



IN REPLY REFER TO:

# United States Department of the Interior

NATIONAL PARK SERVICE

Air Resources Division

P.O. Box 25287

Denver, CO 80225



January 14, 2011

N3615 (2350)

Shelley Schneider  
Air Quality Division Administrator  
Nebraska Department of Environmental Quality  
1200 N Street, Suite 400  
Lincoln, Nebraska 68509-8922

Dear Ms. Schneider:

On November 16, 2010, we received Nebraska's draft State Implementation Plan to address regional haze. We appreciate the opportunity to work closely with the State through the initial evaluation, development, and review of this plan.

This letter acknowledges that the U.S. Department of the Interior, National Park Service and U.S. Fish and Wildlife Service have conducted a substantive review of your proposed Regional Haze Rule implementation plan in fulfillment of your requirements under the federal regulations 40 CFR 51.308(i)(2). Please note, however, that only the U.S. Environmental Protection Agency (EPA) can make a final determination regarding the document's completeness and, therefore, ability to receive federal approval from EPA.

As outlined in a letter to each State dated August 1, 2006, our review focused on eight basic content areas. These content areas reflect priorities for the Federal Land Manager agencies, and we have enclosed comments associated with these priorities.

We look forward to your response, as per section 40 CFR 51.308(i)(3). For further information regarding our comments, please contact John Bunyak of the National Park Service at (303) 969-2818 or Tim Allen of the Fish and Wildlife Service at (303) 914-3802.

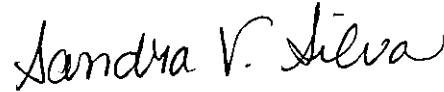
Again, we appreciate the opportunity to work closely with the State of Nebraska to improve visibility in our Class I national parks and wilderness areas.

Sincerely,



Patricia F. Brewer  
Acting Chief, Air Resources Division  
National Park Service

Sincerely,



Sandra V. Silva  
Chief, Branch of Air Quality  
U.S. Fish & Wildlife Service

Enclosures

cc:

Joshua Tapp  
Air Planning and Development Branch  
U.S. EPA Region 7  
901 N. 5th Street  
Kansas City, Kansas 66101

Michael George, Project Leader  
Nebraska Field Office  
203 West Second Street  
Federal Building, Second Floor  
Grand Island, Nebraska 68801

Rick Coleman  
Chief, Region 6  
U.S. Fish and Wildlife Service  
134 Union Boulevard  
Lakewood, Colorado 80228

**National Park Service and U.S. Fish and Wildlife Service Comments  
Nebraska Draft Regional Haze State Implementation Plan (SIP)  
January 14, 2011**

The National Park Service and Fish and Wildlife Service received Nebraska's draft regional haze state implementation plan (SIP) on November 16, 2010. We appreciate the opportunity to review the draft plan. The National Park Service and Fish and Wildlife Service provided recommendations to the Nebraska Department of Environmental Quality (NDEQ) in a letter dated August 2006 that detailed our priorities in reviewing the state plans. We address those priorities in our comments below. We are available to assist NDEQ in addressing our recommendations.

**Reasonable Progress**

Fundamentally, we are concerned that NDEQ has not met the requirement stated in the Regional Haze Rule Section 308(d)(3):

Each State must submit a long-term strategy that addresses regional haze visibility impairment for each mandatory Class I Federal area within the State and for each mandatory Class I Federal area located outside the State which may be affected by emissions from the State. **The long-term strategy must include enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals established by States having mandatory Class I Federal areas.**

The draft SIP does not meet this requirement. The reasonable progress goals established by South Dakota for Badlands and Wind Cave National Parks, by Colorado for Rocky Mountain National Park, by Oklahoma for Wichita Mountains, and by Missouri for Mingo Wildlife Refuge and Hercules Glade Wilderness Area, as well as other Class I areas, assume that NDEQ will require presumptive BART controls for the Gerald Gentleman and Nebraska City power plants as modeled by the Western Regional Air Partnership (WRAP) and the Central Regional Air Partnership (CENRAP). NDEQ proposes not to require controls of sulfur dioxide (SO<sub>2</sub>) for any of the BART units. NDEQ's long term strategy does not include the controls required to meet its contribution to the reasonable progress goals established by its neighboring states through the RPO process.

