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40 CFR Part 52
Approval and Promulgation of State Implementation Plans; New Mexico; Regional Haze Rule Requirements for Mandatory Class I Areas; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R06–OAR–2009–0050; FRL–9683–9]

Approval and Promulgation of State Implementation Plans; New Mexico; Regional Haze Rule Requirements for Mandatory Class I Areas

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to approve New Mexico State Implementation Plan (SIP) revisions submitted on July 5, 2011, and December 1, 2003, by the Governor of New Mexico addressing the regional haze requirements for the 16 Class I areas covered by the Grand Canyon Visibility Transport Commission Report and a separate submittal for other Federal mandatory Class I areas. EPA is proposing to find that the submittals meet the requirements. We are proposing action on all components of the state's submittals except for the submitted nitrogen oxides (NO_X) Best Available Retrofit Technology (BART) determination for the San Juan Generating Station (SJGS). We propose to approve all other components, including the sulfur dioxide emission reduction milestones and backstop trading program, the smoke management plan and the particulate matter BART determination for the SJGS. We are also proposing to approve several SIP submissions offered as companion rules to the regional haze plan, including submitted regulations for the Western Backstop Sulfur Dioxide Trading Program, for the inventorying of emissions, for smoke management, and open burning. EPA is taking this action under section 110 of the Clean Air Act.

DATES: Comments must be received on or before July 16, 2012.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R06–OAR–2009–0050 by one of the following methods:

- *Federal e-Rulemaking Portal: http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *Email: R6air_nmhaze@epa.gov.*
- *Mail:* Mr. Michael Feldman, Air Planning Section (6PD–L), Environmental Protection Agency, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202–2733.
- *Hand or Courier Delivery:* Mr. Michael Feldman, Air Planning Section (6PD–L), Environmental Protection Agency, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202–2733. Such deliveries are accepted only between the hours of 8 a.m. and 4 p.m. weekdays, and not on legal holidays. Special arrangements should be made for deliveries of boxed information.
- *Fax:* Mr. Michael Feldman, Air Planning Section (6PD–L), at fax number 214–665–7263.

Instructions: Direct your comments to Docket No. EPA–R06–OAR–2009–0050. Our policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or email. The *www.regulations.gov* web site is an ''anonymous access'' system, which means we will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to us without going through *www.regulations.gov* your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, we recommend that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If we cannot read your comment due to technical difficulties and cannot contact you for clarification, we may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Air Planning Section (6PD–L), Environmental Protection Agency, 1445 Ross Avenue, Suite 700, Dallas, Texas 75202–2733. The file will be made available by appointment for public inspection in the Region 6 FOIA Review Room between the hours of 8:30 a.m. and 4:30 p.m. weekdays except for legal holidays. Contact the person listed in the **FOR FURTHER INFORMATION CONTACT** paragraph below or Mr. Bill Deese at 214–665–7253 to make an appointment. If possible, please make the appointment at least two working days in advance of your visit. There will be a 15 cent per page fee for making photocopies of documents. On the day of the visit, please check in at our Region 6 reception area at 1445 Ross Avenue, Suite 700, Dallas, Texas.

The State of New Mexico submittal is also available for public inspection during official business hours, by appointment, at New Mexico Environmental Department, Air Quality Bureau, 1301 Siler Rd, Building B, Santa Fe, New Mexico 87507.

FOR FURTHER INFORMATION CONTACT: Michael Feldman, Air Planning Section (6PD–L), Environmental Protection Agency, Region 6, 1445 Ross Avenue, Suite 700, Dallas, Texas 75202–2733, telephone 214–665–9793; fax number 214–665–7263; email address *feldman.michael@epa.gov.*

SUPPLEMENTARY INFORMATION:

Definitions

For the purpose of this document, we are giving meaning to certain words or initials as follows:

i. The words or initials *Act* or *CAA* mean or refer to the Clean Air Act, unless the context indicates otherwise.

ii. The words *EPA, we, us* or *our* mean or refer to the United States Environmental Protection Agency.

iii. The initials *SIP* mean or refer to State Implementation Plan.

iv. The initials *FIP* mean or refer to Federal Implementation Plan.

v. The initials *RH* and *RHR* mean or refer to Regional Haze and Regional Haze Rule.

vi. The initials *NMED* mean the New Mexico Environmental Department.

vii. The initials *BART* mean or refer to Best Available Retrofit Technology.

viii. The initials *OC* mean or refer to organic carbon.

ix. The initials *EC* mean or refer to elemental carbon.

x. The initials *VOC* mean or refer to volatile organic compounds.

xi. The initials *EGUs* mean or refer to Electric Generating Units.

xii. The initials NO_X mean or refer to nitrogen oxides.

xiii. The initials SO_2 mean or refer to sulfur dioxide.

xiv. The initials PM_{10} mean or refer to particulate matter with an aerodynamic diameter of less than 10 micrometers.

xv. The initials $PM_{2.5}$ mean or refer to particulate matter with an aerodynamic of less than 2.5 micrometers.

xvi. The initials *RPGs* mean or refer to reasonable progress goals.

xvii. The initials *LTS* mean or refer to long term strategy.

xviii. The initials *RPOs* mean or refer to regional planning organizations.

xix. The initials *WRAP* mean or refer to the Western Regional Air Partnership.

xx. The initials *CENRAP* mean or refer to the Central Regional Air Planning Association.

xxi. The initials *AQCB* mean or refer to the Albuquerque-Bernalillo County Air Quality Control Board.

xxii. The initials *GCVTC* mean or refer to the Grand Canyon Visibility Transport Commission.

xxiii. The initials *PNM* mean or refer to the Public Service Company of New Mexico.

xxiv. The initials *SJGS* mean or refer to the San Juan Generating Station.

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I. Overview of Proposed Action

As explained in further detail below, 40 CFR 51.309 presents certain Western states covered by the Grand Canyon Visibility Transport Commission with the option of fulfilling the regional haze rule (RHR) requirements for 16 Class I areas under the provisions of that section, rather than under 40 CFR 51.308. Three states—Wyoming, Utah, and New Mexico—have elected to submit a SIP under 40 CFR 51.309. The Albuquerque/Bernalillo County Air Quality Control Board, as the federally delegated air quality authority for the City of Albuquerque and Bernalillo County, New Mexico, for its geographic area of New Mexico under the New Mexico Air Quality Control Act (section 74–2–4) has also submitted a Section 309 regional haze SIP. This separate submittal for Albuquerque/Bernalillo County is necessary for the Regional Haze (RH) requirements to be met for the entire State of New Mexico and is also necessary to ensure the requirements of section 110(a)(2)(D) of the CAA are satisfied for the entire State of New Mexico. The Regional Haze and 110(a)(2)(D) submissions for Albuquerque/Bernalillo County are being reviewed in a separate **Federal Register** action.

New Mexico submitted its RH SIP to EPA on July 5, 2011, and it adds to earlier RH SIP planning components that were submitted by the state on December 1, 2003. We are acting on the great majority of the components of this newly submitted 2011 revision in advance of our ordinary statutory requirement to act on new submissions.

In this action, we are proposing to approve components of the New Mexico Regional Haze SIP revisions that were submitted to satisfy the requirements of 40 CFR 51.309. Among the requirements, Section 309 calls for plans to include a market trading program, conventionally known as the 309 backstop-trading program; this program will not be effective until EPA has finalized action on all section 309 SIPs. Section 51.309 does not require the participation of a certain number of states to validate its effectiveness. Utah submitted its 309 SIP to EPA on May 26, 2011, Wyoming submitted its 309 SIP to EPA on January 12, 2011 and the City of Albuquerque-Bernalillo County submitted its 309 SIP to EPA on July 28, 2011. EPA proposed action on Bernalillo County's 309 SIP on April 25, 2012 (77 FR 24768), Utah's 309 SIP on May 15, 2012 (77 FR 28825), and Wyoming's 309 SIP on May 24, 2012 (77 FR 30953). If EPA takes final action approving the necessary components for the 309 backstop-trading program to operate in all of the jurisdictions electing to submit 309 SIPs, the program will become effective.

Our review of the RH SIP is supported by the review of companion regulations—regulations that the RH SIP references and relies upon, that have also been submitted for SIP approval. Specifically, New Mexico submitted 20.2.81 NMAC, Western Backstop Sulfur Dioxide Trading Program, after initial adoption, on December 1, 2003, and thereafter submitted revisions with the State's RH 309 SIP on July 5, 2011. We are proposing to fully approve 20.2.81 NMAC. We are also proposing to fully approve the following additional companion regulations: 20.2.65 NMAC, *Smoke Management* and 20.2.60 NMAC *Open Burning,* both—after their initial adoption—submitted on December 1, 2003; and July 5, 2011 submitted revisions to 20.2.73.300.F NMAC, a subprovision of a previously approved rule that pertains to the ''*Emission tracking requirements for sulfur dioxide emission inventories.*'' [1] Further details and the analyses of these companion regulations are provided in the Technical Support Document in the docket for this rulemaking. These rules are also discussed at later points in this notice when they are relevant to our analysis of New Mexico's RH SIP submittal.

As previously stated, EPA is proposing to approve New Mexico SIP revisions submitted on July 5, 2011, and December 1, 2003, that address the regional haze requirements for the mandatory Class I areas under 40 CFR 51.309. EPA is proposing to find that all reviewed components of the SIP meet the requirements of 40 CFR 51.309.

We note that we are not proposing action on the submitted NO_X BART determination for the San Juan Generating Station. The NO_X BART requirement for the source is presently satisfied by the BART determination that is effective under the federal implementation plan at 40 CFR 52.1628. We have no current statutory duty or consent decree obligation to act on this component of the state's Regional Haze SIP submittal. We will, however, propose action on the submitted NO_X BART determination for San Juan Generating Station through a future, separate proposal, unless the state of New Mexico earlier withdraws it in favor of an alternative that it may develop through discussions with the source and EPA.

II. What is the background for our proposed actions?

A. Regional Haze

RH is visibility impairment that is produced by a multitude of sources and activities which are located across a broad geographic area and emit fine particles ($PM_{2.5}$) (*e.g.,* sulfates, nitrates, organic carbon, elemental carbon, and soil dust) and their precursors (*e.g.,* SO_2, nitrogen oxides (NO_X), and in some cases, ammonia (NH_3) and volatile organic compounds (VOCs)). Fine particle precursors react in the atmosphere to form $PM_{2.5}$ (*e.g.,* sulfates, nitrates, organic carbon, elemental carbon, and soil dust), which also impair visibility by scattering and absorbing light. Visibility impairment reduces the clarity, color, and visible distance that one can see. $PM_{2.5}$ also can cause serious health effects and mortality in humans and contributes to environmental effects such as acid deposition and eutrophication.

