

Originally Processed With FOIA(s):
2001-1865-F

FOIA Number:
2001-1865-F

FOIA MARKER

**This is not a textual record. This is used as an
administrative marker by the George Bush Presidential
Library Staff.**

Record Group/Collection: George H.W. Bush Presidential Records
Collection/Office of Origin: Counsels Office, White House
Series: Holmstead, Jeffrey, Files
Subseries: Environmental Subject Files

OA/ID Number: 45127
Folder ID Number: 45127-014

Folder Title:
EPA [Environmental Protection Agency] - Miscellaneous: Navajo [Generating Station]

Stack:	Row:	Section:	Shelf:	Position:
G	12	8	1	2

FAX COVER SHEET

DILWORTH, FAXSON, KALISH & KAUFFMAN
1001 Pennsylvania Avenue, N.W.
Suite 275 North
Washington, D.C. 20004
U.S.A.
(202) 624-5900
(202) 624-5904 (Fax)

DATE:

July 25, 1991

TO:

NAME

JEFF NORMSTEDT

COMPANY NAME

TELECOPY #

202 456 7929

FROM:

NAME

BOB JORDAN

TELEPHONE #

NUMBER OF PAGES INCLUDING COVER PAGE:

5

CLIENT/MATTER: _____

USER NUMBER: _____

COMMENTS:

ONLY SONIC OR FIVE PRESS.
B.

IF YOU HAVE ANY PROBLEMS RECEIVING THIS MESSAGE
OR DON'T RECEIVE ALL OF THE PAGES, PLEASE CALL
(202) 624-5900

Rule may be stricter than EPA proposal

EPA STAFF SAY DEAL IS CLOSE ON MAJOR POWER PLANT VISIBILITY CONTROLS

EPA staff at presstime were expressing guarded optimism that the agency may have a settlement between industry and environmentalists over a rule to control emissions at a major power plant linked to visibility distortion at Grand Canyon National Park, which may include tighter regulations than proposed by EPA in February. The agency has preferred to get a settlement instead of promulgating a rule on its own, fearing that lack of industry input could prompt review by the White House Council on Competitiveness, which has not been friendly to EPA positions (*Inside EPA*, June 14, p8). After hours of negotiations, EPA staff are hopeful a deal may be sealed.

The negotiations involve what level of controls should be imposed on the Navajo Generating Station, one of the largest coal-fired power plants in the country, which has been associated with diminished visibility at the Grand Canyon. EPA, under a court-ordered deadline, proposed 70% emission controls on the plant earlier this year (*Inside EPA*, Feb. 1, p1). Environmentalists have pushed for 90% emission controls -- which EPA Air Office staff have endorsed -- and the plant's operators, Salt River Project, have favored a more lenient approach. Despite these discrepancies, agency sources say EPA may actually craft a deal close to the 90% approach, which EPA had originally lobbied for, due to additional studies which incriminate the Navajo plant as a major pollution source and suggest added benefits from increased controls.

Participants in the negotiations were extremely tight-lipped about progress on talks. EPA sources, however, were expressing some optimism that a deal could be reached this week. Assistant administrator of EPA's Air & Radiation Office William Rosenberg had set a July 4 deadline for completing the rulemaking to send to the Office of Management & Budget, and agency sources are still hopeful this can be met. One agency source described Rosenberg's mood as "upbeat," suggesting a deal was imminent. "Rosenberg seems to think he has a deal," another agency source confirms, adding that it is likely the controls will exceed 70%. "They're making significant progress," another EPA source says of the talks. This source, while not revealing details, says the deal being discussed "generally involves more reductions" than the 70% proposal.

Neither environmentalists nor industry representatives party to the discussions were willing to discuss any details of the expected settlement.

Urge EPA to reject reduced risk assessment

FORMALDEHYDE RISK ASSESSMENT SKEWED BY BIASED SCIENTISTS, LABOR UNION SAYS

A major labor group is urging EPA's Science Advisory Board to reject an agency recommendation to lower the cancer risk assessment for formaldehyde, charging that scientists reviewing key data were biased due to their direct association with the company conducting the risk analysis. The group, which represents auto workers -- who are exposed to formaldehyde on a daily basis -- contends that the risk assessment is skewed and that the reduced assessment may lead to lower safety standards.

EPA's office of toxic substances proposed revising its risk assessment for formaldehyde after the Chemical Industry Institute for Toxicology (CIIT) -- which conducted the original formaldehyde cancer risk studies -- presented evidence suggesting that its laboratory's new methodology, cancer risks had been overstated in the 1987 assessment. SAB reviewed the updated risk assessment last November, commented on the draft and asked OTS to incorporate their comments in a new report. The report, which is being reviewed by the board, which according to an EPA source is now reviewing the revised document, will take up the matter at a July 17 meeting.

A United Auto Workers health office spokesperson charges that the CIIT produced the original framework for analyzing formaldehyde risk, conducted part of the research, and then positively evaluated their own data as part of an SAB review of EPA's formaldehyde risk assessment data. This source adds that two members of the SAB committee reviewing OTS' new risk assessment serve on CIIT's board and therefore could not be objective in their analysis of the new report. This source says that UAW's concerns about the report were ignored at the original review and that the group is now preparing written comments for the upcoming SAB meeting.

EPA sources deny that the findings of the report were "stacked" in any way. One EPA scientist calls the new evidence "completely credible," adding that even if two members of the review committee wanted to sway the SAB to their position, they would have to convince the entire board that their arguments had scientific backing. Another EPA source says the union's charges have no validity and that those conducting the review "are some of the best chemical toxicology minds in the country" and would not be swayed by non-scientific arguments.

EPA sources predict the conclusion of the OTS updated risk assessment will not change and that OTS

July 18, 1991

Accord might be near in talks on Page power plant emissions

By Michael Murphy
THE PHOENIX GAZETTE

WASHINGTON — Negotiations resumed this week between conservationists and owners of the coal-fired Navajo Generating Station over new pollution controls aimed at reducing haze over the Grand Canyon.

The talks could lead to new federal regulations in November for cutting emissions from the Page plant, which conservation groups blame for reducing visibility in the Grand Canyon.

Environmental Protection Agency officials had set a July 4 deadline for the two sides to complete negotiations, but they apparently agreed to extend the talks in light of a possible compromise.

Doug Frerichs, a spokesman for the Salt River Project, said Wednesday that the talks have been productive.

"SRP has reason to be optimistic, but still no agreement has been reached," he said. Salt River Project is negotiating on behalf of the plant's operators, which

include Arizona Public Service Co. and the U.S. Bureau of Reclamation.

The EPA's office of air and radiation issued a statement saying that while no agreement has been reached, "the agency is very optimistic."

"Given the importance of improving the visibility and air quality around the Grand Canyon, and significant costs to the power plant and its ratepayers, the EPA welcomes further discussions and will consider any recommendations by the parties very seriously," the statement said.

The agency has proposed requiring the plant's operators to cut emissions 70 percent, although some conservationists want to see a 95 percent reduction in the plant's sulfur dioxide emissions.

According to EPA figures, a 70 percent reduction would cost the plant owners as much as \$1 billion, and ratepayers would see their power bills increase as much as \$2.80 a month to finance the installation of state-of-the-art equipment.

The plant owners claim that \$1 billion is too much to spend to cut haze that they claim is only partially caused by the plant. They point to smog drifting east from Los Angeles as a major factor.

Grand Canyon Trust President Ed Norton, who is negotiating with SRP and the Environmental Defense Fund, also was optimistic that a compromise would be reached but declined to elaborate.

Both sides have agreed not to discuss details of the negotiations until a final compromise is hammered out.

The Arizona Daily Star

SRP

July 14, 1991

EPA and owners set to debate pollution standards for sulfur-emitting Navajo plant

WASHINGTON (AP) — Owners of the coal-fired Navajo Generating Station, blamed for most of the haze clouding vistas in the Grand Canyon and southern Utah, are bargaining with federal officials over new pollution controls.

The federal Environmental Protection Agency is reportedly awaiting the outcome of the talks before it tackles its final version of new regulations for cutting the 2,350-megawatt plant's sulfur dioxide emissions, some of which reportedly drift 60 miles into Bryce Canyon National Park.

"Although no agreement has been reached ... the agency is very optimistic," reads a statement issued last week by the EPA's office of Air and Radiation.

and other plant owners.

Grand Canyon Trust, a Flagstaff-based conservation group, is at the table negotiating on behalf of itself and the Environmental Defense Fund, which filed a 1982 lawsuit that resulted in a court order mandating scrubbers at the Page plant.

Both sides have declined to discuss details of the negotiations, nor would they predict the likelihood of a successful compromise.

"Negotiations have been productive, but our emphasis is that there has been no agreement," said Doug Frerichs, an SRP spokesman in Washington.

Grand Canyon Trust president Ed Norton said a

In the event of an impasse, the EPA is under court order to force the Salt River Project and the plant's five other owners to install state-of-the-art technology to reduce sulfur dioxide emissions.

The agency proposed in February to require the utility to cut the haze-producing emissions by 70 percent, although some national park advocates say that is not enough.

The EPA estimates ratepayers would see their power bills increase as much as \$2.80 a month to finance the renovations, which could cost nearly \$1 billion.

