United States Department of the Interior

NATIONAL PARK SERVICE
Air Resources Division
P.O. Box 25287
Denver, CO 80225

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

October 21, 2009

N3615 (2350)

David A. Finley, Administrator
Division of Air Quality
Department of Environmental Quality
122 W. 25th Street
Cheyenne, Wyoming 82002

Dear Mr. Finley:

On August 26, 2009, we received Wyoming's draft regional haze implementation plan for review. We appreciate the opportunity to work closely with the State through the initial evaluation, development, and, now, subsequent review of this plan. Cooperative efforts such as these ensure that, together, we will continue to make progress toward the Clean Air Act's goal of natural visibility conditions at all of our most pristine National Parks and wilderness areas for future generations.

This letter acknowledges that the U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS), and National Park Service (NPS) have received and conducted a substantive review of your revised proposed Regional Haze Rule implementation plan in fulfillment of your requirements under the federal regulations 40 CFR 51.308(i)(2) and 51.309(g). 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. The content areas reflect priorities for the Federal Land Manager agencies, and we have enclosed comments associated with these priorities. Overall the draft implementation plan was well organized and addressed all the key elements outlined in our letter. We recognize Wyoming is committing to significant point source emissions reductions. We have two primary concerns with the draft plan: 1) the reasonable progress analyses did not consider what SO2 controls beyond those included in the Section 309 State Implementation Plan might be reasonable to address visibility impairment at Class I areas outside the Colorado Plateau, and 2) the impacts of increases in NOx emissions due to the oil and gas development activities. We previously commented in a letter to you dated August 4, 2009, that we consider selective catalytic

reduction (SCR) technology to be best available retrofit technology (BART) for several Wyoming facilities that are subject to BART under the regional haze rule.

We look forward to your response, as per section 40 CFR 51.308(i)(3). For further information regarding our comments, please contact Pat Brewer of the NPS Air Resources Division at 303-969-2153, or Tim Allen of the FWS Branch of Air Quality at 303-914-3802.

Again, we appreciate the opportunity to work closely with the State of Wyoming and compliment you on your hard work and dedication to significant improvement in our nation's air quality values and visibility.

Sincerely,

for Christine L. Shaver
Chief, Air Resources Division
National Park Service

Sincerely,

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

Enclosure

cc:
Callie Videtich
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National Park Service and U.S. Fish and Wildlife Service Comments
Wyoming Draft State Implementation Plan for Regional Haze
October 21, 2009

General Comments

Wyoming's draft State Implementation Plan (SIP) is well organized and addresses all the key elements of a regional haze SIP as outlined in our August 2006 letter to the states. Wyoming (WY) applies Western Regional Air Partnership (WRAP) technical analyses to define current and natural visibility conditions, emissions inventories, state and source-sector contributions to haze at WY Class I areas, and visibility response to expected emissions controls by 2018. These WRAP products provide the basis for WY's reasonable progress goals. Beyond the emissions reductions modeled by WRAP, WY documents additional nitrogen oxides (NO_x) emissions reductions from Best Available Retrofit Technology (BART) and WY's long-term strategy. We are pleased with WY's commitment to these reductions and recommend that the State highlight total expected reductions in a summary table and summary discussion early in the document.

We are concerned that WY has relied on sulfur dioxide (SO_2) controls under the Section 309 State Implementation Plan to also cover all WY's obligations for SO_2 under the Section 309(g) SIP. The 309 SIP applied to Class I areas on the Colorado Plateau. Because Class I areas in WY and neighboring states are not meeting the uniform rate of progress, WY should also consider as part of its reasonable progress analyses if additional SO_2 controls would be warranted for Class I areas not on the Colorado Plateau.

We are also concerned by the projected increases by 2018 in NO_x emissions from oil and gas activities. Because these activities are located near the WY Class I areas, these emissions increases may be offsetting the benefits of the significant NO_x emissions reductions expected from mobile and point sources distributed across the State. Several large oil and gas development projects are being planned for southern and southwestern WY. Emissions from these projects are likely not included in the WRAP Phase II projections. We recommend that WY work closely with the oil and gas industry to improve the emission projections and to reduce emissions growth from these projects.

In our previous comments on WY's BART determinations (letter dated August 4, 2009), we recommended that additional facilities could cost effectively utilize Selective Catalytic Reduction technology to further reduce NO_x emissions.