Data from the existing visibility monitoring network, the ''Interagency Monitoring of Protected Visual Environments'' (IMPROVE) monitoring network, show that visibility impairment caused by air pollution occurs virtually all the time at most national park and wilderness areas. The average visual range [2] in many Class I areas (*i.e.,* national parks and memorial parks, wilderness areas, and international parks meeting certain size criteria) in the Western United States is 100–150 kilometers, or about one-half to two-thirds of the visual range that would exist without anthropogenic air pollution. 64 FR 35714, 35715 (July 1, 1999). In most of the eastern Class I areas of the United States, the average visual range is less than 30 kilometers, or about one-fifth of the visual range that would exist under estimated natural conditions. *Id.*

In section 169A of the 1977 Amendments to the CAA, Congress created a program for protecting visibility in the nation's national parks and wilderness areas. This section of the CAA establishes as a national goal the ''prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas [3] which impairment

[1] We previously approved 20.2.73 NMAC, including 20.2.73.300 NMAC, through our action at 75 FR 48860 (August 12, 2010). The state undertook other revisions of 20.2.73 NMAC in 2008, but they have not been submitted and they are unrelated to the minor revisions submitted for review in the 2011 SIP submission.

[2] Visual range is the greatest distance, in kilometers or miles, at which a dark object can be viewed against the sky.

[3] Areas designated as mandatory Class I Federal areas consist of national parks exceeding 6000 acres, wilderness areas and national memorial parks

results from man-made air pollution.'' CAA § 169A(a)(1). The terms ''impairment of visibility'' and ''visibility impairment'' are defined in the Act to include a reduction in visual range and atmospheric discoloration. *Id.* section 169A(g)(6). In 1980, we promulgated regulations to address visibility impairment in Class I areas that is ''reasonably attributable'' to a single source or small group of sources, *i.e.,* ''reasonably attributable visibility impairment'' (RAVI). 45 FR 80084 (December 2, 1980). These regulations represented the first phase in addressing visibility impairment. We deferred action on RH that emanates from a variety of sources until monitoring, modeling and scientific knowledge about the relationships between pollutants and visibility impairment improved.

Congress added section 169B to the CAA in 1990 to address RH issues, and we promulgated regulations addressing RH in 1999. 64 FR 35714 (July 1, 1999), codified at 40 CFR part 51, subpart P. The Regional Haze Rule (RHR) revised the existing visibility regulations to integrate into the regulations provisions addressing RH impairment and established a comprehensive visibility protection program for Class I areas. The requirements for RH, found at 40 CFR 51.308 and 51.309, are included in our visibility protection regulations at 40 CFR 51.300–309. Some of the main elements of the RH requirements are summarized in section III. The requirement to submit a RH SIP applies to all 50 states, the District of Columbia and the Virgin Islands.[4] States were required to submit the first implementation plan addressing RH visibility impairment no later than December 17, 2007. 40 CFR 51.308(b).

exceeding 5000 acres, and all international parks that were in existence on August 7, 1977. *See* CAA section 162(a). In accordance with section 169A of the CAA, EPA, in consultation with the Department of Interior, promulgated a list of 156 areas where visibility is identified as an important value. *See* 44 FR 69122, November 30, 1979. The extent of a mandatory Class I area includes subsequent changes in boundaries, such as park expansions. CAA section 162(a). Although states and tribes may designate as Class I additional areas which they consider to have visibility as an important value, the requirements of the visibility program set forth in section 169A of the CAA apply only to ''mandatory Class I Federal areas.'' Each mandatory Class I Federal area is the responsibility of a ''Federal Land Manager'' (FLM). *See* CAA section 302(i). When we use the term ''Class I area'' in this action, we mean a ''mandatory Class I Federal area.''

[4] Albuquerque/Bernalillo County in New Mexico must also submit a regional haze SIP to completely satisfy the requirements of section 110(a)(2)(D) of the CAA for the entire State of New Mexico under the New Mexico Air Quality Control Act (section 74–2–4).

B. Roles of Agencies in Addressing Regional Haze

Successful implementation of the RH program will require long-term regional coordination among states, tribal governments and various federal agencies. As noted above, pollution affecting the air quality in Class I areas can be transported over long distances, even hundreds of kilometers. Therefore, to address effectively the problem of visibility impairment in Class I areas, states need to develop strategies in coordination with one another, taking into account the effect of emissions from one jurisdiction on the air quality in another.

Because the pollutants that lead to RH can originate from sources located across broad geographic areas, we have encouraged the states and tribes across the United States to address visibility impairment from a regional perspective. Five regional planning organizations (RPOs) were developed to address RH and related issues. The RPOs first evaluated technical information to better understand how their states and tribes impact Class I areas across the country, and then pursued the development of regional strategies to reduce emissions of particulate matter (PM) and other pollutants leading to RH.

The WRAP RPO is a collaborative effort of state governments, tribal governments, and various federal agencies established to initiate and coordinate activities associated with the management of regional haze, visibility and other air quality issues in the western United States. WRAP member state governments include: Alaska, Arizona, California, Colorado, Idaho, Montana, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. The City of Albuquerque and Bernalillo County act as agents of the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) to implement, administer, and enforce the local air quality program within Albuquerque and Bernalillo County. The AQCB is the federally-delegated authority to implement the CAA for this area, which lies within the State of New Mexico. The AQCB staff participated in meetings with the State of New Mexico staff to coordinate its efforts with the State of New Mexico in developing its separate 309 SIP.

C. Development of the Requirements for 40 CFR 51.309

EPA's RHR provides two paths to address regional haze. One is 40 CFR 51.308, requiring states to perform individual point source BART determinations and evaluate the need for other control strategies. These strategies must be shown to make ''reasonable progress'' in improving visibility in Class I areas inside the state and in neighboring jurisdictions. The other method for addressing regional haze is through 40 CFR 51.309 (section 309), and is an option for nine states termed the ''Transport Region States'' which include: Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming, and the 211 Tribes located within those states.

Section 309 requires participating states to adopt regional haze strategies that are based on recommendations from the Grand Canyon Visibility Transport Commission (GCVTC) for protecting the 16 Class I areas in the Colorado Plateau area.[5] The EPA established the GCVTC on November 13, 1991. The purpose of the GCVTC was to assess information about the adverse impacts on visibility in and around 16 Class I areas on the Colorado Plateau region and to provide policy recommendations to EPA to address such impacts. Section 169B of the CAA called for the GCVTC to evaluate visibility research as well as other available information pertaining to adverse impacts on visibility from potential or projected growth in emissions from sources located in the region. It was determined that all transport region states impacted or could potentially impact the Class I areas on the Colorado Plateau. The GCVTC submitted a report to EPA in 1996 with its policy recommendations. Provisions of the 1996 GCVTC report include: strategies for addressing smoke emissions from wildland fires and agricultural burning; provisions to prevent pollution by encouraging renewable energy development; and provisions to manage clean air corridors, mobile sources, and wind-blown dust, among other things. The EPA codified these recommendations as part of the 1999 RHR.

EPA determined that the GCVTC strategies would provide for reasonable progress in mitigating regional haze if supplemented by an annex containing quantitative emission reduction

[5] The Colorado Plateau is a high, semi-arid tableland in southeast Utah, northern Arizona, northwest New Mexico, and western Colorado. The 16 mandatory Class I areas are as follows: Grand Canyon National Park, Mount Baldy Wilderness, Petrified Forest National Park, Sycamore Canyon Wilderness, Black Canyon of the Gunnison National Park Wilderness, Flat Tops Wilderness, Maroon Bells Wilderness, Mesa Verde National Park, Weminuche Wilderness, West Elk Wilderness, San Pedro Parks Wilderness, Arches National Park, Bryce Canyon National Park, Canyonlands National Park, Capital Reef National Park, and Zion National Park.

milestones and provisions for a trading program or other alternative measure (64 FR 35749 and 35756, July 1, 1999). Thus, the 1999 RHR required that Western states submit an annex to the GCVTC report with quantitative milestones and detailed guidelines in order to establish the GCVTC recommendations as an alternative approach to fulfilling the section 308 requirements for compliance with the RHR. In September 2000, the WRAP, which is the successor organization to the GCVTC, submitted to EPA an annex to the GCVTC. The annex contained SO_2 emission reduction milestones and the detailed provisions of a backstop trading program to be implemented automatically if voluntary measures failed to achieve the milestones. EPA codified the annex on June 5, 2003 as 40 CFR 51.309(h). 68 FR 33764.

Five Western states submitted implementation plans under the section 309 alternative program in 2003. EPA was challenged by the Center for Energy and Economic Development (CEED) on the validity of the annex provisions. In *CEED* v. *EPA,* the D.C. Circuit vacated EPA's approval of the WRAP annex (*Center for Energy and Economic Development* v. *EPA,* No. 03–1222 (D.C. Cir. Feb. 18, 2005)). In response to the court's decision, EPA vacated the annex requirements adopted as 40 CR 51.309(h), but left in place the stationary source requirements in 40 CFR 51.309(d)(4). 71 FR 60612 (October 13, 2006). The requirements under 40 CFR 51.309(d)(4) contain general requirements pertaining to stationary sources and market trading, and allow states to adopt alternatives to the point source application of BART.

III. What are the requirements for RH SIPs submitted under 40 CFR 51.309?

The following is a summary and basic explanation of the regulations covered under the RHR. See 40 CFR 51.309 for a complete listing of the regulations under which this SIP was evaluated.

A. The CAA and the Regional Haze Rule

RH SIPs must assure reasonable progress towards the national goal of achieving natural visibility conditions in Class I areas. Section 169A of the CAA and our implementing regulations require states to establish long-term strategies for making reasonable progress toward meeting this goal. Implementation plans must also give specific attention to certain stationary sources that were in existence on August 7, 1977, but were not in operation before August 7, 1962, and require these sources, where appropriate, to install BART controls for the purpose of eliminating or reducing visibility impairment. The specific RH SIP requirements are discussed in further detail below.

B. Projection of Visibility Improvement

For each of the 16 Class I areas located on the Colorado Plateau, the RH 309 SIP must include a projection of the improvement in visibility expressed in deciviews. 40 CFR 51.309(d)(2). The plan needs to show the projected visibility improvement for the best and worst 20 percent days through the year 2018, based on the application of all section 309 control strategies.

C. Clean Air Corridors

Pursuant to 40 CFR 51.309(d)(3), the RH 309 SIP must identify Clean Air Corridors (CACs). CACs are geographic areas located within transport region states that contribute to the best visibility days (least impaired) in the 16 Class I areas of the Colorado Plateau. (A map of the CAC can be found in section B.1 of the State's SIP). The CAC as described in the 1996 GCVTC report covers nearly all of Nevada, large portions of Oregon, Idaho, and Utah, and encompasses several Indian nations. In order to meet the RHR requirements for CACs, states must adopt a comprehensive emissions tracking program for all visibility impairing pollutants within the CAC. Based on the emissions tracking, states must identify overall emissions growth or specific areas of emissions growth in and outside of the CAC that could be significant enough to result in visibility impairment at one or more of the 16 Class I areas. If there is visibility impairment in the CAC, states must conduct an analysis of the potential impact in the 16 Class I areas and determine if additional emission control measures are needed and how these measures would be implemented. States must also indicate in their SIP if any other CACs exist, and if others are found, provide necessary measures to protect against future degradation of visibility in the 16 Class I areas.