Representatives of the Salt River Project, a quasi-governmental utility, are negotiating on behalf of Arizona Public Service Co., the U.S. Bureau of Reclamation

Wide variety of issues have been raised at a half dozen meetings.

A 1987 park service study blamed the Navajo plant for about half of the haze in the canyon. Brigham Young University scientists have traced 44 percent of the sulfate pollution in Bryce Canyon to the plant.

But plant owners say \$1 billion is too much to pay for measures that will solve a problem for which the plant is only partly to blame. They say smog drifting east from Los Angeles, 240 miles away, is a worse culprit.

The plant burns about 24,000 tons of coal each day and spews 12 to 18 tons of sulfur dioxide an hour.

THE ARIZONA REPUBLIC

July 12, 1991

GRAND CANYON HAZE

Compromise in the works

FOR the past several weeks the various factions in the effort to clean up the winter haze at Grand Canyon National Park have been negotiating a plan to reduce sulfur dioxide emissions from the Navajo Generating Station at Page. Lately the signs are that a compromise is in the works.

The clearest indication of a pending accord was the decision to prolong the talks beyond the July 4 deadline set by William Rosenberg, assistant administrator of the Environmental Protection Agency. A recent EPA statement suggested that enough progress was being made on the issue of anti-pollution controls at the Page power plant to justify more negotiations.

Moreover, the agency's optimism underscores the importance that the Bush administration has attached to resolving this dispute. The Bureau of Reclamation owns the largest share of the power plant. Given Mr. Bush's desire to be known as "the environmental president," the idea of the feds contributing to canyon air pollution would hardly be welcome.

Should the talks between the EPA, the Salt River Project and the non-profit Grand Canyon Trust collapse, it would be up to the EPA to impose a cleanup plan on the coal-fired power plant. Depending on what action the EPA took, SRP and the other utilities that own the power plant or the environmental community could

take the matter to court, and that would further delay emission controls at Navajo.

This point should not be lost in the wrangling over the technical arcana on reaching an agreement on emission limits. To be sure, the issue of the canyon's haze has been studied to death. It remains only to apportion the power plant's contribution to the problem. Is Navajo a "major contributor" (as the National Park Service insists), has it "contributed significantly" (as the National Research Council concludes), or is the plant's contribution less than 10 percent (as SRP, the plant's operator, alleges)?

The Interior Department has been conspicuously absent from the talks and appears content to sit on the fence. It has refused to back either the NPS call for a 90 percent emission reduction or the Bureau of Reclamation's desire to do nothing at all. Nevertheless, Secretary Manuel Lujan is obliged to protect the national parks and he should take a position. Furthermore, the power plant's operators agreed in their original environmental impact statement to install anti-pollution equipment, a promise that remains unfulfilled.

At least Interior's wishy-washiness has not deterred the EPA from pushing hard for a satisfactory resolution of the issue. All the parties to the dispute should keep working to achieve the best possible reduction of emissions from the Navajo plant.



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

AUG 2 1991

MEMORANDUM

OFFICE OF
GENERAL COUNSEL

SUBJECT: Legal Rationale for Rulemaking Alternative
in Grand Canyon Visibility Proceeding

FROM: Gregory B. Foote *Gregory B. Foote*
Assistant General Counsel

TO: William G. Rosenberg
Assistant Administrator
for Air and Radiation

INTRODUCTION

You have requested my opinion regarding a possible legal rationale in support of a rulemaking alternative for the February 1991 proposal to establish, under section 169A of the Clean Air Act, sulfur dioxide emission limitations at the Navajo Generating Station (NGS) in order to remedy visibility impairment at Grand Canyon National Park. In particular, you have asked that I review a joint letter dated July 30, 1991 from Patrick M. Raher, representing the Grand Canyon Trust and the Environmental Defense Fund (GCT/EDF), and Henry V. Nickel, representing the Salt River Project (SRP). The Raher/Nickel letter recommends that, in the event EPA adopts a final rule for NGS requiring a 0.10 lbs./mmbtu emission limitation on a rolling annual average, phased in by unit in 1997, 1998, and 1999, EPA should also adopt the legal rationale described in the July 30 letter in support of such a final rule.

At the outset, I note that General Counsel Don Elliott recently responded to Messrs. Raher and Nickel by letter dated August 2, 1991 (copy attached). Don Elliott's letter reminded those parties that EPA must at all times retain full discretion in deciding on both the substantive content of and legal rationale for its final rulemaking actions. Thus, although the General Counsel assured Raher and Nickel that EPA would carefully consider their views, he made it clear that EPA could give no assurance that those views would be adopted. The General Counsel's letter did not address the merits of the Raher/Nickel letter, a subject that I will address below.

BRIEF ANSWER

In brief, the Rahe/Nickel letter would focus on the "reasonable progress" requirement in section 169A(b)(2) as the basis for EPA's final action on the NGS rulemaking. That general approach is basically sound and could, in my opinion, provide the core of a defensible rationale in support of the prospective final rule in question. My views on this rulemaking alternative are set forth in greater detail below. Please note that I have not yet discussed those views in detail with the General Counsel. Once he has reviewed them, however, this memorandum could form part of the basis for a supplemental notice advising the public that EPA is considering the specific regulatory option in question, and soliciting comment on that option.

DISCUSSION

Section 169A(b)(2) of the Clean Air Act requires that visibility implementation plans contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward the national visibility goal. These plan provisions include, as appropriate, BART (section 169A(b)(2)(A)), and a long-term strategy (section 169A(b)(2)(B)). Thus, "reasonable progress" is the overarching requirement that implementation plan revisions under section 169A(b)(2) must address, while subparagraphs (A) and (B) are more specific expressions of rulemaking authority that are incorporated into the parent subsection (b)(2). In crafting the visibility reasonable progress requirements, Congress did not explicitly address, and apparently did not even consider, whether there could be greater visibility improvement at a lower cost in furtherance of the national goal through an implementation plan provision that relied more generally on subsection (b)(2), rather than on the specific provisions of subparagraph (A) and/or subparagraph (B). Where Congress has not directly spoken to the precise question at issue, EPA may make a reasonable construction of the statute that is appropriate in the context of the particular program at issue. Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 842-45 (1984).

In the notice of proposed rulemaking published in the Federal Register on February 8, 1991 (56 Fed. Reg. 5173), EPA proposed a 0.30 lbs/MMBtu emission limitation for NGS, to be determined on a 30-day rolling average and to be phased in by unit in 1995, 1997 and 1999. EPA explicitly requested comment on other control options permitted under the Act including, inter alia, the following rule elements and specific regulatory alternatives:

3

(1) emission limitations, including a limitation of 0.10; (2) averaging times, including an annual averaging period; and (3) implementation schedules, including a schedule that extended to 2000. EPA also solicited comment generally on regulatory issues raised by interested parties. In my opinion, the specific rulemaking alternative now under consideration is within the scope of the February 1991 proposal. However, in order to insure full public consideration of this alternative, I strongly recommend that EPA issue a supplemental notice providing a further opportunity for public comment.

As you know, the staff of the Office of Air and Radiation has considered the rulemaking alternative consisting of a 0.10 lbs/MMBtu emission limitation, to be determined on a rolling annual average and phased in by unit in 1997, 1998 and 1999, and has reviewed supporting technical and cost information. I understand that the staff has concluded that greater visibility improvement at less cost can be achieved by this alternative, as compared to the rule proposed in the February 1991 notice, which applied the BART Guidelines focusing on NSPS levels of control to the facts of this case. I understand that the staff also referred to the BART guidelines to provide the methodology employed in developing the level of sulfur dioxide reductions in the alternative presently under consideration. See sections 169A(g)(1) and (2).

Based on the staff conclusions regarding the factual circumstances of this case, EPA could reasonably find that the present alternative, with its higher expected visibility improvement and lower expected costs (in comparison to the February 1991 proposed rule), best fulfills the overarching statutory requirement in section 169A(b)(2) (which incorporates the more specific provisions of subparagraphs (A) and (B)) that implementation plan revisions adopted under section 169A make "reasonable progress" toward the national visibility goal.

CONCLUSION

In sum, subject to any significant points that may be raised in the reopened comment period, I believe that under the specific circumstances of this case EPA could rely on the provisions of section 169A(b)(2) as the source of delegated rulemaking authority for the present alternative. The Agency has weighed the relevant factors and could appropriately conclude that this alternative reasonably interprets and harmonizes the statutory provisions in a way that best furthers the overarching legislative purpose to achieve reasonable progress toward the national visibility goal. See, e.g., Public Citizen v. Department of Justice, 109 S.Ct. 2558, 2566 (1989); Church of the Holy Trinity v. United States, 143 U.S. 457, 459, (1898); see also Citizens to Save Spencer County v. EPA, 600 F.2d 844 (D.C. Cir. 1979).

4

Finally, I note that by promulgating a 0.10 lbs/MMBtu emission limitation which requires installation of state-of-the-art SOx scrubber technology, the staff expects that no other federal implementation plan revisions requiring SOx control should be necessary at NGS under section 169A. I express no view on this essentially technical and policy matter.