Point source SO<sub>2</sub> emissions account for 78% of total SO<sub>2</sub> emissions in Nebraska's 2002 inventory. Electric generating units (EGU) account for 92% of point source SO<sub>2</sub> emissions. Section 8.3.1.3 indicates that the 2018 inventory assumes significant reductions in SO<sub>2</sub> from electric generating units based on assumptions of the Integrated Planning Model. NDEQ does not document any actual SO<sub>2</sub> controls. It can be inferred that no reductions in SO<sub>2</sub> emissions from point sources are expected and that, based on Tables 8.1 and 8.3, SO<sub>2</sub> emissions from Nebraska in 2018 are underestimated by 21,218 tons, or 25% in the CENRAP and WRAP 2018 modeling. Nebraska does not discuss this discrepancy in Chapter 11 when presenting results of the 2018 source apportionment modeling or 2018 visibility projections for Class I areas.

EPA Region 6 in its proposed Federal Implementation Plan for San Juan Generating Station cites the emissions assumptions used in the WRAP modeling as evidence that San Juan Generating Station should be required to meet those emissions limits to support the reasonable progress goals set by neighboring states for their Class I areas. Similarly, Nebraska should require SO<sub>2</sub> controls consistent with the emissions assumptions used in the CENRAP and WRAP modeling and used by neighboring states, particularly Colorado and South Dakota, in setting reasonable progress goals for their Class I areas.

### **Best Available Retrofit Technology (BART)**

We have several concerns with the BART analyses for Nebraska City Unit 1 and Gerald Gentleman Units 1 and 2. Please include a description of the emissions for the BART eligible units. Appendix 10.1 indicates that Gerald Gentleman Units 1 and 2 combined have potential SO<sub>2</sub> emissions of 79,200 tons/year and Nebraska City Unit 1 has potential SO<sub>2</sub> emissions of 45,696 tons/year. Please confirm and provide the actual annual SO<sub>2</sub> emissions from the 2002 CENRAP inventory for these three units, similar to the nitrogen oxide (NO<sub>x</sub>) information in Table 8.5.

### ***Five Factor Analysis***

In Chapter 10, please provide a summary of the five factor analyses for Gerald Gentleman and for Nebraska City. The information was very difficult to ascertain from the current discussion in Chapter 10. The BART analyses can be summarized in the SIP Narrative and can reference the appropriate appendices for further information.

Step 1: Identify the available retrofit technologies for SO<sub>2</sub> and NO<sub>x</sub>. For SO<sub>2</sub> this should include lime spray dryer and dry sorbent injection as control options with lower water use requirements than wet flue gas desulfurization. For NO<sub>x</sub> this should include selective non-catalytic reduction (SNCR) technology in addition to selective catalytic reduction (SCR).

Step 2: Eliminate technically infeasible options.

Step 3: Evaluate effectiveness of control options.

Step 4: Evaluate impacts and document results.

Step 5: Select Best Available Retrofit Control

### ***Presumptive Controls for Nebraska City***

EPA Region 7 provided guidance to Nebraska in a letter dated January 23, 2009, that the total plant capacity (BART plus non-BART units) is to be used to determine if an Electric Generating Unit (EGU) is greater than 750 MW and that any units in existence at the time of the BART determination are to be included in the total plant capacity. BART units at a facility greater than 750 MW are subject to presumptive controls. Given that Nebraska City Unit 1 alone is 616 MW, Nebraska needs to seriously consider all feasible SO<sub>2</sub> control options, and the presumptive SO<sub>2</sub> limit, as part of the five factor analysis. The text in Section 10.5 incorrectly refers to Unit 2 as BART eligible. Please provide the MW capacity of Units 1 and 2. It is unacceptable that Nebraska only discusses the legal requirement for presumptive controls rather than discussing the BART analysis and visibility impacts from Unit 1. In Table 10.5, the costs for a scrubber are less than \$2000/ton and the visibility improvement from a scrubber are close to 0.5dv at a single Class I area. If Nebraska considered the visibility benefits at all the affected Class I areas,

the benefits of the investment would be greater. Why was dry sorbent injection not evaluated for SO<sub>2</sub> controls? Why was Selective Non-Catalytic Reduction not evaluated for NO<sub>x</sub> controls?