D. Stationary Source Reductions

1. SO_2 Emission Reductions

Section 169A of the CAA directs states to evaluate the use of retrofit controls at certain larger, often uncontrolled, older stationary sources in order to address their visibility impacts. Specifically, section 169A(b)(2)(A) of the CAA requires states to revise their SIPs to contain such measures as may be necessary to make reasonable progress towards the natural visibility goal, including a requirement that certain categories of existing major stationary sources built between 1962 and 1977 procure, install, and operate the ''Best Available Retrofit Technology'' (BART)[6] as determined by the state.[7] Under the RHR, states are directed to conduct BART determinations for such ''BART-eligible'' sources that may be anticipated to cause or contribute to any visibility impairment in a Class I area. Rather than requiring source-specific BART controls, states also have the flexibility to adopt an emissions trading program or other alternative program as long as the alternative provides greater reasonable progress towards improving visibility than BART.

Section 309 provides an alternative method of satisfying the Section 308 SO_2 BART requirements with emission milestones and a backstop trading program (40 CFR 51.309(d)(4)). Under this approach, an RH 309 SIP must establish declining SO_2 emission milestones for each year of the program through 2018. The milestones must be consistent with the GCTVC's goal of 50 to 70 percent reduction in SO_2 emissions by 2040. If the milestones are exceeded in any year, the backstop trading program is triggered.

Pursuant to 40 CFR 51.309(d)(4)(ii)–(iv), states must include requirements in the RH 309 SIP that allow states to determine whether the milestone has been exceeded. These requirements include documentation of the baseline emission calculation, monitoring, recordkeeping, and reporting (MRR) of SO_2 emissions, and provisions for conducting an annual evaluation to determine whether the milestone has been exceeded. 40 CFR 309(d)(4)(v) also contains requirements for implementing the backstop trading program in the event that the milestone is exceeded and the program is triggered.

The WRAP, in conjunction with EPA, developed a model for a backstop trading program. In order to ensure consistency between states, states opting to participate in the 309 program need to adopt rules that are substantively equivalent to the rules of the model

[6] ''Best Available Retrofit Technology (BART) means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and nonair quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology'' 40 CFR 51.301

[7] The set of ''major stationary sources'' potentially subject to BART is listed in CAA section 169A(g)(7).

backstop trading program to meet the requirements of 40 CFR 51.309(d)(4). The trading program must also be implemented no later than 15 months after the end of the first year that the milestone is exceeded, require that sources hold allowances to cover their emissions, and provide a framework, including financial penalties, to ensure that the 2018 milestone is met.

2. Provisions for Stationary Source Emissions of Nitrogen Oxides (NO_X) and Particulate Matter (PM)

Pursuant to 40 CFR 51.309(d)(4)(vii), a section 309 SIP must contain any necessary long term strategies and BART requirements for PM and NO_X. Any such BART provisions may be submitted pursuant to 40 CFR 51.308(e). We promulgated regulations addressing RH in 1999, 64 FR 35714 (July 1, 1999), codified at 40 CFR part 51, subpart P.[8] These regulations require all states to submit implementation plans that, among other measures, contain either emission limits representing BART for certain sources constructed between 1962 and 1977, or alternative measures that provide for greater reasonable progress than BART. 40 CFR 51.308(e). The discussion below specifically applies to regional haze plans that opt to require BART on sources subject to the BART requirements, rather than satisfying the requirements for alternative measures that would be evaluated under 40 CFR 51.308(e)(2).

On July 6, 2005, EPA published the *Guidelines for BART Determinations Under the Regional Haze Rule* at Appendix Y to 40 CFR Part 51 (hereinafter referred to as the ''BART Guidelines'') to assist states in determining which of their sources should be subject to the BART requirements and the appropriate emission limits for each applicable source. The BART Guidelines are not mandatory for all sources; in making a BART determination for a fossil fuel-fired electric generating plant (EGU) with a total generating capacity in excess of 750 megawatts, a state must use the approach set forth in the BART Guidelines. A state is encouraged, but not required, to follow the BART Guidelines in making BART determinations for other types of sources.

The process of establishing BART emission limitations can be logically broken down into three steps: first, states identify those sources which meet the definition of ''BART-eligible source'' set forth in 40 CFR 51.301[9]; second, states determine whether such sources ''emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area'' (a source which fits this description is ''subject to BART,''; and third, for each source subject to BART, states then identify the appropriate type and the level of control for reducing emissions.

Under the BART Guidelines, states may select an exemption threshold value for their BART modeling, below which a BART-eligible source would not be expected to cause or contribute to visibility impairment in any Class I area. The state must document this exemption threshold value in the SIP and state the basis for its selection of that value. Any source with emissions that model above the threshold value would be subject to a BART determination review, or would become what is termed a ''subject-to-BART'' source. The BART Guidelines acknowledge varying circumstances affecting different Class I areas. States should consider the number of emission sources affecting the Class I areas at issue and the magnitude of the individual sources' impacts. Any exemption threshold set by the state should not be higher than 0.5 deciview. See also 40 CFR part 51, Appendix Y, section III.A.1.

In their SIPs, states must identify subject-to-BART-sources and document their BART control determination analyses. The term ''subject-to-BART-source'' used in the BART Guidelines means the collection of individual emission units at a facility that together comprises the subject-to-BART-source. In making BART determinations, section 169A(g)(2) of the CAA requires that states consider the following factors: (1) The costs of compliance; (2) the energy and non-air quality environmental impacts of compliance; (3) any existing pollution control technology in use at the source; (4) the remaining useful life of the source; and (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. States are free to determine the weight and significance to be assigned to each factor. Although the states have the freedom to determine the weight and significance of the statutory factors, they have an overriding obligation to come to a reasoned determination. 76 FR 81733 (Dec 28, 2011).

A regional haze SIP must include source-specific BART emission limits and compliance schedules for each source subject to BART. Once a state has made its BART determination, the BART controls must be installed and in operation as expeditiously as practicable, but no later than five years after the date of EPA approval of the regional haze SIP. CAA section 169(g)(4)); 40 CFR 51.308(e)(1)(iv). In addition to what is required by the RHR, general SIP requirements mandate that the SIP must also include all regulatory requirements related to monitoring, recordkeeping, and reporting for the BART controls on the source. *See* CAA section 110(a).

E. Mobile Sources

Under 40 CFR 51.309(d)(5), the RH 309 SIP must provide inventories of on-road and non-road mobile source emissions of VOCs, NO_X, SO_2, $PM_{2.5}$, elemental carbon, and organic carbon for the years 2003, 2008, 2013, and 2018. The inventories must show a continuous decline in total mobile source emissions of each of the above pollutants. If the inventories show a continuous decline in total mobile source emissions of each of these pollutants over the period 2003–2018, a state is not required to take further action in their SIP. If the inventories do not show a continuous decline in mobile source emissions of one or more of these pollutants over the period 2003–2018, a state must submit a SIP that contains measures that will achieve a continuous decline.

The RH 309 SIP must also contain any long-term strategies necessary to reduce emissions of SO_2 from non-road mobile sources, consistent with the goal of reasonable progress. In assessing the need for such long-term strategies, the state may consider emissions reductions achieved or anticipated from any new federal standards for sulfur in non-road diesel fuel. Section 309 SIPs must provide an update on any additional mobile source strategies implemented within the state related to the GCVTC 1996 recommendations on mobile sources.

F. Programs Related to Fire

For states submitting a section 309 SIP, the RHR contains requirements for programs related to fire (40 CFR 51.309(d)(6)). The plan must show that the state's smoke management program and all federal or private programs for

[8] In *American Corn Growers Ass'n* v. *EPA,* 291 F.3d 1 (D.C. Cir. 2002), the U.S. Court of Appeals for the District of Columbia Circuit issued a ruling vacating and remanding the BART provisions of the regional haze rule. In 2005, we issued BART guidelines to address the court's ruling in that case. *See* 70 FR 39104 (July 6, 2005).

[9] BART-eligible sources are those sources that have the potential to emit 250 tons or more of a visibility-impairing air pollutant, were put in place between August 7, 1962 and August 7, 1977, and whose operations fall within one or more of 26 specifically listed source categories.

prescribed fire in the state have a mechanism in place for evaluating and addressing the degree of visibility impairment from smoke in their planning and application of burning. The plan must also ensure that its prescribed fire smoke management programs have at least the following seven elements: actions to minimize emissions; evaluation of smoke dispersion; alternatives to fire; public notification; air quality monitoring; surveillance and enforcement; and program evaluation. The plan must be able to track statewide emissions of VOC, NO_X, EC, OC, and fine particulate emissions from prescribed burning within the state.

Other requirements states must meet in their 309 plan related to fire include the adoption of a statewide process for gathering post-burn activity information to support emissions inventory and tracking systems. The plan must identify existing administrative barriers to the use of non-burning alternatives and adopt a process for continuing to identify and remove administrative barriers where feasible. The RH 309 SIP must include an enhanced smoke management program that considers visibility effects in addition to health objectives and is based on the criteria of efficiency, economics, law, emission reduction opportunities, land management objectives, and reduction of visibility impairment. Finally, the plan must establish annual emission goals to minimize emission increases from fire.

G. Paved and Unpaved Road Dust

Section 309 requires states to submit a SIP that assesses the impact of dust emissions on regional haze in the 16 Class I areas on the Colorado Plateau and to include a projection of visibility conditions through 2018 for the least and most impaired days (40 CFR 51.309(d)(7)). If dust emissions are determined to be a significant contributor to visibility impairment, the plan must provide emissions management strategies to address their impact.

H. Pollution Prevention

The requirements under pollution prevention only require the RH 309 SIP to provide an assessment of the energy programs as outlined in 40 CFR 51.309(d)(8) and does not require a state to adopt any specific energy-related strategies or regulations for regional haze. In order to meet the requirements related to pollution prevention, the state's plan must include an initial summary of all pollution prevention programs currently in place, an inventory of all renewable energy generation capacity and production in use or planned as of the year 2002, the total energy generation capacity and production for the state, and the percent of the total that is renewable energy.

The state's plan must include a discussion of programs that provide incentives for efforts that go beyond compliance and/or achieve early compliance with air-pollution related requirements and programs to preserve and expand energy conservation efforts. The state must identify specific areas where renewable energy has the potential to supply power where it is now lacking and where renewable energy is most cost-effective. The RH 309 plan must include projections of the short- and long-term emissions reductions, visibility improvements, cost savings, and secondary benefits associated with the renewable energy goals, energy efficiency, and pollution prevention activities. The plan must also provide its anticipated contribution toward the GCVTC renewable energy goals for 2005 and 2015. The GCVTC goals are that renewable energy will comprise 10 percent of the regional power needs by 2005 and 20 percent by 2015.