Attachment

NAVAJO GENERATING STATION

ATTRIBUTION

- Under §169A of the Clean Air Act, the Environmental Protection Agency (EPA) promulgated regulations to "[r]equire the control of impairment that can be traced to a single existing stationary facility or small group of existing stationary facilities" See 45 FR 80085 (December 2, 1980). The type of air pollution generally considered to be remediable was "smoke, dust, colored gas plumes, or layered haze emitted from stacks which obscure the sky or horizon and are relatable to a single source or small group of sources." Id. Accordingly, EPA's regulations currently ~~cover existing sources~~ "which may reasonably be anticipated to cause or contribute to" impairment of visibility in any mandatory class I Federal area ~~where the impairment~~ [that] is "reasonably attributable" to ~~that~~ [a] source.

- Even though the Winter Haze Intensive Tracer Experiment (WHITEX) and Navajo Generating Station (NGSVS) contain some scientific uncertainty, ~~they both showed~~ [EPA finds] that ~~a portion~~ [certain] of the [winter-time] visibility ~~impairment~~ [impairments] in the Grand Canyon National Park can be "reasonably attributed to the Navajo Generating Station (NGS)"; ~~The National Academy of Sciences came to a similar conclusion in its review of the WHITEX report.~~ Accordingly, ~~visibility impairment of the Grand Canyon National Park is "reasonably attributable" to NGS and NGS is a significant contributor to certain visibility impairment episodes~~ "to NGS"].

CONTROL TECHNOLOGY

- New information indicates that larger flue gas desulfurization (FGD) units ~~with longer averaging times~~ could significantly reduce the capital investment required ~~Thus, information indicates~~ [if an annual average were adopted to avoid the need for a spare model. Thus, engineering data indicate] that NGS could meet a 0.10 pounds per million British thermal unit (lbs/MMBtu) annual average, plant-wide emission limitation by building two FGD units per boiler designed to achieve 92 percent removal of the sulfur dioxide (SO₂) ~~with 99-percent reliability~~ [based on vendor certifications that FGD availability can exceed 95%].

- The EPA and the Arizona Department of Environmental Quality reviewed the need to reheat the exhaust gases to ensure appropriate plume rise with the lower gas exit temperatures associated with a 0.10 lbs/MMBtu emission limitation and found that reheating of the exhaust gas is not necessary to prevent a violation of any national ambient air quality standard. Moreover, discussions with the State

of Arizona and the National Park Service (NPS) indicate that the visible water vapor plume that would be present with a scrubber without reheat instead of the clear stack that NGS now has does not pose a condition that require regulatory attention under State or Federal law. The elimination of the need to reheat the exhaust gas will result in a significant reduction in capital and operational costs.

SOURCE/IMPAIRMENT RELATIONSHIP

- There is uncertainty in evaluating how changes in NGS emissions will result in changes in sulfate concentrations and in how changes in sulfate concentrations affect visibility due to the compounding factors of humidity levels, the transport path, and levels of other fine particles. There is large uncertainty in predicting the improvement in visual range for any one day, yet sufficient ~~<understanding-of>~~ [data concerning] the transport and transformation phenomena ~~<exists>~~ from WHITEX, NGSVS, in-canyon aerosol monitoring, and wind flow observations ~~<to use-a-sample-of-daily-calculations-to-develop-a-reasonable-relationship-between-NGS-emissions-levels-and-winter-seasonal-average-visibility>~~ [exist to conclude that at some times during the winter NGS emissions reductions to improve visibility impairment in the GCNP].

COST OF CONTROL

- The SRP provided cost estimates for various control levels. For two FGD units per boiler designed to meet a 0.10 lb/MMBtu rolling annual average emission limitation with no backup units and no reheating of the exhaust gases, the estimates ~~<(1990)>~~ [(1992)] dollars) are as follows:

Million -- Total capital investment = ~~<\$300>~~ [\$430]

Million -- Total levelized annual cost = \$ ~~<81>~~ [90]

- Using the SRP cost estimates, the capital investment for meeting a 0.10 lb/MMBtu rolling annual average emission limitation is ~~<\$70>~~ [\$80] million less [.] and the total levelized annual cost is ~~<\$2.5>~~ [\$11] million less [.] than ~~<for>~~ [the costs of] meeting a 0.30 lb/MMBtu 30-day rolling average as proposed by EPA.

- Under section 403 of the Clean Air Act (as revised in 1990), NGS will be ~~<eligible-for-marketable-allowance-starting-in-2000>~~ [entitled to marketable allowances annually starting in 2000. For example, if compliance with the new emission limitation reduces SO₂ by

63,000 for per year, there would be 63,000 emission allowances available for sale. The sale of these allowances ~~are expected to increase over time and the sale of these~~ will ~~significantly~~ reduce the net cost of SO₂ controls for NGS.

EMISSION LIMITATION

- The 0.10 lb/MMBtu emission limit, calculated on a plant-wide rolling annual average basis will provide more improvement in the overall visibility in the Grand Canyon for slightly lower cost than would EPA's proposed limit of 0.30 lb/MMBtu 30-day rolling average.

- The 0.10 lb/MMBtu rolling annual average is being established ~~for visibility protection in the Grand Canyon National Park and other nearby national parks and wildernesses~~ under the regulations implementing section 169A of the Clean Air Act. It is not being adopted to meet other requirements of the Clean Air Act or other Federal regulations, although EPA is not aware of any other provision that requires more stringent controls. Accordingly, the parties are recommending year-round compliance with the 0.10 lb/MMBtu emission limitation.

- ~~Since the~~ NGS has its largest impact on visibility in the Grand Canyon ~~appears to occur~~ during short-term episodes in the winter months. In order to further reduce winter-time emissions beyond the level achieved by the emission level, NGS will shift its scheduled maintenance to the winter months, as specified below. A waiver of this provision would be granted by EPA for just cause.

- Although the law does not require a particular technology to meet the emission limitation, available FGD technology that will achieve an SO₂ emission limitation of 0.10 lb/MMBtu is not expected to increase NGS' existing particulate matter or nitrogen oxide emissions. Thus, there is not need to include additional emission limitations for these pollutants ~~at this time~~.

SEASONAL CONTROLS

~~There are times throughout the year that NGS may "reasonably be anticipated to cause or contribute" to the visibility impairment in the Grand Canyon National Park. See 40 CFR 51.302-(c)-(4)-(i). Therefore, year-round controls are appropriate.~~ In its comments SRP requested that EPA consider seasonal controls on the theory that WHITEX reported ~~on~~ winter impairment and that an earlier study suggested no summer impairment from NGS. That request has been withdrawn~~[.]~~ and SRP has agreed under the terms and

conditions described in this documental to [install] year-round controls.

REQUIREMENTS

1. Applicable to the fossil fuel-fired, steam-generating equipment designated as Units 1, 2, and 3 at the NGS.

2. ~~<The>~~ [Except as noted below, the] emission limitation for NGS is a sulfur oxides emission limitation of 42 ng/J (0.10 lbs/MMBtu) heat input, ~~<to>~~ [which when fully operational will] be determined [on a] plant-wide [basis and] on an annual rolling average basis[. Emission controls will be] installed and operated on the following schedule:

- One unit by November 19, 1997;
- Two units by November 19, 1998;
- All units by August 19, 1999.

3. Schedule of compliance -- interim deadlines:

Date of binding contract for A/E firm to design and procure the control system needed for compliance.	6/92
---	------

Start of on-site construction of control system for the unit	1/95
--	------

Initiation of start-up testing

first unit	5/97
second unit	5/98
third unit	2/99

~~<The-interim>~~ [These] deadlines [in paragraph 2 and 3] may be waived [by the EPA Regional Administrator] upon a demonstration of Force Majeure ~~<and>~~ [. The interim deadlines may be waived] if it can be demonstrated that ~~<final>~~ compliance [with a deadline] would not be [materially] affected [by the failure to comply with an interim deadline]. (Attachment A.)

4. Continuous emission monitors will be ~~<required>~~ [installed] to determine compliance with the emission limitations. This equipment ~~<must>~~ [will] meet the specifications listed in Appendix B of 40 CFR Part 60 and the quality assurance procedures found in Appendix F of 40 CFR Part 60.

5. Recordkeeping and reporting requirements:

-- Report to EPA ~~<the SO₂, oxygen, and carbon dioxide>~~ emissions ~~<according to>~~ [as required by] the procedures found in 40 CFR 60.7;

-- Maintain records according to the procedures found in 40 CFR 60.7;

-- FGD unit outages to be immediately reported to EPA with a follow-up written report to be filed within 30 days.

6. Compliance with the annual rolling average shall be determined on a daily basis by dividing the total sulfur dioxide emitted by the total ~~<Btu's>~~ [energy] of the fuel consumed during the previous 365 [boiler-operating] days.

[In determining compliance with the annual average emission limitation during the first calendar year of operation of the control equipment installed to comply with this emission limitation, periods when equipment does not attain expected performance shall be excluded. For example, the time when the following occurs will not be included in the compliance determination:

- a. Equipment or systems do not meet designer's or manufacturer's performance expectations.
- b. Field installation including engineering or construction precludes equipment or systems from performing as designed.

