

**New Mexico Environment Department's Responses to the
October 25, 2013 U.S. National Park Service's Comments Regarding
New Mexico's 2013 Regional Haze Progress Report.**

Section 1. Introduction briefly discusses BART for San Juan Generating Station. Please update this discussion to report the BART decision by the New Mexico Environmental Improvement Board in September 2013. EPA review of this decision is still pending. Please also discuss BART in more detail in Section 3.5 Emissions Inventory including final permitted BART emission limits for sulfur dioxide and nitrogen oxides, assumed capacity and annual generation for each unit (mw), and assumed annual emission totals.

The New Mexico Environment Department (NMED) has incorporated a summary on the most recent Regional Haze (RH) SIP revisions regarding BART for San Juan Generating Station in Sections 1.0 and 3.2 of the 2013 Regional Haze Progress Report.

Section 3.2 Control Measures: AQB states that NM is implementing the long-term strategies in the State's 309 and 309(g) State Implementation Plans. Please summarize major control measures.

NMED has incorporated a summary of the major source long-term strategies in the 2013 RH Progress Report in Section 3.2.

Section 3.4.1, Current Visibility, cites EPA 2003 guidance that specifies using successive 5-year periods (e.g. 2000-2004, 2005-2009) to review visibility progress. Please also reference EPA 2013 guidance that recommended using rolling five year averages². The rolling average has the advantage of considering the most currently available IMPROVE monitoring data. It also reduces the importance of any single year on the overall visibility trend.

In addition to the detailed technical analyses in the WRAP reasonable progress report, WRAP also provided trends for deciview and species-specific extinction for each Class I area for the 20% worst and 20% best visibility days in 2000-2004, 2005-2009, 2006- 2010, and 2007-2011³. As an example, the table below reports visibility trends at Bandelier National Park for the 20% worst visibility days. Please add these tables to supplement the detailed WRAP reasonable progress analyses in the NM report.

NMED has incorporated tables showing rolling averages and references 2013 EPA guidance in Section 3.4.1 of the 2013 RH Progress Report.

Section 3.4.2, Visibility Change: Table 3.3 demonstrates that visibility improved on the 20% worst days between the base period 2000-2004 and 2005-2009. The table above shows that visibility on the 20% worst days also improved in 2006-2010 and 2007-2011. The contributions of the primary contributors, ammonium sulfate (primarily anthropogenic) and particulate organic matter and coarse mass (primarily biogenic and more episodic in occurrence), varies year to year. In years with high influence from wildfires, particulate organic matter dominates the 20% worst visibility days, and ammonium sulfate has a lower contribution. Conversely, in years with low fire activity, particulate organic matter was lower and ammonium sulfate had a comparatively

higher contribution on the 20% worst days. Please discuss this interdependency between pollutants to account for what otherwise would appear to be an increase in ammonium sulfate contributions since the 2000-2004 baseline. The dominant role of fire also points to the difficulty in predicting future visibility trends using the 20% worst days as the indicator of progress.

NMED has incorporated discussion on the interdependency of pollutants in the 2013 RH Progress Report in Sections 3.4.1 and 3.4.2.

Section 3.4.3 Annual Average Visibility Trend: AQB demonstrated that annual average visibility impairment decreased for all pollutant species, including ammonium sulfate over the 2000-2009 period (Table 3.5). Annual average trends are less responsive to episodic impacts from wildfire and are appropriate to report as weight of evidence, in addition to trends for the 20% worst and 20% best days. I am not asking that annual average trends be updated beyond 2009.

Thank you for your comment.

Section 3.5 Emissions Inventory: Tables 3.7 and 3.8 demonstrate that anthropogenic sulfur dioxide (SO₂) emissions have been reduced by 43% and anthropogenic nitrogen oxide (NO_x) emissions have been reduced by 28% between the 2002 WRAP inventory and the 2008 WESTJUMP inventory. Figure 3.20 indicates additional SO₂ and NO_x emissions reductions in 2009-2010 from Electric Generating Units (EGU). Please discuss the controls that were implemented for specific EGU to accomplish these SO₂ and NO_x emission reductions. EPA's Clean Air Markets Division EGU data tracks emissions and controls by unit, facility, and state. Will additional SO₂ and NO_x controls (beyond continued implementation of federal requirements for mobile and area sources and BART for San Juan Generating) be implemented before 2018? Figure 4.5 shows that in 2010 SO₂ emissions in New Mexico, Utah, and Wyoming were below 309 milestones. Are additional SO₂ reductions expected in New Mexico?

The reductions in EGU SO₂ and NO_x emissions were largely as a result of controls installed in compliance with a 2005 consent decree between Grand Canyon Trust, the Sierra Club, NMED and PNM for San Juan Generating Station. Control technology implementation was completed in 2009. More reductions are anticipated to be completed by the end of 2017 when PNM has agreed to shut down two units at San Juan Generating Station and install selective non-catalytic reduction (SNCR) technology on the remaining two units. This will result in an approximately 62 percent reduction of NO_x, 67 percent reduction of SO₂ and 50 percent reduction of PM by 2018. In addition to the San Juan Generating Station existing controls and planned controls, El Paso Electric in Sunland Park, NM installed Flue Gas Regeneration in 2010.

WRAP provided the western states with particulate source apportionment analyses using the CAMx regional air quality model for 2002 and 2018 inventories. An example plot for Mesa Verde, Colorado, is copied from the WRAP Technical Support System to illustrate that SO₂ emission reductions from NM by 2018 are expected to significantly reduce NM's contribution to ammonium sulfate to that Class I area. Please add at least a few of these plots for neighboring Class I areas to support AQB's conclusion that NM is not impeding other states meeting their reasonable progress goals.

Other states relied on WRAP modeling to show reasonable progress at their Class I areas. With the BART determination of a 2 unit shut-down and 2 unit SNCR installation, New Mexico will be exceeding the modeled levels relied on by WRAP for regional haze. Therefore, NM is not impeding other states in meeting their reasonable progress goals, and is, in fact, decreasing more than was anticipated in the WRAP modeling for both NO_x and SO₂.