I. Additional Recommendations

Section 309 requires states to determine if any of the other recommendations in the 1996 GCVTC report not codified by EPA as part of section 309 should be implemented in their RH SIP (40 CFR 51.309(d)(9)). States are not required in their RH 309 SIPs to adopt any control measures unless the state determines they are appropriate and can be practicably included as enforceable measures to remedy regional haze in the 16 Class I areas. Any measures adopted would need to be enforceable like the other 309 required measures. States must also submit a report to EPA and the public in 2013 and 2018, showing there has been an evaluation of the additional recommendations and the progress toward developing and implementing any such recommendations.

J. Periodic Implementation Plan Revisions

The RHR requires states to submit progress reports in the form of SIP revisions in 2013 and 2018 (40 CFR 51.309(d)(10)). The SIP revisions must comply with the procedural requirements of 40 CFR 51.102 for public hearings and 40 CFR 51.103 for submission of plans. The assessment in the progress report must include an evaluation of Class I areas located within the state and Class I areas outside the state that are affected by emissions from the state. EPA views these SIP revisions as a periodic check on progress, rather than a thorough revision of regional strategies. The state should focus on significant shortcomings of the original SIP from sources that were not fully accounted for or anticipated when the SIP was initially developed. The specifics of what each progress report must contain can be found at 40 CFR 51.309(d)(10)(i)(A)–(G).

At the same time that the state submits its progress reports to EPA, it must also take an action based on the outcome of this assessment. If the assessment shows that the SIP requires no substantive revision, the state must submit to EPA a ''negative declaration'' statement saying that no further SIP revisions are necessary at this time. If the assessment shows that the SIP is or may be inadequate due to emissions from outside the state, the state must notify EPA and other regional planning states and work with them to develop additional strategies. If the assessment shows that the SIP is or may be inadequate due to emissions from another country, the state must include appropriate notification to EPA in its SIP revision. In the event the assessment shows that the SIP is or may be inadequate due to emissions from within the state, the state shall develop additional strategies to address the deficiencies and revise the SIP within one year from the due date of the progress report.

K. Interstate Coordination

In complying with the requirements of 40 CFR 51.309(d)(11), states may include emission reductions strategies that are based on coordinated implementation with other states. The SIP must include documentation of the technical and policy basis for the individual state apportionment (or the procedures for apportionment throughout the trans-boundary region), the contribution addressed by the state's plan, how it coordinates with other state plans, and compliance with any other appropriate implementation plan approvability criteria. States may rely on the relevant technical, policy, and other analyses developed by a regional entity, such as the WRAP in providing such documentation.

L. Additional Class I Areas

To comply with the requirements of 40 CFR 51.309(g), RH 309 SIPs must demonstrate reasonable progress for mandatory Class I Federal areas other than the 16 Class I areas covered by the GCVTC. States must submit an

implementation plan that demonstrates the expected visibility conditions for the most and least impaired days at the additional Class I areas based on emission projections from the long-term strategies in the implementation plan. The implementation plan must contain provisions establishing reasonable progress goals and additional measures necessary to demonstrate reasonable progress for the additional Federal Class I areas. The RH 309 SIP must address regional haze in each additional Class I area located within the State and in each additional Class I area located outside the State which may be affected by emissions from within the State. 40 CFR 51.309(g) requires that these provisions comply with 40 CFR 51.308(d)(1) through (4), the general requirements of which are described below.

1. Determination of Reasonable Progress Goals

Pursuant to 40 CFR 51.308(d)(1), for each mandatory Class I area located within the State, the regional haze SIPs must establish goals (expressed in deciviews, dv) that provide for reasonable progress towards achieving natural visibility conditions. The vehicle for ensuring continuing progress towards achieving the natural visibility goal is the submission of a series of RH SIPs from the states that establish two reasonable progress goals (RPGs) *(i.e.,* two distinct goals, one for the ''best'' and one for the ''worst'' days) for every Class I area for each (approximately) 10-year implementation period. *See* 70 FR 39104 (July 6, 2005); *see also* 64 FR 35714 (July 1, 1999). The RHR does not mandate specific milestones or rates of progress, but instead calls for states to establish goals that provide for ''reasonable progress'' toward achieving natural (*i.e.,* ''background'') visibility conditions. In setting RPGs, states must provide for an improvement in visibility for the most impaired days over the (approximately) 10-year period of the SIP, and ensure no degradation in visibility for the least impaired days over the same period. *Id.*

States have significant discretion in establishing RPGs, but are required to consider the following factors established in section 169A of the CAA and in our RHR at 40 CFR 51.308(d)(1)(i)(A): (1) The costs of compliance; (2) the time necessary for compliance; (3) the energy and non-air quality environmental impacts of compliance; and (4) the remaining useful life of any potentially affected sources. States must demonstrate in their SIPs how these factors are considered when selecting the RPGs for the best and worst days for each applicable Class I area. States have considerable flexibility in how they take these factors into consideration, as noted in our Reasonable Progress Guidance [10]. In setting the RPGs, states must also consider the rate of progress needed to reach natural visibility conditions by 2064 (referred to hereafter as the ''Uniform Rate of Progress (URP)'' and the emission reduction measures needed to achieve that rate of progress over the 10-year period of the SIP. Uniform progress towards achievement of natural conditions by the year 2064 represents a rate of progress, which states are to use for analytical comparison to the amount of progress they expect to achieve. If the State establishes a RPG that provides for a slower rate of improvement in visibility than the URP, the State must demonstrate that the URP is not reasonable based on the factors above and that the RPG is reasonable. Regional haze SIPs must provide an assessment of the number of years it would take to attain natural visibility at the rate of progress selected by the State as reasonable. In setting RPGs, each state with one or more Class I areas (''Class I State'') must also consult with potentially ''contributing states,'' *i.e.,* other nearby states with emission sources that may be affecting visibility impairment at the Class I State's areas. 40 CFR 51.308(d)(1)(iv).

2. Determination of Baseline, Natural, and Current Visibility Conditions

The RHR establishes the deciview (dv) as the principal metric for measuring visibility. 70 FR 39104 (July 6, 2005). This visibility metric expresses uniform changes in the degree of haze in terms of common increments across the entire range of visibility conditions, from pristine to extremely hazy conditions. Visibility is sometimes expressed in terms of the visual range, which is the greatest distance, in kilometers or miles, at which a dark object can just be distinguished against the sky. The deciview is a useful measure for tracking progress in improving visibility, because each deciview change is an equal incremental change in visibility perceived by the human eye. Most people can detect a change in visibility of one deciview.[11]

The deciview is used in expressing Reasonable Progress Goals (RPGs) (which are interim visibility goals towards meeting the national visibility goal), defining baseline, current, and natural conditions, and tracking changes in visibility. To track changes in visibility over time at each of the 156 Class I areas covered by the visibility program (40 CFR 81.401–437), and as part of the process for determining reasonable progress, states must calculate the degree of existing visibility impairment at each Class I area at the time of each RH SIP submittal and periodically review progress every five years midway through each 10-year implementation period. To do this, section 51.308(d)(2) of the RHR requires states to determine the degree of impairment (in deciviews) for the average of the 20 percent least impaired (''best'') and 20 percent most impaired (''worst'') visibility days over a specified time period at each of their Class I areas. In addition, states must also develop an estimate of natural visibility conditions for the purpose of comparing progress toward the national goal. Natural visibility is determined by estimating the natural concentrations of pollutants that cause visibility impairment and then calculating total light extinction based on those estimates. We have provided guidance to states regarding how to calculate baseline, natural and current visibility conditions.[12]

For the first RH SIPs that were due by December 17, 2007, ''baseline visibility conditions'' were the starting points for assessing ''current'' visibility impairment. Baseline visibility conditions represent the degree of visibility impairment for the 20 percent least impaired days and 20 percent most impaired days for each calendar year from 2000 to 2004. Using monitoring data for 2000 through 2004, states are required to calculate the average degree of visibility impairment for each Class I area, based on the average of annual values over the five-year period. The comparison of initial baseline visibility conditions to natural visibility conditions indicates the amount of improvement necessary to attain natural visibility, while the future comparison of baseline conditions to the then current conditions will indicate the

[10] *Guidance for Setting Reasonable Progress Goals under the Regional Haze Program,* June 1, 2007, memorandum from William L. Wehrum, Acting Assistant Administrator for Air and Radiation, to EPA Regional Administrators, EPA Regions 1–10 (pp.4–2, 5–1).

[11] The preamble to the RHR provides additional details about the deciview. 64 FR 35714, 35725 (July 1, 1999).

[12] *Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule,* September 2003, EPA–454/B–03–005, available at *http://www.epa.gov/ttncaaa1/t1/memoranda/rh_envcurhr_gd.pdf,* (hereinafter referred to as ''our 2003 Natural Visibility Guidance''); and *Guidance for Tracking Progress Under the Regional Haze Rule,* (EPA–454/B–03–004, September 2003, available at *http://www.epa.gov/ttncaaa1/t1/memoranda/rh_tpurhr_gd.pdf,* (hereinafter referred to as our ''2003 Tracking Progress Guidance'').

amount of progress made. In general, the 2000–2004 baseline period is considered the time from which improvement in visibility is measured.

3. Long-Term Strategy (LTS)

Consistent with the requirement in section 169A(b) of the CAA that states include in their regional haze SIP a 10 to 15 year strategy for making reasonable progress, Section 51.308(d)(3) of the RHR requires that states include a LTS in their RH SIPs. The LTS is the compilation of all control measures a state will use during the implementation period of the specific SIP submittal to meet any applicable RPGs. The LTS must include ''enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals'' for all Class I areas within, or affected by emissions from, the state. 40 CFR 51.308(d)(3).

When a state's emissions are reasonably anticipated to cause or contribute to visibility impairment in a Class I area located in another state, the RHR requires the impacted state to coordinate with the contributing states in order to develop coordinated emissions management strategies. 40 CFR 51.308(d)(3)(i). Also, a state with a Class I area impacted by emissions from another state must consult with such contributing state, (*id.*) and must also demonstrate that it has included in its SIP all measures necessary to obtain its share of emission reductions needed to meet the reasonable progress goals for the Class I area. *Id.* at (d)(3)(ii). In such cases, the contributing state must demonstrate that it has included, in its SIP, all measures necessary to obtain its share of the emission reductions needed to meet the RPGs for the Class I area. The RPOs have provided forums for significant interstate consultation, but additional consultations between states may be required to sufficiently address interstate visibility issues. This is especially true where two states belong to different RPOs.