When the periodic reports of compliance with this emission limitation are made, the times excluded from the determination will be identified; and the reasons for the exclusion will be provided. Whenever the time to be excluded exceeds to 30 days for any FGD unit, the owner/operator shall report immediately to EPA the reasons for the FGD outage and the actions taken to avoid the outage, to be taken to minimize its duration, and to reduce SO₂ emissions to the extent practicable until the FGD unit is fully operational again.

All equipment needed to comply with this emission limitation will be operated in good engineering practice to reduce emissions and outages and to address significant malfunctions.] ~~<--[Reserved for discussion on allowance for start-up problems--]>~~

7. After 10/31/93, except as provided below, at least six [unit-weeks of <the> [whatever] periodic scheduled maintenance [is scheduled] for NGS will occur between 11/1 and ~~<3/1>~~ [3/31] of each pair of consecutive years to

6

further reduce SO₂ emissions during the winter. ~~<At-least six>~~ [Six unit-weeks of winter maintenance <may> [need] not occur <to-the-extent-that> [if]:

a. There is no need for six [unit-weeks] of scheduled periodic maintenance in a year~~<-->~~[:]

b. The reserve margin on any electrical system served by NGS would fall to an inadequate level. [Every year, the owner/operator will prepare a long-term maintenance schedule showing at least six unit-weeks of maintenance for NGS in the 11/1 to 3/31 period for the grid that NGS serves. This schedule will be developed consistent with the criteria established by the Western States Coordinating Council of the North American Reliability Council to ensure adequate reserve margin throughout the year and during the maintenance as necessary to avoid inadequate reserve margin -- as defined by these criteria -- may be moved out of the 11/1 to 3/31 period:]

c. The cost of compliance with this provision would be excessive. [Costs of compliance would be excessive when the economic benefit of moving NGS' maintenance out of the 11/1 to 3/31 period exceeds \$50,000 per unit-day of maintenance moved; or]

d. A major force outage at a unit [occurs] outside the winter months ~~<allows-the-performance-of>~~[, and] necessary periodic maintenance [occurs] during the period of forced outage.

~~<The-SRP-must-demonstrate-to-the-satisfaction-of-EPA-that such-an-event-precludes-the-need-for-a-fall>~~ [Evidence of NGS' compliance with this requirement for any given November 1 to March 31 period must be submitted to EPA by the immediately following April 30. Where] six weeks of scheduled maintenance <during-the-period-specified-where six-weeks-of-scheduled-maintenance-is-precluded> [is not conducted in any year,] the owner/operator of NGS shall nevertheless make best efforts to conduct [as] much scheduled maintenance as practicable during <this> [the winter] period.

8. ~~<The>~~ [In addition to the foregoing, the] Regional Administrator of EPA may grant a waiver of the emission limitation or maintenance scheduling for one or more units [for any year] due to a catastrophic failure of <the> [any] FGD <units> [unit].

LEGAL RATIONALE

- Section 169A (b) (2) of the Clean Air Act requires that visibility implementation plans contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward the national visibility goal. These plan provisions include, as appropriate, best available retrofit technology (BART) (section 169A (b) (2) (A)), and a long-term strategy (section 169A(b) (2) (B)).

- In the February 1991 NPRM, EPA proposed a 0.30 lb/MMBtu emission limitation for NGS based on BART statutory factors, to be determined on a 30-day rolling average and to be phased in by unit in 1995, 1997 and 1999.

- EPA explicitly requested comment on ~~other~~ control options permitted under the Act, including, inter alia ~~the following rule elements and specific regulatory alternatives~~: (1) ~~other~~ emission limitations, including a limitation of ~~1-10~~ 0.10 lb/MMBtu; (2) ~~other~~ averaging times, including an annual averaging period; ~~and~~ (3) ~~longer~~ implementation schedules, including a schedule that extended to 2000; and (4) other regulatory issues raised by interested parties.

- EDF/GCT and SRP have had many discussions and have exchanged pertinent information with EPA about numerous NGS control alternatives. EDF/GCT and the management of SRP have agreed that a 0.10 lb/MMBtu emission limitation to be determined on a rolling annual average and phased in by unit in 1997, 1998 and 1999 ~~achieves~~ will achieve greater SO₂ reductions at less cost than EPA's proposal and have recommended that EPA adopt this alternative ~~in~~ as its final rule addressing NGS. Upon review, EPA agrees with their position.

- EPA's proposed BART limitation was compared to a 0.10 lbs./MMBtu ~~Compared to the other alternatives spelled out in the February 1991 proposal, greater visibility improvement at less cost can be achieved by a 0.10 lb/MMBtu~~ emission limitation ~~to be determined~~ on a plant-wide, rolling annual average ~~and~~ and phased in by unit in 1997, 1998 ~~and 1999~~ and 1999. The methodology set forth in the BART Guidelines was used in developing this 0.10 lb/MMBtu limitation. Since the 0.10 lb/MMBtu limitation offers a higher level of control at a lower cost than would be provided by EPA's BART Guidelines, which focus on NSPS levels of control, EPA finds that this alternative to the proposal by EPA in the NPRM carries out the statutory requirement to achieve "reasonable progress toward meeting the national goal of the prevention of any future, and the remedying of any existing, impairment of visibility in

mandatory class I Federal areas]." 40 C.F.R. § 51.300(a);
42 U.S.C. § 169A(b) (2) and 169(a) (1).]

~~<--This alternative provides greater visibility improvement
[= EDF/GCT, SRP and EPA believe that greater progress toward
achieving the national goal of section 169A will be achieved
by this alternative to the proposal] at a lower cost than
would result [from the NPRM proposal analysis.] <form simple
application of the BART guidelines, which provide for
adoption of NPS levels of control if the regulatory
authority does not conduct a source specific analysis. Here
a detailed analysis has been conducted, relying on the
methodology in the BART guidelines to fulfill applicable
statutory and regulatory requirements for the promulgation
of emission limitations to remedy visibility impairment.~~

~~--In these unique circumstances, where implementation of the
rule proposed in February 1991 apparently would not optimize
visibility benefits and costs, we recommend that EPA rely on
subparagraphs (A) and (B) of section 169A(b)(2) as particular
sources of rulemaking authority for this action, --in order to
best fulfill the overarching statutory requirement that
implementation plans adopted under section 169A make reasonable
progress toward the national visibility goal. See 169A(a)(1),
169A(b)(2), and 40 CFR 51.300(a). Specifically, the parties
believe that this alternative would provide a greater degree of
reasonable progress than the options in the February 1991
notices.~~

~~--In crafting the visibility reasonable progress requirements,
Congress did not explicitly address, and apparently did not even
consider whether there could be greater visibility improvement at
a lower cost in furtherance of the national goal through an
emission limitation regulation that did not rely exclusively on
the provisions of section 169A(b)(2)(A).~~

~~--In sum, as the parties have recommended, believe, relying on
sections 169A(b)(2)(A) and (B) of the Act harmonizing those
provisions in a way that furthers the common regulatory
requirement to achieve reasonable progress, and weighing the
requirement to achieve reasonable progress, and weighing the
relevant factors (see section 169A(g)(1) and (2)), that the 0.10
lb/MMBtu emission limitation and associated compliance schedule
make reasonable progress toward the national goal.~~

- Finally, if EPA promulgates a 0.10 lb/MMBtu emission
limitation which requires installation of state-of-the-art
<SO₂> [SOX] scrubber technology no other implementation plan
revisions requiring <SO₂> [SOX] control should be necessary
at NGS under section 169A <pursuant to EPA's current
visibility regulations>.

<Attachment> [ATTACHMENT] A

<Compliance with the interim deadlines in the
[Requirements to comply with this] schedule of compliance <may be
delayed if EPA determines that> [shall be waived if any delay in
<the NGS owner/operator's> performance or <the owner/operator's>
inability to perform consistent with the [schedule results from
Force Majeure. Force Majeure as used herein shall mean, without
limitation, the following: acts of God; strikes, lockouts or
other industrial disturbances; absence of necessary orders or
permits of any kind, which have been properly applied for, from
the Government of the United States, or from any State, or from
any Indian Nation; orders from the Government of the United
States, or from any State, or an Indian Nation; extraordinary
delay in transportation, equipment, material, supplies, labor, or
machinery shortages; explosions; destruction of, breakage of, or
accident to machinery or instrumentality necessary for
performance; breach of contract by any supplier, contractor,
subcontractor, laborer, or materialman; sabotage; injunction; and
any cause or event not specified above that is not reasonably
within the control of the owners of NGS.] <interim deadlines
results from force majeure and the delay in an interim deadline
will not have a material effect on the NGS owner/operator's
ability to comply on a timely basis with the 42 ng/J emission
limitation for SO₂. Force majeure as used herein is defined as
may even arising from causes beyond the control of the NGS
owner/operator that delays or prevents compliance with an interim
deadline despite the owner/operator's best efforts to meet the
deadline. The requirement that the owner/operator exercise "best
efforts to meet the deadline" includes using best efforts to
anticipate any potential force majeure event and best efforts to
address that effect of any potential force majeure event (1) as
it is occurring and (2) following the potential force majeure
event, such that the delay is minimized to the greatest extent
possible. "Force Majeure" does not include financial inability to
meet an interim deadline.

