furthermore, the announced August 2003 rule exempting the replacement of certain equipment from NSR requirements – the fundamental basis for most of the coal-fired utility cases – also likely will discourage utilities from settling at least some of the remaining cases. The rule may also affect judges’ decision regarding whether the companies have to install pollution controls, jeopardizing the expected emissions reductions.*

It is also important to note that GAO’s report was issued before the rule was finalized on October 27, 2003, and thus represented GAO’s best estimate of what might occur. Our work began after the rule was issued and as a result, was based on what occurred as compared to what might occur.

**Note 4 -** We disagree with the Agency’s comment that the 20-percent threshold is not relevant to the issue of whether the ERP is having an impact on enforcement cases. To the contrary, we continue to believe that the new rule finalized on October 27, 2003 – which set a 20-percent threshold for routine maintenance – has substantially impacted NSR enforcement. In response to the Agency’s recommendation that we delete the entire discussion of the 20-percent threshold, it is the responsibility and duty of the OIG to report on information used to develop Agency policy, including EPA’s decision to establish a 20-percent threshold.

In addition, EPA had recommended that we also consider findings from case studies performed in other industry sectors. However, case studies from other industry sectors were not included in our review because EPA’s enforcement practice is predicated upon an industry-specific strategy, and, as noted earlier, other industry sectors were not included in the objectives of this evaluation and thus were outside the scope of our review.

Our report acknowledges that the preamble to the ERP rule states that other key factors were used in setting the threshold. We requested detailed information supporting the choice of a 20-percent level and were provided with the WEPCO ruling. Although we sought to obtain the basis for the 20-percent threshold from

many EPA sources during the course of our work, and were promised additional documentation supporting the 20-percent threshold during our September 2004 meeting with the Assistant Administrators for Air and Radiation and Enforcement and Compliance Assurance, no new information was provided. Rather, we were pointed to the preambles of the Federal Register notices we had already reviewed and discussed in depth with Agency officials in our attempts to obtain the data or analyses that underpinned the statements in the preamble. Our report notes that, “Although the preamble states that the 20-percent threshold is supported by available data for the electric utility sector, and that EPA has a detailed set of information available on maintenance, repair, and replacement activities for the electric utility sector, the Agency was unable to provide further support to us for how the 20-percent threshold was determined.” Our report further notes that, “After reviewing documents provided by OAR and interviewing OAQPS officials knowledgeable with how the ERP percentage was determined, the only documented reason provided to us for the 20-percent threshold was the WEPCO ruling.” The report explains further that we were not provided with any “evidence that the percent of ERP in ongoing enforcement actions was considered by Agency in determining the ERP percentage.”

Our report addresses the relationship of the New Source Performance Standards preconstruction provisions in Chapter 2 (and in Footnote 10) and further defines New Source Performance Standards by stating that “the New Source Performance Standards provision of the Clean Air Act requires owners to install air pollution controls when capital costs exceed 50 percent of the cost of the unit.”

**Note 5 -** We do not agree with the Agency's comment that the report inaccurately describes how the final rule works. We recognize that there are other provisions to the ERP rule beyond the (20-percent) cost threshold and we had previously described those provisions in chapter 1 of the draft report. Specifically, our draft report already discussed the requirement that projects must be identical or functionally equivalent replacements in the first paragraph under the heading *October 2003 NSR Rule Creates Equipment Replacement Provision*. Additionally, this section of our draft report already listed the three "additional safeguards in the rule" that EPA is commenting on here. Further, our draft also had addressed the issue of replacement with identical components or their functional equivalents a second time in chapter 2.

We do not agree with the Agency's comment that our report “misstates the basic intent of the overall NSR program and mistakenly describes key elements of the program.” The report does acknowledge that NSR only applies when a physical or operational change results in a significant net emissions increase. Chapter 1 of our draft report provided the definition (in italics) of modification according to the Clean Air Act: “. . . any physical change ... of a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted...” Chapter 1 also states

"Congress required that newly built and modified sources must prevent pollution, upgrade their equipment, or install pollution controls." However, it should be noted that the enforcement actions that OECA has been pursuing against coal-fired utilities involve utilities that are alleged to have significantly increased their emissions.

Our report does not state, nor do we infer, that NSR is an emissions reductions strategy. However, emissions reductions are, and will continue to be attained through NSR enforcement actions. Our report has provided information on the substantial emissions reductions from NSR settlements and projected the potential reductions from possible future settlements.

**Note - 6** We revised the report to state that EPA issued the rule and, at the advice of OIG Counsel, removed references to the June 2002 memorandum. In the December 2002 proposed NSR rule, the Agency requested public comment on the appropriate percentage for defining routine maintenance. Commentors suggested percentages ranging from .1 to 50 percent, clearly showing that there were varying opinions on what the percentage should be. Because the proposed rule did not cite 20 percent as the threshold, there was no opportunity for the public to comment on the appropriateness of setting the threshold at 20 percent.