States should consider all types of anthropogenic sources of visibility impairment in developing their LTS, including stationary, minor, mobile, and area sources. At a minimum, states must describe how each of the following seven factors listed below are taken into account in developing their LTS: (1) Emission reductions due to ongoing air pollution control programs, including measures to address RAVI; (2) measures to mitigate the impacts of construction activities; (3) emissions limitations and schedules for compliance to achieve the RPG; (4) source retirement and replacement schedules; (5) smoke management techniques for agricultural and forestry management purposes including plans as currently exist within the state for these purposes; (6) enforceability of emissions limitations and control measures; (7) the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the LTS. 40 CFR 51.308(d)(3)(v). Pursuant to 40 CFR 51.309(g)(2)(i), the State may build upon and take credit for the strategies implemented to meet the requirements under paragraph (d) of 40 CFR 51.309.

4. Monitoring Strategy and Other SIP Requirements

Section 51.308(d)(4) of the RHR includes the requirement for a monitoring strategy for measuring, characterizing, and reporting of RH visibility impairment that is representative of all mandatory Class I Federal areas within the state. The strategy must be coordinated with the monitoring strategy required in section 51.305 for RAVI. Compliance with this requirement may be met through ''participation'' in the Interagency Monitoring of Protected Visual Environments (IMPROVE) network, *i.e.,* review and use of monitoring data from the network. The monitoring strategy is due with the first RH SIP, and it must be reviewed every five (5) years. The monitoring strategy must also provide for additional monitoring sites if the IMPROVE network is not sufficient to determine whether RPGs will be met.

The SIP must also provide for the following:

- Procedures for using monitoring data and other information in a state with mandatory Class I areas to determine the contribution of emissions from within the state to RH visibility impairment at Class I areas both within and outside the state;
- Procedures for using monitoring data and other information in a state with no mandatory Class I areas to determine the contribution of emissions from within the state to RH visibility impairment at Class I areas in other states;
- Reporting of all visibility monitoring data to the Administrator at least annually for each Class I area in the state, and where possible, in electronic format;
- Developing a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area. The inventory must include emissions for a baseline year, emissions for the most recent year for which data are available, and estimates of future projected emissions. A state must also make a commitment to update the inventory periodically; and
- Other elements, including reporting, recordkeeping, and other measures necessary to assess and report on visibility.

The RHR requires control strategies to cover an initial implementation period extending to the year 2018, with a comprehensive reassessment and revision of those strategies, as appropriate, every 10 years thereafter. Periodic SIP revisions must meet the core requirements of section 51.308(d) with the exception of BART. The requirement to evaluate sources for BART applies only to the first RH SIP. Facilities subject to BART must continue to comply with the BART provisions of section 51.308(e), as noted above. Periodic SIP revisions will assure that the statutory requirement of reasonable progress will continue to be met.

IV. What are the additional requirements for alternative programs under the RHR?

States opting to submit an alternative program, such as the backstop trading program under section 309, must also meet requirements under 40 CFR 51.308(e)(2) and (e)(3). These requirements for alternative programs relate to the ''Better-than-BART'' test and fundamental elements of any alternative program that establishes a cap on emissions.

A. ''Better-Than-BART'' Demonstration

In order to demonstrate that the alternative program achieves greater reasonable progress than source-specific BART, states must provide a demonstration in their SIP that meets the requirements in 40 CFR 51.308(e)(2)(i)-(v). States submitting section 309 SIPs or other alternative programs are required to list all BART-eligible sources and categories covered by the alternative program. States are then required to determine which BART-eligible sources are ''subject to BART.'' The SIP must provide an analysis of the best system of continuous emission control technology available and the associated reductions for each source subject to BART covered by the alternative program, or what is termed a ''BART benchmark.'' Where the alternative program, such as the 309 backstop trading program, has been designed to meet requirements other than BART, states may use simplifying assumptions in establishing a BART benchmark. These assumptions can provide the baseline to show that the alternative program achieves greater

reasonable progress than BART. 71 FR 60619 (Oct. 13, 2006). Under this approach, states should use the presumptive limits for EGUs in the BART Guidelines to establish the BART benchmark used in the comparison, unless the state determines that such presumptions are not appropriate for particular EGUs (71 FR 60619).

The RH SIP, and any RH 309 SIP that establishes a 309 backstop trading program, must provide an analysis of the projected emissions reductions achievable through the trading program or other alternative measure and a determination that the trading program or other alternative measure achieves greater reasonable progress than would be achieved through the installation and operation of BART (40 CFR 308(e)(2)(C)(iii)). Section 308(e)(2) requires that all emission reductions for the alternative program take place by 2018, as well as that the emission reductions resulting from the alternative program are surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP. Pursuant to 40 CFR 51.309(e)(2)(E)(v), states have the option of including a provision that the emissions trading program or other alternative measure may include a geographic enhancement to the program to address the requirement under 40 CFR 51.302(c) related to BART, for reasonably attributable visibility impairment from the pollutants covered under the emissions trading program or other alternative measure.

States must also address the distribution of emissions under the BART alternative as part of the ''better-than-BART'' demonstration (40 CFR 51.308(e)(3)). If a state can show that with the alternative program the distribution of emissions is not substantially different than under BART and the alternative program results in greater emission reductions, then the alternative measure may be deemed to achieve greater reasonable progress. If the distribution of emissions is significantly different, the state must conduct dispersion modeling to determine differences in visibility between BART and the alternative program for each impacted Class I area for the worst and best 20 percent of days. The modeling must show that visibility does not decline at any Class I area and that visibility overall is greater than what would be achieved with BART.

B. Elements Required for All Alternative Programs That Have an Emissions Cap

Under 40 CFR 51.308(e)(2)(vi)(A)–(L), EPA established fundamental requirements for trading or alternative programs that have an emissions cap and require sources to hold allowances that they can sell, buy, or trade, as in the section 309 backstop trading program. These requirements are discussed in detail below.

1. Applicability

The alternative program must have applicability provisions that define the sources subject to the program. In the case of a program covering sources in multiple states, the states must demonstrate that the applicability provisions in each state cover essentially the same size facilities and, if source categories are specified, cover the same source categories.

2. Allowances

Allowances are a key feature of a cap and trade program. An allowance is a limited authorization for a source to emit a specified amount of a pollutant, as defined by the specific trading program, during a specified period. Allowances are fully marketable commodities. Once allocated, allowances may be bought, sold, traded, or banked for use in future years. EPA has not included in the rule detailed requirements on how states and tribes can allocate allowances. A state or tribe can determine how to allocate allowances as long as the allocation of the tonnage value of allowances does not exceed the total number of tons of emissions capped by the budget. The trading program must include allowance provisions ensuring that the total value of allowances issued each year under the program will not exceed the emissions cap on total annual emissions from the sources in the program.

3. Monitoring, Recordkeeping, and Reporting

Monitoring, recordkeeping, and reporting (MRR) of a source's emissions are integral parts of any cap and trade program. Consistent and accurate measurement of emissions ensures reliability of allowances by validating that each allowance actually represents its specified tonnage value of emissions and that one ton of reported emissions from one source is equivalent to one ton of reported emissions at another source. The MRR provisions must require that boilers, combustion turbines, and cement kilns in the alternative program that are allowed to sell or transfer allowances comply with the requirements of 40 CFR part 75. The MRR provisions must require that other sources in the program allowed to sell or transfer allowances provide emissions information with the same precision, reliability, accessibility, and timeliness as information required by 40 CFR part 75.

4. Tracking System

An accurate and efficient tracking system is critical to the functioning of an emissions trading market. The tracking system must also be transparent, allowing all interested parties access to the information contained in the accounting system. Thus, alternative programs must have requirements for a tracking system that is publicly available in a secure, centralized database to track in a consistent manner all allowances and emissions in the program.

5. Account Representative

Each source owner or operator covered by the alternative program must designate an individual account representative who is authorized to represent the owner or operator in all matters pertaining to the trading program and who is responsible for the data reported for that source. The account representative will be responsible for, among other things, permitting, compliance, and allowance related actions.

6. Allowance Transfer

SIPs must contain provisions detailing a uniform process for transferring allowances among all sources covered by the program and other possible participants. The provisions must provide procedures for sources to request an allowance transfer, for the request and transfer to be recorded in the allowance tracking system, for notification to the source that the transfer has occurred, and for notification to the public of each transfer and request.

7. Compliance Provisions

Cap and trade programs must include compliance provisions that prohibit a source from emitting more emissions than the total tonnage value of allowances the source holds for that year. A cap and trade program must also contain the specific methods and procedures for determining compliance on an annual basis.

8. Penalty Provisions

In order to provide sources with a strong incentive to comply with the requirement to hold sufficient allowances for their emissions on an annual basis and to establish an immediate minimum economic consequence for non-compliance, the program must include a system for mandatory allowance deductions. SIPs

must contain a provision that if a source has excess emissions in a given year, allowances allocated for the subsequent year will be deducted from the source's account in an amount at least equal to three times the excess emissions.

9. Banking of Allowances

The banking of allowances occurs when allowances that have not been used for compliance are set aside for use in a later compliance period. Alternative programs can include provisions for banked allowances, so long as the SIP clearly identifies how unused allowances may be used in future years and whether there are any restrictions on the use of any such banked allowances.

10. Program Assessment

The alternative program must include provisions for periodic assessment of the program. Such periodic assessments are a way to retrospectively assess the performance of the trading program in meeting the goals of the regional haze program and determining whether the trading program needs any adjustments or changes. At a minimum, the program evaluation must be conducted every five years to coincide with the periodic report describing progress towards the reasonable progress goals required under 40 CFR 51.308(g) and must be submitted to EPA.

V. Our Analysis of the State of New Mexico's Regional Haze SIP Submittal

The following summarizes how New Mexico's June 28, 2011 submittals address the requirements of 40 CFR 51.309. As was noted in the Overview section of this notice, this section also discusses various companion regulations that have been submitted as SIP revisions that we have evaluated and propose to approve.

A. Projection of Visibility Improvement

Pursuant to 40 CFR 51.309(d)(2), New Mexico's RH 309 SIP provides a comparison of the monitored 2000–2004 baseline visibility conditions in deciviews (dv) for the 20 percent best and 20 percent worst days to the projected visibility improvement for 2018 for the Class I areas on the Colorado Plateau. Table 1 shows the baseline monitoring data and projected visibility improvement for 2018 from the WRAP photochemical modeling (for details on the WRAP photochemical modeling refer to the WRAP Technical Support Document [13] and our review of the technical products developed by the WRAP for the States in the western region, in support of their RH SIPs [14]). The projected visibility improvement for the 2018 Base Case (referred to as the Base18b emission inventory and modeled projections) reflects growth plus all controls ''on the books'' as of December 2004. The projected visibility improvement for the Preliminary Reasonable Progress Case (referred to as the PRP18b emission inventory and modeled projections) reflects refined growth estimates, all controls ''on the books'' as of 2007, and includes presumptive or known SO_2 BART controls. The modeling results show projected visibility improvement for the 20 percent worst days in 2018 and no degradation in visibility conditions on the 20 percent best days at all 16 Class I areas on the Colorado Plateau. We are proposing to determine the RH 309 SIP submittal satisfies the requirements of 40 CFR 51.309(d)(2).