Specific Comments

Sections 2 and 3 effectively describe the WY Class I areas and the visibility monitoring data that define the 20% worst and 20% best visibility days at these areas. The figures in Section 3 clearly demonstrate that organic carbon matter is the largest contributor to light extinction on the 20% worst days at the WY Class I areas and that sulfate (SO_4) is the second most important contributor. Nitrate (NO_3), elemental carbon, and coarse mass are smaller contributors on the 20% worst days. Sulfate and nitrate have larger percentage contributions on the 20% best days. It would be helpful to include in Section 3 a brief discussion of how light extinction and deciview are calculated from IMPROVE measurements. (This discussion is actually provided on pages 191 and 192 in Section 13; it would be helpful to move it to the introductory discussion in Section 3.)

Section 4: Emissions Inventory

WY could improve the reader's understanding of the subsequent chapters by providing additional emissions inventory data. WY reports emissions as calculated by the WRAP for the WRAP 2002d and 2018PRPb inventories. It would be helpful to add the inventory tables for WRAP 2002c and 2018 PRPa inventories for SO_2 and NO_x, and to explain that these are the basis for the CAMx PSAT source apportionment runs that are used in Section 5 to define WY contributions to SO_4 and NO_3 at WY Class I areas. WY should also clarify that the 2002d and 2018 PRPb inventories are used in the WRAP CMAQ projections of progress by 2018 that are presented in Section 5. Table 4.9-1 does indicate the differences between the two inventories and pg. 47 does cite that additional information on the inventories can be found in the WY Technical Support Document. However, the inventories are so important to interpretation of results in Section 5 that we recommend that WY provide the data in Section 4.

The majority of the NO_x reductions projected for the 2018PRPb inventory (Table 4.3-1) are due to reductions in the mobile onroad and nonroad sectors. Point source NO_x reductions are roughly 7500 tons, while NO_x emissions from oil and gas activities are projected to increase by 19,000 tons (132%). There is significant uncertainty in the oil and gas productions as WY is currently reviewing proposals for several additional oil and gas projects that would increase emissions beyond those estimated in the WRAP inventory.

Section 5: Source Apportionment and Regional Haze Modeling

WY cites WRAP CAMx-PSAT analyses of contributions to SO_4 and NO_3 from different source regions and CMAQ projections of 2018 progress. The inventories and models are subtly different so there are subtle differences in the results between CAMx-PSAT and CMAQ. PSAT is suggesting small increases in WY's contributions to SO_4 (Figures 5.2.1-1 through 5.2.1-3) and NO_3 (Figures 5.2.2-1 through 5.2.2-3) by 2018 on the 20% worst days at the WY Class I areas. Referring back to the 2018PRPa SO_2 inventory, there is actually an increase in SO_2 emissions from point sources that is revised for the WRAP 2018PRPb inventory to a decrease in SO_2 point source emissions. PSAT points out the importance of location of NOx emissions, particularly at the Bridger Wilderness Area. Oil and gas NO_x emissions increases are occurring in

southwestern and central WY relatively near the WY Class I areas. NO_x reductions from mobile and point sources are more distributed across the state.

The Weighted Emissions Potential (WEP) analyses are appropriately presented and interpreted. Organic carbon, elemental carbon, and particulate matter (PM) are important contributors to light extinction, but non-anthropogenic sources dominate and so WY has appropriately placed less emphasis on these constituents in this SIP.

It would be helpful to discuss in Section 5 how relative response factors are calculated to project future visibility.

CMAQ results indicate that extinction due to sulfate and nitrate will decrease slightly by 2018, but the WY Class I areas will not achieve the uniform rate of progress.

As part of our ongoing consultation, on October 6, 2009, we consulted with WY staff by teleconference. During our call, it became clear that WY is expecting NO_x reductions by 2018 from BART and the long-term strategy that are not included in the WRAP PSAT source apportionment and CMAQ modeling of progress by 2018. It is important to point this out in Section 5 even if there are not modeling results to demonstrate the benefits of these additional reductions.

Section 6: BART determination

NPS previously submitted comments that SCR would be cost effective as BART for NO_x emissions from additional BART-eligible Electric Generating Units (EGU). It would be helpful to state at the end of the section the cumulative NO_x reductions expected from BART implementation in WY.

Table 6.2-1 compares actual SO_2 emissions to SO_2 milestone commitments in the Section 309 SIP. The state should clarify if actual emissions or milestone commitments are used in the WRAP 2018PRPb SO_2 emissions inventory. Actual emissions are currently running much lower than the milestone commitments.