In its comments, EPA also asserts that the comments and recommendations in the redacted June 2002 memorandum relate only to the "Annual Maintenance Allowance" and not to the Equipment Replacement Provision. However, in our many discussions with OECA officials, when describing projects at coal-fired utilities, the terms "maintenance" and "replacement" were used interchangeably to describe these projects. In many instances, when describing the projects to us in detail, the activities being referred to as maintenance were actually the replacement of power-generating equipment. Regardless of whether EPA refers to the activities as annual maintenance or as equipment replacement, the end result is likely to be the same – the life of the equipment is extended to gain lost capacity, which results in increased emissions, and NSR is avoided.

**Note - 7** We disagree with the Agency's suggestion that our report "mistakenly cites" the fact that EPA assumed that "power plant operators would avoid NSR in virtually all circumstances" as evidence that EPA had failed to consider the possible impact of the ERP on pending and possible enforcement cases against past activities. As evidenced by the number of ongoing enforcement cases against coal-fired electric utilities, these power plant operators are undertaking projects that trigger NSR, but are not notifying EPA.

EPA's Regulatory Impact Analysis concluded that the rule "will not have a significant impact, up or down, on emissions from the power sector." However, EPA did not include emission reduction estimates achieved from settled cases or projected for ongoing cases. Had EPA considered NSR enforcement

accomplishments to date, we believe the impact analysis would have projected an increase in emissions from future NSR enforcement cases that would be lost due to the 20-percent threshold.

We also disagree with the Agency's contention that EPA's projection of future behavior under a revised NSR program does not affect EPA's ability to enforce against pre-ERP conduct. In a January 2004 interview with the Assistant Administrator of OECA (while he was still in that position), he stated that the new rule made it hard to enforce NSR violations that occurred under the old rule. In addition, three of nine utilities in ongoing litigation have asserted that their actions would not be a violation under the new rule and that, as a result, enforcement should cease or the court-imposed remedy be heavily reduced. Also, since October 27, 2003, there have been no new enforcement actions taken against coal-fired utilities alleged to have violated the old NSR rule. The only additional case filed is against a utility alleged to have violated the new rule, exceeding the 20-percent threshold.

## **OIG Evaluation of Additional Agency Responses**

### ***EPA Detailed Comments***

The Agency also provided us with line-by-line detailed comments to our draft report. We made changes to our report based on these comments as appropriate. These comments included technical clarifications, as well as requests to remove certain information in our report which the Agency believed to be outside the stated scope of our assignment. For example, the Agency did not believe that we should include information from the prior GAO and NAPA reports in our discussion related to the justification for the 20-percent threshold. We did not make this change; however, we agreed to add the Agency's response to the NAPA report in this section of our report. The Agency also suggested that in Appendix B, we delete the reference to the studies that estimated health effects from NO<sub>x</sub> and SO<sub>2</sub> emissions from power plants. The Agency asserted that it was misleading to call these studies, that we did not have a comprehensive listing of studies dealing with the health effects, and that this list was biased towards those groups that opposed the NSR change. While we did not delete reference to these studies, we added the citations provided by the Agency to this appendix, along with their views, and we also noted, as suggested in their comments, that health effects information is available on EPA's web site.

### ***EPA Office of General Counsel Comments***

EPA's Office of General Counsel (OGC) also provided three sets of comments asserting that portions of the report involved internal, deliberative communications, and thus were exempt from disclosure under exemption #5 of

the Freedom of Information Act and should not be released because of the deliberative process privilege. OGC also asserted that certain information in the draft report was enforcement sensitive, and thus should not be included in the report. OGC recommended that these portions be deleted from the report and protected from public release. At the advice of OIG Counsel, we redacted some of the enforcement information from the final report, and we redacted some of the information asserted to involve internal deliberative communications. In other instances, upon the advice of OIG Counsel, information asserted to be covered by the deliberative process privilege remained in our report. Specifically, we redacted information that had appeared in the July 23, 2004 draft report, Chapter 2, in the section entitled *Differing Views on Impact of New Rule*. The redacted materials in Chapter 2 included a May 4, 2001 memorandum from (then) EPA Administrator Christine Whitman to Vice President Cheney; a June 2002 memorandum from the (then) Principal Deputy Assistant Administrator for OECA to the Assistant Administrator for Air and Radiation; and a July 31, 2003, e-mail from the (then) Director - Air Enforcement Division, OECA, to the Assistant Administrator for Enforcement and Compliance Assurance. The redacted materials in Chapter 3 included all references to the precise number of active utility enforcement cases that EPA and DOJ were pursuing at the time of our work. These numbers appeared in several places in Chapter 3, including Table 3.3. To the extent that information redacted from Chapters 2 and 3 appeared in the Executive Summary, it was also redacted.

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