TABLE 1—BASELINE AND 2018 VISIBILITY AT THE COLORADO PLATEAU CLASS I AREAS

[Monthly average method]

Class I Area	State	20 Percent worst visibility days			20 Percent best visibility days		
		2000–2004 Baseline monitoring data (dv)	2018 Base case (dv)	2018 Preliminary reasonable progress PRP18b case (dv)	2000–2004 Baseline monitoring data (dv)	2018 Base case (dv)	2018 Preliminary reasonable progress PRP18b case (dv)
Grand Canyon National Park	AZ	11.7	11.4	11.1	2.2	2.2	2.1
Mount Baldy Wilderness	AZ	11.9	11.5	11.5	3.0	2.9	2.9
Petrified Forest National Park	AZ	13.2	12.9	12.8	5.0	4.9	4.7
Sycamore Canyon Wilderness	AZ	15.3	15.1	15.0	5.6	5.6	5.5
Black Canyon of the Gunnison National Park Wilderness.	CO	10.3	10.0	9.8	3.1	2.9	2.9
Flat Tops Wilderness	CO	9.6	9.2	9.0	0.7	0.6	0.5
Maroon Bells Wilderness	CO	9.6	9.2	9.0	0.7	0.6	0.5
Mesa Verde National Park	CO	13.0	12.8	12.5	4.3	4.1	4.0
Weminuche Wilderness	CO	10.3	10.0	9.8	3.1	2.9	2.9
West Elk Wilderness	CO	9.6	9.2	9.0	0.7	0.6	0.5
San Pedro Parks Wilderness	NM	10.2	10.0	9.8	1.5	1.3	1.2
Arches National Park	UT	11.2	11.0	10.7	3.8	3.6	3.5
Bryce Canyon National Park	UT	11.6	11.3	11.1	2.8	2.7	2.6
Canyonlands National Park	UT	11.2	11.0	10.7	3.8	3.6	3.5
Capitol Reef National Park	UT	10.9	10.6	10.4	4.1	4.0	3.9
Zion National Park	UT	13.2	13.0	12.8	5.0	4.7	4.7

[13] WRAP Regional Technical Support Document for the Requirements of § 309 of the Regional Haze Rule (64 **Federal Register** 35714—July 1, 1999) revised May 7, 2008.

[14] Our review of the technical products developed by the WRAP is available as *Technical Support Document for Technical Products Prepared by the Western Regional Air Partnership (WRAP) in Support of Western Regional Haze Plans,* EPA Regions 6, 8, 9 and 10, February 28, 2011.

B. Clean Air Corridors

1. Comprehensive Emissions Tracking Program

Pursuant to 40 CFR 51.309(d)(3), NM's RH SIP submittal provides for the implementation of strategies regarding clean-air corridors. We propose to find the SIP's treatment of clean-air corridors satisfies the requirements of 40 CFR 309(d)(3), and its subsections, as discussed in the next several paragraphs.

The WRAP developed a comprehensive emissions tracking system to assist the states in tracking emissions within portions of Oregon, Idaho, Nevada and Utah that have been identified as part of the CAC. The emission tracking is to ensure that visibility does not degrade on the least-impaired days in any of the 16 Class I areas of the Colorado Plateau. Appendix M–1 of the NM RH 309 SIP describes the emission tracking system and the process by which the annual emission trends will be summarized in order to identify any significant emissions growth that could lead to visibility degradation in the 16 Class I areas. The SIP submittal and all appendices can be found in the docket for this notice. Since no portion of the CAC lies within New Mexico, this emissions tracking system does not include tracking of emissions from New Mexico. We are proposing to determine the RH 309 SIP submittal has met the requirements of 40 CFR 51.309(d)(3).

2. Identification of CACs

Pursuant to 40 CFR 51.309(d)(3)(i), the State has provided in its RH 309 SIP submittal the geographic boundaries of the CAC (a map of the CAC can be found as in Section B(b) of the SIP). The WRAP identified the CAC using studies conducted by the Meteorological Subcommittee of the GCVTC and then updated the CAC based on an assessment described in the *WRAP Policy on Clean Air Corridors* (available as Appendix-B of the NM RH 309 SIP) and related technical analysis conducted by the WRAP. Appendix N of the NM RH 309 SIP (the WRAP final draft Technical Support Document [15]) contains additional technical analysis associated with the identification of the CAC. We are proposing to determine the RH 309 SIP submittal satisfies the 51.309(d)(3)(i) requirement.

3. Patterns of Growth Within and Outside of the CAC

Pursuant to 40 CFR 51.309(d)(3)(ii)–(iii), the State in its RH 309 SIP submittal has determined, based on the *WRAP Policy Paper on Clean Air Corridors* and technical analysis conducted by the WRAP, that inside and outside the CAC there is no significant emissions growth occurring at this time that is causing visibility impairment in the 16 Class I areas of the Colorado Plateau. The WRAP will summarize annual emission trends within and outside of the CAC and will assess whether any significant emissions growth is occurring that could result in visibility impairment in any of the 16 Class I areas. We are proposing to determine that 40 CFR 51.309(d)(3)(ii)–(iii) is met.

4. Actions if Impairment Inside or Outside the Clean Air Corridor Occurs

The RH 309 SIP submittal describes how the State, in coordination with other transport region states and tribes, will review the annual summary of emission trends within the CAC and determine whether any significant emissions growth has occurred. If the State identifies significant emissions growth, the State, in coordination with other transport region states, and tribes, will seek WRAP assistance in conducting an analysis of the effects of this emissions growth. Pursuant to 40 CFR 51.309(d)(3)(iv), if this analysis finds that the emissions growth is causing visibility impairment in the 16 Class I areas, the State, in coordination with other transport region states, and tribes, will evaluate the need for additional emission reduction measures and identify an implementation schedule for such measures. The State will report on the need for additional reduction measures to EPA in accordance with the periodic progress reports required under 40 CFR 51.309(d)(10)(i). We are proposing to determine the RH 309 SIP submittal satisfies the strategy requirement of 40 CFR 309(d)(3)(iv).

5. Other CACs

Pursuant to 40 CFR 51.309(d)(3)(v), the State in its RH 309 SIP submittal has concluded that no other CACs can be identified at this time. The State's conclusion is based on the *WRAP Policy on Clean Air Corridors,* which used technical information to determine that no other CACs could be identified. We are proposing to approve the state's determination under 40 CFR 51.309(d)(3)(v).

C. Stationary Source Reductions

1. Provisions for Stationary Source Emissions of SO_2

As required by 40 CFR 51.309(d)(4)(i), the State in its RH 309 SIP submittal sets forth milestone SO_2 numbers for each year of the program until 2018.[16] Table 2 shows the milestone numbers and how compliance with the annual milestones will be determined (Table C–1 of the NM RH 309 SIP).

TABLE 2—SO_2 EMISSIONS MILESTONES

Year	Regional sulfur dioxide milestone (tons per year (tpy))	Annual SO_2 emissions used to determine compliance with the annual milestones
2008	269,083 tons SO_2	Average of 2006, 2007 and 2008.
2009	234,903 tons SO_2	Average of 2007, 2008 and 2009.
2010	200,722 tons SO_2	Average of 2008, 2009 and 2010.
2011	200,722 tons SO_2	Average of 2009, 2010 and 2011.
2012	200,722 tons SO_2	Average of 2010, 2011 and 2012.
2013	185,795 tons SO_2	Average of 2011, 2012 and 2013.
2014	170,868 tons SO_2	Average of 2012, 2013 and 2014.
2015	155,940 tons SO_2	Average of 2013, 2014 and 2015.
2016	155,940 tons SO_2	Average of 2014, 2015 and 2016.
2017	155,940 tons SO_2	Average of 2015, 2016 and 2017.
2018	141,849 tons SO_2	Year 2018 only.

[15] WRAP Regional Technical Support Document for the Requirements of § 309 of the Regional Haze Rule (64 **Federal Register** 35714—July 1, 1999) revised May 7, 2008.

[16] The milestone numbers reflect the participation of Wyoming, Utah, and New Mexico (including City of Albuquerque-Bernalillo County) in the 309 backstop trading program.

TABLE 2—SO_2 EMISSIONS MILESTONES—Continued

Year	Regional sulfur dioxide milestone (tons per year (tpy))	Annual SO_2 emissions used to determine compliance with the annual milestones
2019 forward, until replaced by an approved SIP.	141,849 tons SO_2	Annual; no multiyear averaging.

SO_2 emissions from sources in 1990 totaled 358,364 tpy and the 2018 milestone are 141,849 tpy (see *Demonstration that the SO_2 Milestones Provide Greater Reasonable Progress than BART,* Section M of the NM RH 309 SIP). The difference is a 60 percent reduction in SO_2 emissions from 1990 to 2018. Thus, the State has concluded that the emission reductions are on target to achieve the GCVTC goal of a 50 to 70 percent reduction of SO_2 emissions by 2040. We are proposing to determine the RH 309 submittal meets the requirements of 40 CFR 51.309(d)(4)(i).

2. Documentation of Emissions Calculation Methods for SO_2

Pursuant to 40 CFR 51.309(d)(4)(ii), the RH 309 SIP submittal provides documentation of the specific methodology used to calculate SO_2 emissions during the 2006 base year for each emitting unit included in the program. The requirement is addressed in Section C of the NM RH 309 SIP submittal, and implemented through 20.2.73.300.F NMAC provisions that were previously approved at 75 FR 48860 (August 12, 2010). We are also now proposing to approve revisions to 20.2.73.300 that were submitted for approval with the most recent RH 309 SIP submittal on July 5, 2011.

Pursuant to 40 CFR 51.309(d)(4)(ii), New Mexico's RH 309 SIP submittal provides that it will document any change to the specific methodology used to calculate emissions at any emitting unit for any year after the base year. Until the program has been triggered and source compliance is required, the State will submit an annual emissions report that documents prior year emissions for New Mexico sources covered by the 309 program to all participating states by September 30 of each year. The State will adjust actual emission inventories for sources that change the method of monitoring or calculating their emissions to be comparable to the emission monitoring or calculation method used to calculate the 2006 base year inventory. EPA is proposing to determine that the current SIP as revised by the SIP submittal satisfies the requirements of 40 CFR 309(d)(4)(ii).