If any event occurs or has occurred that may delay the performance of an interim deadline, whether or not caused by a force majeure event, the owner/operator of NGS shall notify EPA orally within 48 hours of when the owner/operator first knew or should have known that the event might cause a delay. Within seven days thereafter the owner/operator shall provide in writing to EPA and the State of Arizona an explanation and description of the reasons for the delay, the anticipated duration of the delay, all actions taken or to be taken to prevent or minimize the delay, a schedule of implementation of any measures to be taken to prevent or mitigate the delay or effect of delay, the owner/operator's rationale for attributing such delay to a force majeure event if they intend to assert such a claim, and whether the delay will have a material effect on the owner/operator's ability to comply on a timely basis with the 42 ng/J emission limitation for SO₂.

10

~~The owner/operator of NGS shall be deemed to have notice of any circumstances of which their contractors or subcontractors had notice.~~

~~<If EPA determines that the delay or anticipated delay in meeting an interim deadline is attributable to a force majeure event and the failure to comply with the~~ [The requirements to comply with any interim deadlines in the compliance schedule will be waived upon a showing by the owner of NGS that failure to comply with an] interim deadline will not have a material effect on <the owner/operator's ability to comply on a timely basis with the 42 ng/J emission limitation for SO₂; the time for performance of the interim deadline will be extended by EPA for such time EPA deems necessary to complete the deadline. An extension of the time for performance of an interim deadline affected by the force majeure event shall not extend the time for performance of any other interim deadline affected by the force majeure event [its ability to comply with the allowable emission rates for SO₂ from NGS by the time that those rates take effect].

NAVAJO GENERATING STATION

Status of Discussions

1. **Series of Discussions have Produced Unprecedented Agreement.**

2. **Utilities and Environmentalists are Recommending to Their Board of Directors:**

- | | |
|----------------|----------------------|
| o 90% control | o Annual Average |
| o 1997, 98, 99 | o Winter maintenance |

3. **30% Lower Cost than NPRM.**

	<u>Capital</u>	<u>Annualized</u>	<u>Annual W/ A.R. Credits</u>
NPRM:	\$510	\$106	\$78
Agreement:	<u>\$430</u>	<u>\$89</u>	<u>\$53</u>
Savings:	18%	18%	32%

	<u>Approx % of Savings</u>
o More efficient technology:	20%
o Annual Average:	40%
o Additional Time:	40%

4. **46% Additional Increase in Visual Range.**

	<u>Emissions</u>	<u>Visual Range</u>
NPRM:	.3 lbs/MMBTU	8%
Agreement:	<u>.1 lbs/MMBTU</u>	<u>11.7%</u>
Benefits:	66%	46%

- o Peak episodes even more significantly improved

5. **SUMMARY: EPA Regulation that achieves:**

- o More Environmental Protection
- o At Lower Cost
- o With Endorsement Among Constituents
- o Minimal Precedent Impact

NAVAJO GENERATING STATION

Principal Elements of Agreement Among SRP, EDF and GCT

Emission Limitation:	.1 lbs/MMBTU plant-wide average
Averaging Time:	Rolling Annual Average
Compliance Phase-in Schedule:	Unit #1: Nov. 19, 1997 Unit #2: Nov. 19, 1998 Unit #3: Aug. 19, 1999 (Interim dates before unit compliance, e.g. start of construction, to be determined)
Maintenance:	Schedule unit maintenance in the winter (subject to load demand and premium on replacement costs)
Reheat:	No
Design Reliability:	96%
Design SO ₂ Removal Rate:	92%
Forced Outages Reporting:	Best efforts to avoid outages; Reports to EPA on expected repair time and explanation of expeditious return.
Other Pollutants:	No NO _x or PM limitations if FGD installed.

GRAND CANYON VISIBILITY

Status of Discussions

1. SRP, EDF and Grand Canyon Trust are Recommending to Their Principals:

- o 90% control
- o 1997, 98, 99
- o No NOx or PM limits
- o Annual Average
- o Winter maintenance

2. 35% Lower Cost than NPRM (Draft).

	<u>Capital</u>	<u>Annualized</u>	<u>NPV</u>
NPRM:	\$362	\$83	\$714
Recommendation:	<u>\$316</u>	<u>\$54</u>	<u>\$474</u>
Savings:	13%	35%	34%

Components of Savings

	<u>Approx % of Savings</u>
o More efficient technology:	25%
o Annual Average:	40%
o Additional Time:	45%

3. 46% Additional Increase in Visual Range.

	<u>Emissions</u>	<u>Visual Range</u>
NPRM:	.3 lbs/MMBTU	8%
Recommendation:	<u>.1 lbs/MMBTU</u>	<u>11.7%</u>
Benefits:	66%	46%

- o Peak episodes even more significantly improved

4. SUMMARY: EPA Regulation that achieves:

- o More Environmental Protection
- o At Lower Cost
- o With Endorsement Among Constituents
- o Minimal Precedent Impact

NAVAJO GENERATING STATION

Principal Elements of Agreement Among SRP, EDF and GCT

Emission Limitation:	.1 lbs/MMBTU plant-wide average
Averaging Time:	Rolling Annual Average
Compliance Phase-in Schedule:	Unit #1: Nov. 19, 1997 Unit #2: Nov. 19, 1998 Unit #3: Aug. 19, 1999 (Interim dates before unit compliance, e.g. start of construction, to be determined)
Phase-in Limits:	Unit #1 Nov 19, 1997-8: .12 lbs/MMBTU; Exception for catastrophic failure Unit #1 & 2 Nov 19, 1998-9: .11 lbs/MMBTU
Maintenance:	Schedule unit maintenance in the winter (subject to load demand and premium on replacement costs)
Reheat:	No
Design Reliability:	98%
Design SO2 Removal Rate:	92%
Forced Outages Reporting:	Best efforts to avoid outages; Reports to EPA on expected repair time and explanation of expeditious return.
Other Pollutants:	No NOx or PM limitations if FGD installed.

ENVIRONMENTAL CONSENSUS IN THE 90'S

to Jeff

President George Bush:

**"This bill balances economic growth
with environmental protection."**

REFORMULATED GASOLINE:

- o **Presidential leadership in Clean Fuels implementation.**
- o **Proposed agreement maximizes environmental benefit (full 15% VOC reduction in all states) and achieves President Bush's regulatory reform agenda by increasing flexibility and reducing cost.**
- o **Petroleum industry (API), auto industry, environmental community (NRDC & Sierra Club), states, EPA staff and others are ready to endorse.**

GRAND CANYON VISIBILITY

- o **Resolved 15 year legal battle to cut Navajo Power Plant emissions which impair visibility at the Grand Canyon.**
- o **Achieves 46% greater benefits at 20% lower cost than EPA's original proposal through providing utility with greater flexibility in achieving environmental goal.**
- o **Utility owners, environmentalists, and Governor Symington want to stand with the President to sign the regulation.**

ACID RAIN

- o **Over 7 meetings of 100's of utility, state, environmental and other representatives have provided the Administration with a regulatory outline that resolves most of the issues – while achieving a 10 million ton SO2 reduction and establishing a market-based trading system.**

RESULT

- o **Implementation of the Clean Air Act that:**
 - **Cleans the Air,**
 - **Establishes the President's Regulatory Reform, and**
 - **Builds consensus among industry, environmental community and the Administration**

NAVAJO GENERATING STATION

Status of Discussions

1. Series of Discussions have Produced Unprecedented Agreement.

2. Utilities and Environmentalists are Recommending to Their Board of Directors:

- | | |
|----------------|----------------------|
| o 90% control | o Annual Average |
| o 1997, 98, 99 | o Winter maintenance |

3. 30% Lower Cost than NPRM.

	<u>Capital</u>	<u>Annualized</u>	<u>Annual W/ A.R. Credits</u>
NPRM:	\$510	\$106	\$78
Agreement:	<u>\$430</u>	<u>\$89</u>	<u>\$53</u>
Savings:	18%	18%	32%

	<u>Approx % of Savings</u>
o More efficient technology:	20%
o Annual Average:	40%
o Additional Time:	40%

4. 46% Additional Increase in Visual Range.