### ***Gerald Gentleman***

The BART determination is not acceptable as written. We disagree with Nebraska's BART determination of no SO<sub>2</sub> controls for Gerald Gentleman. Was dry sorbent injection considered? If not, why not? Nebraska provides an elaborate justification that limited water availability prohibits the application of wet flue gas desulfurization (FGD) at Gerald Gentleman without discussing the viable alternatives that are being used in western states. The economic factors influencing the economy of Nebraska are much greater than the possible retirement of irrigated acreage to obtain water rights for the power plant.

The Fish and Wildlife Service's Nebraska Field Office has reviewed the Nebraska water use discussion and has provided the attached comments that Nebraska has overstated the magnitude of offset required (see attached comments).

Additional comments on these two facilities are in the attached documents.

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Additional comments on specific chapters are detailed below.

### **Chapter 6 Baseline, Current, and Natural Visibility Conditions**

Please include summary of baseline conditions at key Class I areas (e.g. Badlands, Hercules Glade) impacted by Nebraska emissions to establish the relative contributions of pollutant species, seasonal trends in pollutant contributions, and priority for emissions controls. Because the Class I areas are geographically distant, the priority for emissions controls may differ among the Class I areas.

### **Chapter 7 Monitoring Strategy**

Measurements at IMPROVE protocol sites and from special studies are discussed but no results are presented. How are the ammonia monitoring data being used?

### **Chapter 8 Emissions Inventory**

The discussion of area source contributions to particulate matter (PM<sub>10</sub>) in the 2002 inventory is good. According to values in Table 8.1, area sources contribute 97% of ammonia (NH<sub>3</sub>) emissions in Nebraska in 2002. Please add for NH<sub>3</sub> the same discussion and piechart as presented in Figure 8.3 for PM<sub>10</sub>. We disagree with ignoring NH<sub>3</sub> as a contributing pollutant, even if it is not a criteria pollutant. Please include a discussion of the change in NH<sub>3</sub> in 2018 in Table 8.3 and Section 8.3.1.5.

Please amplify the discussion of the 2018 projections to provide better explanation of the source categories contributing to point source emissions of SO<sub>2</sub> and NO<sub>x</sub>. This information was not presented in either Appendix 8.2 (SMOKE reports in Microsoft Access) or Appendix 9.1 (ENVIRON technical report). This information is critical to supporting an adequate reasonable progress analysis.

## **Chapter 10 BART**

See our general comments above and specific comments in the attached documents.

Please include the CENRAP BART Modeling Protocol in the Appendices as it has been referenced in the BART Modeling Protocol for Gerald Gentleman and Nebraska City.

## **Chapter 11 Reasonable Progress/Long Term Strategy**

The SIP is missing the required four factor analysis evaluating reasonable control measures for sources in Nebraska.

Table 11.1 reports the net improvement in Light Extinction at neighboring Class I areas based on source apportionment modeling and what appear to be incorrect assumptions for SO<sub>2</sub> emissions in Nebraska. If the emissions assumptions are invalid, Nebraska's demonstration of reasonable progress is also invalid. Nebraska is not achieving the modeled emissions reductions and Nebraska's conclusion that no additional control measures are warranted is not supported.

Section 11.2: We note that Colorado in its regional haze SIP specifically mentions consultation with Nebraska on the BART determination for Gerald Gentleman due to the plant's impact to Rocky Mountain National Park. Nebraska does not include Colorado in its summary.

South Dakota's SIP lists a 36% reduction in Nebraska SO<sub>2</sub> emissions used in setting reasonable progress goals for Badlands and Wind Cave National Parks. This is 23,623 tons lower than we infer is appropriate based on no EGU SO<sub>2</sub> controls in Nebraska. This disconnect should be addressed in consultation with South Dakota and EPA Regions 7 and 8.

Section 11.3.2: Please include discussion about how the visibility improvement goals under the regional haze rule are incorporated in Nebraska's Prevention of Significant Deterioration program.

Section 11.3.7: Nebraska must re-evaluate what reductions are necessary to support the reasonable progress goals of neighboring states. The regional haze rule requires that the State include in its long term strategy all measures needed to achieve its apportionment of emission reductions and to identify all anthropogenic sources of visibility impairment considered in developing the long term strategy. Nebraska needs to demonstrate that its emissions sources are being controlled and that Nebraska is making reasonable progress in reducing anthropogenic emissions.