3. Monitoring, Recordkeeping, and Reporting of SO_2 Emissions

In order to meet the emission reporting requirements of 40 CFR 51.309(d)(4)(iii), the RH 309 SIP submittal includes provisions requiring the monitoring, recordkeeping, and reporting of actual stationary source SO_2 emissions within the State to determine if the milestone has been exceeded. 20.2.73.300.F NMAC requires major sources of SO_2 to report their emissions annually along with documentation of the emissions monitoring/estimation methodology used, and demonstrate that the selected methodology is acceptable under the inventory program. This rule defines the emission inventory and reporting requirements for tracking compliance with the regional sulfur dioxide milestones until the western backstop sulfur dioxide trading program has been fully implemented and emission tracking has occurred under 20.2.81.106 NMAC (See section V.E.3 of this notice for a further detail on emission inventory requirements under 20.2.81.106 NMAC). We are proposing to approve the July 5, 2011 submitted revisions to 20.2.73.300.F NMAC and determine that the 309 SIP submittal satisfies the requirements of 40 CFR 51.309(d)(4)(iii).

4. Criteria and Procedures for a Market Trading Program

As stated above, until the backstop trading program has been triggered and source compliance is required, the RH 309 SIP submittal provides that the state shall submit an annual emissions report for New Mexico sources to all participating states by September 30 of each year. The report shall document actual sulfur dioxide emissions during the previous calendar year for all sources subject to the Section 309 program. The WRAP will compile reports from all participating states into a draft regional emission report for SO_2 by December 31 of each year. This report will include actual regional sulfur dioxide emissions, adjustments to account for changes in monitoring/calculation methods or enforcement/settlement agreements, and adjusted average emissions for the last three years for comparison to the regional milestone. As required by 40 CFR 51.309(d)(4)(iv), based on this compilation of reports from all states participating in the 309 program, states will determine if the milestone has been exceeded and will include a determination in a final regional emissions report that is submitted to EPA. This final report and determination will be submitted to EPA by the end of March, 15 months following the milestone year. We are proposing to determine the RH 309 SIP meets the requirements of 40 CFR 51.309(d)(4)(iv).

5. Market Trading Program

Per 40 CFR 51.309(d)(4)(v), the RH 309 SIP submittal provides that if the 309 backstop trading program is triggered, the regional emissions report will contain a common trigger date. In the absence of a common trigger date, the default date will be March 31 of the applicable year, but no later than 15 months after the end of the milestone year where the milestone was exceeded. The NM RH 309 SIP submittal requires that sources comply, as soon as practicable, with the requirement to hold allowances covering their emissions. Because the backstop trading program does not allow allocations to exceed the milestone, the program is sufficient to achieve the milestones adopted pursuant to 40 CFR 51.309(d)(4)(i) as discussed above. The backstop trading program is also consistent with the elements for such programs outlined in 40 CFR 51.308(e)(2)(vi). The analysis found in Section V.E. of this notice shows that the backstop trading program is consistent with the elements for trading programs outlined in 40 CFR 51.308(e)(2)(vi), as required by Section 309. See 40 CFR 51.309(d)(4)(v). We are proposing to determine the RH 309 SIP submittal meets the requirements of 40 CFR 309(d)(4)(v). We are also proposing to approve 20.2.81 NMAC, which includes the rules that govern the program.

6. Provisions for the 2018 Milestone

Pursuant to 40 CFR 51.309(d)(4)(vi)(A), the RH 309 SIP submittal has provisions to ensure that until a revised implementation plan is submitted in accordance with 40 CFR 51.308(f) and approved by EPA,

emissions from covered stationary sources in any year beginning in 2018 do not exceed the 2018 milestone. In order to meet this requirement, the State has included special provisions for what will be required as part of their 2013 SIP revision required under 40 CFR 51.309(d)(10). The submitted plan provides that the 2013 SIP revision required by 40 CFR 51.309(d)(10) will contain either the provisions of a program designed to achieve reasonable progress for stationary sources of SO_2 beyond 2018 or a commitment to submit a SIP revision containing the provisions of such a program no later than December 31, 2016. (Section C, Part D of the NM RH 309 SIP). We are proposing to determine the RH 309 SIP submittal meets the requirements of 40 CFR 51.309(d)(4)(vi)(A).

7. Special Penalty Provision for 2018

Pursuant to 40 CFR 51.309(d)(4)(vi)(B), the RH 309 SIP submittal includes special penalty provisions to ensure that the 2018 milestone is met. If the backstop trading is triggered and the program will not start until after the year 2018, a special penalty shall be assessed to sources that exceed the 2018 milestone (Section A.5 of the NM RH 309 SIP and Section 20.2.81.110 NMAC, which we are proposing to approve). The State shall seek at least the minimum financial penalty of $5,000 per ton of SO_2 emissions in excess of a source's allowance limitation. Any source may resolve its excess emissions violation by agreeing to a streamline settlement approach where the source pays a penalty of $5,000 per ton or partial ton of excess emissions and the source makes the payment within 90 calendar days after the issuance of a notice of violation. Any source that does not resolve its excess emissions violation in accordance with the streamlined settlement approach will be subject to formal enforcement action, in which the NMED shall seek a financial penalty for the excess emissions based on New Mexico's statutory maximum civil penalties. The special penalty provisions for 2018 will apply for each year after 2018 until the State determines that the 2018 milestone has been met. The State will evaluate the amount of the minimum monetary penalty during each five-year SIP review and the penalty will be adjusted to ensure that penalties per ton substantially exceed the expected cost of allowances, and thus provide sufficient deterrence. We are proposing to determine the RH SIP submittal satisfies the special penalties provisions requirement of 40 CFR 51.309(d)(4)(vi)(B). We are proposing approval of 20.2.81 NMAC, which includes proposed approval of 20.2.81.110 NMAC.

D. ''Better-Than-BART'' Demonstration

As discussed in Section IV.A of this preamble, if a state adopts an alternative program designed to replace ''source-by-source'' BART controls, the state must be able to demonstrate that the alternative program achieves greater reasonable progress than would be achieved by BART. In Section M of the NM RH 309 SIP, the State has included a demonstration of how the 309 program achieves greater reasonable progress than BART as discussed in the document titled *Demonstration that the SO_2 Milestones Provide for Greater Reasonable Progress than BART* (''better-than-BART'' demonstration). Below is a discussion on how the 309 backstop trading program achieves greater reasonable progress than BART. The City of Albuquerque—Bernalillo County, Wyoming and Utah have also submitted SIPs with the same better than BART demonstration as New Mexico and thus are relying on a consistent demonstration across the states.

1. List of BART-Eligible Sources

Pursuant to 40 CFR 51.308(e)(2)(i)(A), New Mexico's RH 309 SIP submittal offers a ''better-than-BART'' demonstration that lists the BART-eligible sources covered by the program in the section 309 states (see Table 3 below). BART eligible sources are identified as those sources that fall within one of the 26 specific source categories, were built between 1962 and 1977 and have potential emissions of 250 tons per year of any visibility impairing air pollutant. (40 CFR 51.301). We are proposing to determine that this list satisfies 40 CFR 51.308(e)(2)(i)(A).

2. Subject to BART Determination

Pursuant to 40 CFR 51.308(e)(2)(i)(B), the Section 309 states conducted individual source modeling on the BART-eligible sources within their states to determine which sources in their state causes or contributes to visibility impairment and are thus subject to BART. New Mexico and Utah relied on modeling by the WRAP to identify sources subject to BART. Based on the list of identified sources, the WRAP performed the initial BART modeling for New Mexico and Utah. The procedures used are outlined in the WRAP Regional Modeling Center (RMC) BART Modeling Protocol.[17] One source in New Mexico, the SJGS, was determined to be subject-to-BART based on the initial WRAP modeling. See section V.F.2 of this notice for a more detailed discussion of New Mexico's identification of subject-to-BART sources. Appendix C of the NM RH 309(g) SIP submittal contains a summary of the WRAP modeling used in New Mexico's identification of subject-to-BART sources. The State of Wyoming performed separate modeling to identify sources subject to BART.[18] The states established a threshold of 0.5 deciviews for determining if a single source causes or contributes to visibility impairment. If the modeling shows that a source has a 0.5 or greater deciview impact at any Class I area, that source causes or contributes to visibility impairment and is subject to BART. Table 3 shows the BART-eligible sources covered by the 309 backstop program and whether they are subject to BART. We are proposing to determine that the RH 309 SIP submittal satisfies 40 CFR 51.308(e)(2)(i)(B).

TABLE 3—SUBJECT TO BART STATUS FOR SECTION 309 BART-ELIGIBLE SOURCES

State	Company	Facility	Subject to BART?
New Mexico	Frontier	Empire Abo	No.
New Mexico	Xcel Energy	SWPS Cunningham Station	No.
New Mexico	Duke Energy	Artesia Gas Plant	No.

[17] CALMET/CALPUFF Protocol for BART Exemption Screening Analysis for Class I Areas in the Western United States‖, Western Regional Air Partnership (WRAP); Gail Tonnesen, Zion Wang; Ralph Morris, Abby Hoats and Yiqin Jia, August 15, 2006. Available at: *http://pah.cert.ucr.edu/aqm/308/bart/WRAP_RMC_BART_Protocol_Aug15_2006.pdf.*

[18] BART Air Modeling Protocol, Individual Source Visibility Assessments for BART Control Analyses, State of Wyoming, Department of Environmental Quality, Air Quality Division, Cheyenne, WY September 2006.

TABLE 3—SUBJECT TO BART STATUS FOR SECTION 309 BART-ELIGIBLE SOURCES—Continued

State	Company	Facility	Subject to BART?
New Mexico	Duke Energy	Linam Ranch Gas Plant	No.
New Mexico	Dynegy	Saunders	No.
New Mexico	Giant Refining	San Juan Refinery	No.
New Mexico	Giant Refining	Ciniza Refinery	No.
New Mexico	Xcel Energy	SWPS Maddox Station	No.
New Mexico	Marathon	Indian Basin Gas Plant	No.
New Mexico	Public Service of New Mexico	San Juan Generating Station	Yes.
New Mexico		Rio Grande Station	No.
New Mexico	Western Gas Resources	San Juan River Gas Plant	No.
Utah	Pacificorp	Hunter	Yes.
Utah	Pacificorp	Huntington	Yes.
Wyoming	Basin Electric	Laramie River	Yes.
Wyoming	Black Hills Power & Light	Neil Simpson I	No.
Wyoming	Dyno Nobel	Dyno Nobel	No.
Wyoming	FMC Corp	Green River Soda Ash Plant	Yes.
Wyoming	FMC Corp	Granger River Soda Ash Plant	No.
Wyoming	General Chemical	Green River Soda Ash Plant	Yes.
Wyoming	P4 Production	Rock Springs Coking Plant	No.
Wyoming	Pacificorp	Dave Johnston	Yes.
Wyoming	Pacificorp	Jim Bridger	Yes.
Wyoming	Pacificorp	Naughton	Yes.
Wyoming	Pacificorp	Wyodak	Yes.
Wyoming	Sinclair Oil Corp	Sinclair Refinery	No.
Wyoming	Sinclair Refinery	Casper	No.