	<u>Emissions</u>	<u>Visual Range</u>
NPRM:	.3 lbs/MMBTU	8%
Agreement:	<u>.1 lbs/MMBTU</u>	<u>11.7%</u>
Benefits:	66%	46%

- o Peak episodes even more significantly improved

5. SUMMARY: EPA Regulation that achieves:

- o More Environmental Protection
- o At Lower Cost
- o With Endorsement Among Constituents
- o Minimal Precedent Impact

ACID RAIN PROGRAM RULES

Core Acid Rain rules developed as a unified package to allow for integrated review of all major program components:

- 0 Allowance System Rules**
- 0 Permitting Rules**
- 0 Emissions Monitoring Rules**
- 0 Excess Emissions Rules**

Rules developed through an open consensus building process which included:

- 0 Utilities**
- 0 State Regulators (Utility Commissioners and Air Agencies)**
- 0 Environmental and Consumer Group Representatives**
- 0 Coal and Gas Industry Representatives**
- 0 Pollution Control Manufacturers**
- 0 Numerous interagency meetings**

Program Goal:

- 0 Get the 10 Million Ton Reduction of SO₂ and significant environmental benefits at the lowest cost possible**

Operating Principles:

- 0 Allowance System Rules**

Create low cost rules of exchange which minimize government intrusion and support efficient market operation

- 0 Permitting Rules**

Provide maximum flexibility for sources to select the least cost control option

0 Monitoring Rules

Provide credible accounting of emissions to ensure the integrity of the market based allowance system and achieve the 10 million ton SO₂ reduction

0 Excess Emissions Rules

Provide the incentives to ensure self enforcement, greatly reducing the need for government action

Result:

- 0 Timely development of workable rules**
- 0 Significant, widespread support on the vast majority of issues**

Status:

- 0 Working to bring closure to a small number of issues prior to formal proposal (Mid September)**

EPA RESPONSES TO
ISSUES RAISED BY INDUSTRY

ONBOARD DIAGNOSTIC SYSTEMS

INDUSTRY CONCERN:

Different approaches by California and EPA unnecessarily burden industry engineering resources.

EPA RESPONSE:

EPA is committed to a performance-based standard for Onboard Diagnostics consistent with the Administration's philosophy on "market-based incentives". However, California's program is based on equipment design specifications.

The Federal program will not require different hardware, but will require that each system identify high emissions resulting from equipment failure.

EPA has proposed accepting certification to CARB's rule as satisfying Federal requirements for an initial period beginning with model year '94. The duration of this initial period will be determined based on the record.

ONBOARD VAPOR RECOVERY SYSTEMS

INDUSTRY CONCERN:

EPA should resolve outstanding safety issues prior to proceeding with rule development.

EPA RESPONSE:

DOT will provide EPA with an analysis of the safety of onboard vapor recovery systems.

EPA will publish and take public comment on this report prior to proceeding with regulatory decisions.

EVAPORATIVE EMISSIONS TEST PROCEDURES

INDUSTRY CONCERN:

Different approaches by CARB and EPA place undue burden on industry.

EPA RESPONSE:

The Clean Air Act Amendments require a final Federal rule by May of 1992.

EPA is coordinating with CARB and expects to resolve the cannister purge procedure differences in an effort to harmonize the two programs.

FAX COVER SHEET

DILWORTH, FAXSON, KALISH & KAUFFMAN
1001 Pennsylvania Avenue, N.W.
Suite 275 North
Washington, D.C. 20004
U.S.A.
(202) 624-5900
(202) 624-5904 (Fax)

DATE:

July 31, 1991

TO:

NAME

Jeff Johnson

COMPANY NAME

TELECOPY #

202-456-7929

FROM:

NAME

Bob Bauer

TELEPHONE #

NUMBER OF PAGES INCLUDING COVER PAGE:

20

CLIENT/MATTER:

USER NUMBER:

COMMENTS:

Jeff-

As discussed, the first document
came from EPA, the second is our
"Strike-and-add".

B.

**IF YOU HAVE ANY PROBLEMS RECEIVING THIS MESSAGE
OR DON'T RECEIVE ALL OF THE PAGES, PLEASE CALL
(202) 624-5900**



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

JUL 30 1991

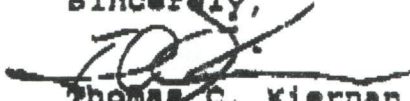
OFFICE OF
AIR AND RADIATION

Mr. Peter Hayes
Salt River Project
P.O. Box 52025
Phoenix, Arizona 85072

Enclosed are the changes that have been requested to the NGS points. As we discussed, these reflect the potential attachment to the MOU that would represent the agreement among the Environmental Defense Fund, Grand Canyon Trust, and Salt River Project.

I should also add that the enclosed does not represent the position of the EPA. It has not been reviewed by officials at EPA who must approve any final Agency action. Consequently, it in no way obligates or binds the Administrator or his delegates in the exercise of their independent judgment and discretion on the appropriate outcome of any rulemaking.

Sincerely,


Thomas C. Kiernan
Chief of Staff

to the Assistant Administrator
for Air and Radiation

Printed on Recycled Paper

NAVAJO GENERATING STATION

ATTRIBUTION

- Under §169A of the Clean Air Act, the Environmental Protection Agency (EPA) promulgated regulations to "[r]equire the control of impairment that can be traced to a single existing stationary facility or small group of existing stationary facilities" See 45 FR 80085 (December 2, 1980). The type of air pollution generally considered to be remediable was "smoke, dust, colored gas plumes, or layered haze emitted from stacks which obscure the sky or horizon and are relatable to a single source or small group of sources." *Id.* Accordingly, EPA's regulations currently cover existing sources "which may reasonably be anticipated to cause or contribute to impairment of visibility in any mandatory class I Federal area" where the impairment is "reasonably attributable" to that source.

- Even though the Winter Haze Intensive Tracer Experiment (WHITEX) and Navajo Generating Station (NGSVS) contain some scientific uncertainty, they both showed that a portion of the visibility impairment in the Grand Canyon National Park can be reasonably attributed to the Navajo Generating Station (NGS). The National Academy of Sciences came to a similar conclusion in its review of the WHITEX report. Accordingly, visibility impairment of the Grand Canyon National Park is "reasonably attributable" to NGS and NGS is a significant contributor to certain visibility impairment episodes.

CONTROL TECHNOLOGY

- New information indicates that larger flue gas desulfurization (FGD) units with longer averaging times could significantly reduce the capital investment required. Thus, information indicates that NGS could meet a 0.10 pounds per million British thermal unit (lbs/MMBtu) annual average, plant-wide emission limitation by building two FGD units per boiler designed to achieve 92 percent removal of the sulfur dioxide (SO₂) with 98 percent reliability.

- The EPA and the Arizona Department of Environmental Quality reviewed the need to reheat the exhaust gases to ensure appropriate plume rise with the lower gas exit temperatures associated with a 0.10 lbs/MMBtu emission limitation and found that reheating of the exhaust gas is not necessary to prevent a violation of any national ambient air quality standard. Moreover, discussions with the State of Arizona and the National Park Service (NPS) indicate that the visible water vapor plume that would be present with a scrubber without reheat instead of the clear stack that NGS now has does not pose a condition that requires regulatory

attention under State or Federal law. The elimination of the need to reheat the exhaust gas will result in a significant reduction in capital and operational costs.

SOURCE/IMPACT RELATIONSHIP

- There is uncertainty in evaluating how changes in NGS emissions will result in changes in sulfate concentrations and in how changes in sulfate concentrations affect visibility due to the compounding factors of humidity levels, the transport path, and levels of other fine particles. There is large uncertainty in predicting the improvement in visual range for any one day, yet sufficient understanding of the transport and transformation phenomena exists from WHITEX, NGSVS, in-canyon aerosol monitoring, and wind flow observations to use a sample of daily calculations to develop a reasonable relationship between NGS emissions levels and winter seasonal average visibility.

COST OF CONTROL

- The SRP provided cost estimates for various control levels. For two FGD units per boiler designed to meet a 0.10 lb/MMBtu rolling annual average emission limitation with no backup units and no reheating of the exhaust gases, the estimates (1990 dollars) are as follows:

-- Total capital investment = \$380 Million

-- Total levelized annual cost = \$81 Million

- Using the SRP cost estimates, the capital investment for meeting a 0.10 lb/MMBtu rolling annual average emission limitation is \$70 million less and the total levelized annual cost is \$2.5 million less than for meeting a 0.30 lb/MMBtu 30-day rolling average as proposed by EPA.

- Under Section 403 of the Clean Air Act (as revised in 1990), NGS will be eligible for marketable allowance starting in 2000. The value of these allowances are expected to increase over time and the sale of these will significantly reduce the net cost of SO₂ controls for NGS.

EMISSION LIMITATION

- The 0.10 lb/MMBtu rolling annual average will provide more improvement in the overall visibility in the Grand Canyon for slightly lower cost than would EPA's proposed limit of 0.30 lb/MMBtu 30-day rolling average.

- The 0.10 lb/MMBtu rolling annual average is being established for visibility protection in the Grand Canyon National Park and other nearby national parks and wildernesses. It is not being adopted to meet other requirements of the Clean Air Act or other Federal regulations.

- Since the largest impact on visibility in the Grand Canyon appears to occur during the winter months, NGS will shift its scheduled maintenance to the winter months, as specified below. A waiver of this provision would be granted by EPA for just cause.

- Although the law does not require a particular technology to meet the emission limitation, available technology that will achieve an SO₂ emission limitation of 0.10 lb/MMBtu is not expected to increase NGS' existing particulate matter or nitrogen oxide emissions. Thus, there is no need to include additional emission limitations for these pollutants at this time.

SEASONAL CONTROLS

- There are times throughout the year that NGS may "reasonably be anticipated to cause or contribute" to the visibility impairment in the Grand Canyon National Park. See 40 CFR 51.302 (c)(4)(i). Therefore, year-round controls are appropriate. In its comments SRP requested that EPA consider seasonal controls on the theory that WHITEX reported on winter impairment and that an earlier study suggested no summer impairment from NGS. That request has been withdrawn and SRP has agreed to year-round controls.