Section 7: Reasonable Progress Goals

Section 7.5 (pg. 123) indicates that WY Reasonable Progress Goals (RPGs) for 20% Worst Days and 20% Best Days for Wyoming Class I areas are based primarily on results of WRAP CMAQ modeling for 2018. WY should clarify that RPGs listed in Table 7.5-1 are the results of WRAP 2018b modeling without any additional controls beyond WRAP 2018b modeling. Actual reductions may be greater than those modeled.

Because the WY Class I areas do not achieve the uniform rate of progress, WY's reasonable progress analysis needs to consider SO_2 controls for facilities not already addressed in WY's Section 309 SIP. The SO_2 reductions in the 309 SIP do not exempt WY from considering in this 309(g) SIP how the emissions reductions expected from the 309 SIP controls, plus additional

SO_2 controls, could be targeted to protect Class I areas that are not on the Colorado Plateau. The State could find that additional SO_2 controls may not be warranted, but that finding must be based on an assessment of the reasonable progress factors noted in the EPA regulations. In Section 7.4 WY clarifies that the SO_2 reductions under the 309 SIP are included in the WRAP modeling. WY should also define the tons of SO_2 reductions expected under the 309 SIP. Table 4.2-1 suggests a net reduction of 22,000 tons SO_2 from all point sources by 2018, but that figure appears to include more sources than those controlling under the 309 SIP.

Table 7.2-1 is not cited in the text of Section 7.2.

WY uses $Q/d \geq 10$ as an indicator of sources that should be considered under reasonable progress for additional NO_x controls. Without more specific guidance from EPA, there is precedence that other states have used a similar approach to screen sources. Applying these criteria, two units at Dave Johnson EGU, one unit at the Mountain Cement plant, and oil and gas exploration and production are identified for reasonable progress analyses. Highly cost effective NO_x controls were identified in all cases. The reader is referred to Section 8 to learn that WY does not have regulatory authority to require controls on these sources. It would be helpful to provide this information in Section 7 or at a minimum to refer the reader to the specific section (8.3.4) where the outcome of the reasonable progress analyses is provided.

WY asserts that uniform rate of progress will not be met because much of the contribution is from uncontrollable sources. We believe that WY should do more to adopt cost effective controls for reasonable progress for those pollutants which WY can control.

Section 8: Long Term Strategy

WY identifies contributions to Class I areas outside WY and contributions of neighboring states to WY Class I areas. WY consulted with neighboring states through discussions in WRAP workgroups. WY cites EPA efforts to address emissions from Canada, Mexico, and marine shipping as evidence of progress on contributions from sources outside WY.

WY indicates that controls under Section 309 SIP will have greater benefit at WY Class I areas than the Class I areas on the Colorado Plateau. Nonetheless, WY needs to consider what additional SO_2 controls not considered in the 309 SIP are feasible for the WY and neighboring Class I areas.

Oil and gas development and production are important and growing sources of NO_x emissions in WY. Therefore WY should work closely with the oil and gas industry to develop better estimates of oil and gas NO_x emissions growth. Projects currently under evaluation in southern and southwestern WY (Pinedale, Hiawatha, Moxa Arch, Continental Divide-Creston, Gun Barrel, Madden Deep, and Iron Horse) could significantly increase NO_x emissions beyond those already projected in the WRAP Phase II oil and gas inventory.

While WY is developing the regulatory authority to limit emissions for oil and gas activities, we encourage the State to ask industry to offset emissions prior to regulatory requirements. Ozone nonattainment in the Sublette County area will require WY to develop NO_x emissions reduction strategies. Emissions offset requirements currently in place are a start.

Given that WY lacks regulatory authority for additional controls for non-BART sources, it is important that WY revisit controls options in 2013.

Long-term control strategies at BART facilities are welcome. A table to support Figure 8.3.6-7 would be helpful to understand the magnitude of expected emissions reductions from BART implementation and under the long-term strategy. The table provided by WY after our call was very helpful in understanding the sources of emissions reductions.

WY's long-term strategy includes discussion of existing programs, including EPA discussions with Canada and Mexico over international emissions, existing WY control programs, natural events plan, measures to mitigate impacts from construction activities, and Smoke Management techniques. We encourage WY to also consider cost-effective controls for point source emissions of fine particles, the anthropogenic contribution to dust (fine PM and course PM), and prescribed fire.

We ask that WY include in the discussion of New Source Review and Prevention of Significant Deterioration requirements recognition of visibility improvement goals so that progress in reducing emissions from existing sources is not offset by growth in new sources.

We look forward to continuing to work with WY to protect visibility and other air quality related values in the Class I areas and the region.