REQUIREMENTS

1. Applicable to the fossil fuel-fired, steam-generating equipment designated as Units 1, 2, and 3 at the NGS.

2. The emission Limitation for NGS is a sulfur oxides emission limitation of 42 ng/J (0.10 lbs/MMBtu) heat input, to be determined plant-wide on an annual rolling average basis installed and operated on the following schedule:

- One unit by November 19, 1997;
- Two units by November 19, 1998;
- All units by August 19, 1999.

3. Schedule of compliance -- interim deadlines:

Date of binding contract for A/E firm to design and procure the control system needed for compliance.	6/92
Start of on-site construction of control system for the first unit	1/98
Initiation of start-up testing	
first unit	5/97
second unit	8/98
third unit	2/99

The interim deadlines may be waived upon a demonstration of Force Majeure and if it can be demonstrated that final compliance would not be affected. (Attachment A.)

4. Continuous emission monitors will be required to determine compliance with the emission limitations. This equipment must meet the specifications listed in Appendix B of 40 CFR Part 60 and the quality assurance procedures found in Appendix F of 40 CFR Part 60.

5. Recordkeeping and reporting requirements:

-- Report to EPA the SO₂, oxygen, and carbon dioxide emissions according to the procedures found in 40 CFR 60.7;

-- Maintain records according to the procedures found in 40 CFR 60.7;

-- RGD unit outages to be immediately reported to EPA with a follow-up written report to be filed within 30 days.

6. Compliance with the annual rolling average shall be determined on a daily basis by dividing the total sulfur dioxide emitted by the total Btu's of the fuel consumed during the previous 365 days.

a. [Reserved for discussion on allowance for start-up problems.]

7. After 10/31/93, except as provided below, at least six weeks of the periodic scheduled maintenance for NGS will occur between 11/1 and 3/1 of each pair of consecutive years to further reduce SO₂ emissions during the winter. At least six weeks of winter maintenance may not occur to the extent that:

- a. There is no need for six weeks of scheduled periodic maintenance in a year.
- b. The reserve margin on any electrical system served by NGS would fall to an inadequate level.
- c. The cost of compliance with this provision would be excessive.
- d. A major forced outage at a unit outside the winter months allows the performance of necessary periodic maintenance during the period of forced outage.

The SRP must demonstrate to the satisfaction of EPA that such an event precludes the need for a full six weeks of scheduled maintenance during the period specified. Where six weeks of scheduled maintenance is precluded the owner/operator of NGS shall nevertheless make best efforts to conduct as much scheduled maintenance as practicable during this period.

- e. The Regional Administrator of EPA may grant a waiver of the emission limitation or maintenance scheduling for one or more units due to a catastrophic failure of the FGD units.

LEGAL RATIONALE

- Section 169A(b)(2) of the Clean Air Act requires that visibility implementation plans contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward the national visibility goal. These plan provisions include, as appropriate, best available retrofit technology (BART) (section 169A(b)(2)(A)), and a long-term strategy (section 169A(b)(2)(B)).
- In the NPRM, EPA proposed a 0.10 lb/MMBtu emission limitation for NGS, to be determined on a 30-day rolling average and to be phased in by unit in 1995, 1997 and 1999.
- EPA explicitly requested comment on other control options including, inter alia, the following rule elements and specific regulatory alternatives: (1) emission limitations, including a limitation of 0.10 lb/MMBtu; (2) averaging times, including an annual averaging period; and (3) implementation schedules, including a schedule that extended to 2000.
- EDF/GCT and SRP have had many discussions and have exchanged pertinent information with EPA about numerous NGS control alternatives. EDF/GCT and the management of SRP have agreed that a 0.10 lb/MMBtu emission limitation to be

determined on a rolling annual average and phased in by unit in 1997, 1998 and 1999 achieves greater SO₂ reductions at less cost than EPA's proposal and have recommended that EPA adopt this alternative in its final rule addressing NGS.

- Compared to the other alternatives spelled out in the February 1991 proposal, greater visibility improvement at less cost can be achieved by a 0.10 lb/MMBtu emission limitation, to be determined on a rolling annual average and phased in by unit in 1997, 1998 and 1999.

- This alternative provides greater visibility improvement at a lower cost than would result from simple application of the BART guidelines, which provide for adoption of NSPS levels of control if the regulatory authority does not conduct a source-specific analysis. Here a detailed analysis has been conducted, relying on the methodology in the BART guidelines to fulfill applicable statutory and regulatory requirements for the promulgation of emission limitations to remedy visibility impairment.

- In these unique circumstances, where implementation of the rule proposed in February 1991 apparently would not optimize visibility benefits and costs, we recommend that EPA rely on subparagraphs (A) and (B) of section 169A(b)(2) as particular sources of rulemaking authority for this action, in order to best fulfill the overarching statutory requirement that implementation plans adopted under section 169A make reasonable progress toward the national visibility goal. See 169A(a)(1), 169A(b)(2), and 40 CFR 51.300(a). Specifically, the parties believe that this alternative would provide a greater degree of reasonable progress than the options in the February 1991 notice.

- In crafting the visibility reasonable progress requirements, Congress did not explicitly address, and apparently did not even consider whether there could be greater visibility improvement at a lower cost in furtherance of the national goal through an emission limitation regulation that did not rely exclusively on the provisions of section 169A(b)(2)(A).

- In sum, the parties believe, relying on sections 169A(b)(2)(A) and (B) of the Act harmonizing those provisions in a way that furthers the common regulatory requirement to achieve reasonable progress, and weighing the relevant factors (see section 169A(g)(1) and (2)), that the 0.10 lb/MMBtu emission limitation and associated compliance schedule make reasonable progress toward the national goal.

- Finally, if EPA promulgates a 0.10 lb/MMBtu emission limitation which requires installation of state-of-the-art

SO₂ scrubber technology no other implementation plan revisions requiring SO₂ control should be necessary at NGS under section 169A pursuant to EPA's current visibility regulations.

Compliance with the interim deadlines in the schedule of compliance may be delayed if EPA determines that any delay in the NGS owner/operator's performance or the owner/operator's inability to perform consistent with the interim deadlines results from force majeure and the delay in an interim deadline will not have a material effect on the NGS owner/operator's ability to comply on a timely basis with the 42 ng/J emission limitation for SO₂. Force majeure as used herein is defined as any event arising from causes beyond the control of the NGS owner/operator that delays or prevents compliance with an interim deadline despite the owner/operator's best efforts to meet the deadline. The requirement that the owner/operator exercise "best efforts to meet the deadline" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to meet an interim deadline.

If any event occurs or has occurred that may delay the performance of an interim deadline, whether or not caused by a force majeure event, the owner/operator of NGS shall notify EPA orally within 48 hours of when the owner/operator first knew or should have known that the event might cause a delay. Within seven days thereafter the owner/operator shall provide in writing to EPA and the State of Arizona an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule of implementation of any measures to be taken to prevent or mitigate the delay or effect of the delay; the owner/operator's rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and whether the delay will have a material effect on the owner/operator's ability to comply on a timely basis with the 42 ng/J emission limitation for SO₂. The owner/operator shall include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure event. Failure to comply with the above requirements shall preclude the owner/operator from asserting any claim of force majeure for that event. The owner/operator shall also submit all available documentation supporting their claim that the delay will not have a material effect on the owner/operator's ability to comply on a timely basis with the 42 ng/J emission limitation for SO₂. The owner/operator of NGS shall be deemed to have notice of any circumstances of which their contractors or subcontractors had notice.

If EPA determines that the delay or anticipated delay in meeting an interim deadline is attributable to a force majeure event and the failure to comply with the interim deadline will not have a material effect on the owner/operator's ability to comply on

a timely basis with the 42 ng/J emission limitation for SO₂, the time for performance of the interim deadline will be extended by EPA for such time EPA deems necessary to complete the deadline. An extension of the time for performance of an interim deadline affected by the force majeure event shall not extend the time for performance of any other interim deadline. If EPA determines that the delay or anticipated delay in an interim deadline has not been or will not be caused by a force majeure event or, alternatively, has or will be caused by a force majeure event but will materially effect the owner/operator's ability to comply on a timely basis with the 42 ng/J emission limitation for SO₂, EPA will notify the owner/operator of this decision. If EPA determines that the delay in meeting an interim deadline is attributable to a force majeure event and the failure to comply with an interim deadline will not have a material effect on the owner/operator's ability to comply on timely basis with the 42 ng/J emission limitation for SO₂, EPA will notify the owner/operator in writing of the length of extension, if any, for performance of the interim deadline affected by the force majeure event.

NAVAJO GENERATING STATION

ATTRIBUTION

- Under §169A of the Clean Air Act, the Environmental Protection Agency (EPA) promulgated regulations to "[r]equire the control of impairment that can be traced to a single existing stationary facility or small group of existing stationary facilities" See 45 FR 80085 (December 2, 1980). The type of air pollution generally considered to be remediable was "smoke, dust, colored gas plumes, or layered haze emitted from stacks which obscure the sky or horizon and are relatable to a single source or small group of sources." *Id.* Accordingly, EPA's regulations currently cover existing sources "which may reasonably be anticipated to cause or contribute to impairment of visibility in any mandatory class I Federal area" where the impairment is "reasonably attributable" to that source.

- Even though the Winter Haze Intensive Tracer Experiment (WHITEX) and Navajo Generating Station (NGSVS) contain some scientific uncertainty, ~~they both showed~~ [EPA finds] that ~~a portion~~ [certain] of the [winter-time] visibility ~~impairment~~ [impairments] in the Grand Canyon National Park can be ["reasonably attributed to the Navajo Generating Station (NGS). The National Academy of Sciences came to a similar conclusion in its review of the WHITEX report. Accordingly, visibility impairment of the Grand Canyon National Park is "reasonably attributable" to NGS and NGS is a significant contributor to certain visibility impairment episodes [" to NGS].

CONTROL TECHNOLOGY

- New information indicates that larger flue gas desulfurization (FGD) units ~~with longer averaging times~~ could significantly reduce the capital investment required ~~Thus, information indicates~~ [if an annual average were adopted to avoid the need for a spare model. Thus, engineering data indicate] that NGS could meet a 0.10 pounds per million British thermal unit (lbs/MMBtu) annual average, plant-wide emission limitation by building two FGD units per boiler designed to achieve 92 percent removal of the sulfur dioxide (SO₂) with 98 percent reliability.

- The EPA and the Arizona Department of Environmental Quality reviewed the need to reheat the exhaust gases to ensure appropriate plume rise with the lower gas exit temperatures associated with a 0.10 lbs/MMBtu emission limitation and found that reheating of the exhaust gas is not necessary to prevent a violation of any national ambient air quality standard. Moreover, discussions with the State of Arizona and the National Park Service (NPS) indicate that

the visible water vapor plume that would be present with a scrubber without reheat instead of the clear stack that NGS now has does not pose a condition that require regulatory attention under State or Federal law. The elimination of the need to reheat the exhaust gas will result in a significant reduction in capital and operational costs.

SOURCE/IMPAIRMENT RELATIONSHIP

- There is uncertainty in evaluating how changes in NGS emissions will result in changes in sulfate concentrations and in how changes in sulfate concentrations affect visibility due to the compounding factors of humidity levels, the transport path, and levels of other fine particles. There is large uncertainty in predicting the improvement in visual range for any one day, yet sufficient ~~understanding of~~ [data concerning] the transport and transformation phenomena ~~exists~~ from WHITEX, NGSVS, in-canyon aerosol monitoring, and wind flow observations to ~~use a sample of daily calculations to develop a reasonable relationship between NGS emissions levels and winter seasonal average visibility~~ [conclude that at same times during the winter NGS emissions contribute to visibility impairment in the GCNP].

COST OF CONTROL

- The SRP provided cost estimates for various control levels. For two FGD units per boiler designed to meet a 0.10 lb/MMBtu rolling annual average emission limitation with no backup units and no reheating of the exhaust gases, the estimates (1990\$) dollars) are as follows:

-- Total capital investment = \$380 Million

-- Total levelized annual cost = \$ 81 Million

- Using the SRP cost estimates, the capital investment for meeting a 0.10 lb/MMBtu rolling annual average emission limitation is \$70 million less [.] and the total levelized annual cost is \$2.5 million less [.] than ~~for~~ [the costs of] meeting a 0.30 lb/MMBtu 30-day rolling average as proposed by EPA.

- Under section 403 of the Clean Air Act (as revised in 1990), NGS will be ~~eligible for~~ [entitled to .0001] marketable ~~allowance~~ [allowances annually] starting in 2000. The ~~value~~ [sale] of these allowances ~~are expected to increase over time and the sale of these~~ will ~~significantly~~ reduce the net cost of SO₂ controls for NGS.

EMISSION LIMITATION

- The 0.10 lb/MMBtu emission limit, calculated on a plant-wide rolling annual average basis will provide more improvement in the overall visibility in the Grand Canyon for slightly lower cost than would EPA's proposed limit of 0.30 lb/MMBtu 30-day rolling average.

- The 0.10 lb/MMBtu rolling annual average is being established ~~for visibility protection in the Grand Canyon National Park and other nearby national parks and wildernesses~~ under section 169A of the Clean Air Act. It is not being adopted to meet other requirements of the Clean Air Act or other Federal regulations, although EPA is not aware of any other provision that requires more stringent controls. Accordingly, the parties are recommending year-round compliance with the 0.10 lb/MMBtu emission limitation.

- ~~Since the~~ NGS has its largest impact on visibility in the Grand Canyon ~~appears to occur~~ during short-term episodes in the winter months. In order to further reduce winter-time emissions beyond the level achieved by the emission level, NGS will shift its scheduled maintenance to the winter months, as specified below. A waiver of this provision would be granted by EPA for just cause.

- Although the law does not require a particular technology to meet the emission limitation, available FGD technology that will achieve an SO₂ emission limitation of 0.10 lb/MMBtu is not expected to increase NGS' existing particulate matter or nitrogen oxide emissions. Thus, there is not need to include additional emission limitations for these pollutants ~~at this time~~.

SEASONAL CONTROLS

~~There are times throughout the year that NGS may reasonably be anticipated to cause or contribute to the visibility impairment in the Grand Canyon National Park. See 40 CFR 51.302-(e)-(4)-(i). Therefore, year-round controls are appropriate.~~ In its comments SRP requested that EPA consider seasonal controls on the theory that WHITEX reported ~~on~~ winter impairment and that an earlier study suggested no summer impairment from NGS. That request has been withdrawn, and SRP has agreed under the terms and conditions described in this documents to install year-round controls.

REQUIREMENTS

1. Applicable to the fossil fuel-fired, steam-generating equipment designated as Units 1, 2, and 3 at the NGS.

2. ~~<The>~~ [Except as noted below, the] emission limitation for NGS is a sulfur oxides emission limitation of 42 ng/J (0.10 lbs/MMBtu) heat input, ~~<to>~~ [which when fully operational will] be determined [on a plant-wide basis and] on an annual rolling average basis~~].~~ Emission controls will be installed and operated on the following schedule:

- One unit by November 19, 1991;
- Two units by November 19, 1998;
- All units by August 19, 1999.

3. Schedule of compliance -- interim deadlines:

Date of binding contract for A/E firm to design and procure the control system needed for compliance.	6/92
---	------

Start of on-site construction of control system for the unit	1/95
--	------

Initiation of start-up testing

first unit	5/97
second unit	5/98
third unit	2/99

~~<The-interim>~~ [These] deadlines may be waived [by the EPA Regional Administrator] upon a demonstration of Force Majeure ~~<and>~~ [or] if it can be demonstrated that ~~<final>~~ compliance [with a deadline] would not be [materially] affected. (Attachment A.)

4. Continuous emission monitors will be ~~<required>~~ [installed] to determine compliance with the emission limitations. This equipment ~~<must>~~ [will] meet the specifications listed in Appendix B of 40 CFR Part 60 and the quality assurance procedures found in Appendix F of 40 CFR Part 60.

5. Recordkeeping and reporting requirements:

- Report to EPA ~~<the SO₂, oxygen, and carbon dioxide>~~ emissions ~~<according to>~~ [as required by] the procedures found in 40 CFR 60.7;
- Maintain records according to the procedures found in 40 CFR 60.7;

-- FGD unit outages to be immediately reported to EPA with a follow-up written report to be filed within 30 days.

6. Compliance with the annual rolling average shall be determined on a daily basis by dividing the total sulfur dioxide emitted by the total ~~Btu's~~ [energy] of the fuel consumed during the previous 365 [boiler-operating] days.

[In determining compliance with the annual average emission limitation during the first calendar year of operation of the control equipment installed to comply with this emission limitation, periods when equipment does not attain expected performance shall be excluded. For example, the time when the following occurs will not be included in the compliance determination:

- a. Equipment or systems do not meet designer's or manufacturer's warranty.
- b. Field installation including engineering or construction precludes equipment or systems from performing as designed.

When the periodic reports of compliance with this emission limitation are made, the times excluded from the determination will be identified; and the reasons for the exclusion will be provided. Whenever the time to be excluded exceeds 30 days for any FGD unit, the owner/operator shall report immediately to EPA the reasons for the FGD outage and the actions taken to avoid the outage, to be taken to minimize its duration, and to reduce SO₂ emissions to the extent practicable until the FGD unit is fully operational again.

All equipment needed to comply with this emission limitation will be operated in good engineering practice to reduce emissions and outages and to address significant malfunctions.] ~~<or-[Reserved-for-discussion-on-allowance-for start-up-problems-]>~~

7. After 10/31/93, except as provided below, at least six [unit-]weeks of ~~<the>~~ [whatever] periodic scheduled maintenance [is scheduled] for NGS will occur between 11/1 and ~~<3/1>~~ [3/31] of each pair of consecutive years to further reduce SO₂ emissions during the winter. ~~<At-least six>~~ [Six unit-]weeks of winter maintenance ~~<may>~~ [need] not occur ~~<to-the-extent-that>~~ [if]:

- a. There is no need for six [unit-]weeks of scheduled periodic maintenance in a year~~<or>~~[if]