3. Best System of Continuous Emission Control Technology

As required by 40 CFR 51.308(e)(2)(i)(C), each state is to determine what BART would be for each subject to BART source covered by the 309 backstop trading program. In the ''better-than-BART'' demonstration, all subject to BART electric generating units (EGUs) were assumed to be operating at the presumptive SO_2 emission rate provided in the BART Guidelines (0.15 lb/MMBtu). The 309 program also includes non-EGU subject to BART units. The non-EGU subject to BART units are four boilers located at two trona plants in Wyoming. Wyoming made a determination of what BART would be for these non-EGU units. One trona plant recently installed pollution control projects achieving a 63 percent reduction in SO_2 from its two boilers. The State of Wyoming determined this control level would serve as a BART benchmark for all trona boilers. Thus, a 63 percent reduction in emissions from these sources was included as the BART benchmark in calculating emission reductions assuming application of BART at these sources. Emission reductions or the BART benchmark for all subject to BART sources covered by the 309 program was calculated to be 48,807 tons of SO_2. We are proposing to determine the furnished analysis meets the requirements of 40 CFR 51.308(e)(2)(i)(C).

4. Projected Emissions Reductions

As required by 40 CFR 51.308(e)(2)(i)(D), the RH 309 SIP submittal has provided the expected emission reductions that would result from the 309 backstop trading program. The ''better-than-BART'' demonstration projects that 2018 baseline emissions would be 190,656 tpy of SO_2 for the sources covered by the 309 program in the participating states. The reductions achieved by the program are 48,807 tpy of SO_2, resulting in remaining emissions of 141,849 tpy of SO_2 in 2018. We are proposing to determine the analysis furnished to satisfy 40 CFR 51.308(e)(2)(i)(D) is acceptable.

5. Evidence That the Trading Program Achieves Greater Reasonable Progress Than BART

We are proposing to approve the RH 309 SIP submittal's determination that the SO_2 trading program achieves greater reasonable progress than would be achieved through the installation and operation of SO_2 BART at all sources subject to BART and covered by the SO_2 trading program in the participating states, as required by 40 CFR 51.308(e)(2)(i)(E). As the RH 309 SIP submittal explains, the program ensures that sources beyond BART sources are included. The backstop trading program includes all stationary sources with emissions greater than 100 tpy of SO_2 and thus encompasses 63 non-subject to BART sources. BART applied on a source-by-source basis would not affect these sources, and there would be no limitation on their future operations under their existing permit conditions, or allowable emissions. The milestones will cap these sources at actual emissions, which are less than current allowable emissions.

As the RH 309 SIP submittal also explains, the SO_2 trading program also provides for a cap on new source growth. Future impairment is prevented by capping SO_2 emissions growth from sources covered by the program and from entirely new sources in the region. BART applied on a source-specific basis would have no impact on future growth. The backstop trading program also provides a mass-based cap that has inherent advantages over applying BART to each individual source. The baseline emission projections and assumed reductions due to the assumption of BART-level emission rates on all sources subject to BART are all based on actual emissions, using 2006 as the baseline. If the BART process were applied on a source-by-source basis to individual sources, emission limitations would typically be established as an emission rate (lbs/hr or lbs/MMBtu) that would account for variations in the sulfur content of fuel and alternative operating scenarios, or allowable emissions. A mass-based cap that is based on actual emissions is more stringent because it does not allow a source to consistently use this difference between current actual and allowable emissions.

6. All Emission Reductions Must Take Place During the First Planning Period

The first planning period ends in 2018. As discussed in the preamble above, the reductions from the 309 program will occur by 2018. We are therefore proposing to determine the submitted plan satisfies the requirement of 40 CFR 51.309(e)(2)(iii).

7. Detailed Description of the Alternative Program

The detailed description of the backstop trading program is provided in Section C—*Sulfur Dioxide Milestones and Backstop Trading Program* of the NM RH 309 SIP submittal and Western Backstop SO_2 Trading Program Model Rule 20.2.81 NMAC, also a SIP submittal which we are proposing to approve. We propose to determine the detailed description requirement in 40 CFR 51.309(e)(2)(iii) is met. The details of the backstop trading program are discussed in section V.E of this notice.

8. Surplus Reductions

We propose to approve the determination in the RH 309 SIP submittal that all emission reductions resulting from the emissions trading program are surplus as of the baseline date of the SIP, as required by 40 CFR 51.208(e)(2)(iv).

9. Geographic Distribution of Emissions

The NM RH 309 SIP submittal includes modeling conducted by the WRAP in 2000 to compare the visibility improvement expected from BART to the backstop trading program for the Class I areas on the Colorado Plateau. A summary of the modeling results can be found in, Section M of the NM RH 309 SIP, which refers to data from modeling included in Tables 2 and 3 of Attachment C to the Annex.[19] [20] This modeling was conducted during the development of the Annex to examine if the geographic distribution of emissions under the trading program would be substantially different and disproportionately impact any Class I area due to a geographic concentration of emissions. The modeled visibility improvement for the best and worst days at the Class I areas for the 309 program is similar to improvement anticipated from the BART scenario (within 0.1 dv) on the worst and best visibility days, thus—if we assume participation consistent with the model—demonstrating that the distribution of emissions between the BART scenario and the 309 trading program are not substantially different. We note this modeling demonstration included nine states, many of which are not participating in the backstop trading program. We believe this modeling demonstration adds support to our proposed determination discussed above in this section that the RH 309 SIP submittal appropriately shows the SO_2 trading program will achieve greater reasonable progress than would be achieved through the installation and operation of SO_2 BART at all sources subject to BART and covered by the SO_2 trading program, as required by 40 CFR 51.308(e)(2)(i)(E).

E. Requirements for Alternative Programs With an Emissions Cap

Since the 309 trading program is a backstop trading program, the provisions outlined below will only apply if the milestone is exceeded and the program is triggered. We are proposing to approve 20.2.81 NMAC, which provides enforceable rules that govern the triggering and administration of the program. The analysis that follows shows that the backstop trading program is consistent with the elements for trading programs outlined in 40 CFR 51.308(e)(2)(vi), as required by Section 309. See 40 CFR 51.309(d)(4)(v).

1. Applicability Provisions

Pursuant to 40 CFR 51.308(e)(2)(vi)(A), the backstop trading program has the same applicability requirements in all states opting to participate in the program. 20.2.81.101 NMAC, which we are proposing to approve, contains the applicability provisions, which indicates that the backstop trading program generally applies to all stationary sources that emit 100 tons per year or more of SO_2 in the program trigger year. We are proposing to approve the 20.2.81.101 NMAC as meeting the requirements of 40 CFR 51.308(e)(2)(vi)(A).

2. Allowance Provisions

Part C.C1 of the SIP and 20.2.81.105 NMAC, which we propose to approve, contain the allowance allocation provisions as required by 40 CFR 51.308(e)(2)(vi)(B). The rule requires sources to open a compliance account in order to track allowances and contains other requirements associated with those accounts. These SIP provisions also contain the provisions on how the State will allocate allowances and states that the total number of allowances distributed cannot exceed the milestone for any given year. We are proposing to approve the submitted 20.2.81.105 NMAC as meeting the requirement of 40 CFR 51.308(e)(2)(vi)(B).

3. Monitoring and Recordkeeping Provisions

Pursuant to 40 CFR 51.308(e)(2)(vi)(C)–(E), the submitted rule 20.2.81.106.A.1 NMAC provides that sources subject to 40 CFR part 75 under a separate requirement from the backstop trading program shall meet the requirements contained in part 75 with respect to monitoring, recording and reporting SO_2 emissions. If a unit is not subject to 40 CFR part 75 under a requirement separate from the trading program, the State requires that a source use one of the following monitoring methods: (1) A continuous emission monitoring system (CEMS) for SO_2 and flow that complies with all applicable monitoring provisions in 40 CFR part 75; (2) if the unit is a gas- or oil-fired combustion device, the monitoring methodology in Appendix D to 40 CFR part 75, or, if applicable, the low mass emissions provisions (with respect to SO_2 mass emissions only) of section 75.19(c) of 40 CFR part 75; (3) one of the optional protocols, if applicable, in 20.2.81.111 NMAC or 20.2.81.112 NMAC; or (4) a petition for site-specific monitoring that the source submits for approval by NMED and EPA in accordance with Paragraph (5) Subsection O of 20.2.81.106 NMAC. All the above sources are required to comply with the reporting and recordkeeping requirements in 40 CFR part 75.

Although most sources covered by the backstop trading program will be able to meet the monitoring requirements stated above, there are some emission units that are either not physically able to install the needed equipment or do not emit enough sulfur dioxide to justify the expense of installing these systems. As discussed in part C5.3 of the SIP, the trading program allows these emission units to continue to use their pre-trigger monitoring methodology, but does not allow the source to transfer any allowances that were allocated to that unit for use by another source. The program requires that the allowances associated with emission units that continue to use their pre-trigger monitoring methodology be placed in a special reserve compliance account, while allowances for other emission

[19] Voluntary Emissions Reduction Program for Major Industrial Sources of Sulfur Dioxide in Nine Western States and A Backstop Market Trading Program, an Annex to the Report of the Grand Canyon Visibility Transport Commission (September 2000) at C–15 and 16.

[20] WRAP conducted modeling of the degree of visibility improvement that would occur on average and for the 20% best and worst visibility days. The WRAP used the transfer coefficients developed as part of the Integrated Assessment System (IAS) and used by the Grand Canyon Visibility Transport Commission. As noted in the Annex, this modeling has limitations which must be considered when interpreting the results.

units are placed in a regular compliance account. Sources may not trade allowances out of a special reserve compliance account, even for use by emission units at the same source, but can use the allowances to show compliance for that particular unit.

Subsection B of 20.2.81.106 NMAC allows sources with any of the following emission units to apply to establish a special reserve compliance account: (1) Any smelting operation where all of the emissions from the operation are not ducted to a stack; (2) any flare, except to the extent such flares are used as a fuel gas combustion device at a petroleum refinery; or (3) any other type of unit without add-on sulfur dioxide control equipment, if the unit belongs to one of the following source categories: cement kilns, pulp and paper recovery furnaces, lime kilns, or glass manufacturing. Pursuant to the submitted 20.2.81.106 NMAC, sources with a special reserve compliance account are required to submit to the State an annual emissions statement and sources are required to maintain operating records sufficient to estimate annual emissions consistent with the baseline emission inventory submitted in 1998.

We are proposing to approve the above discussed submitted provisions of 20.2.81 NMAC and find the submitted trading program is consistent with the monitoring, recordkeeping and reporting requirements in 40 CFR 51.308(e)(2)(vi)(C) through (E).

4. Tracking System

As required by 40 CFR 51.308(e)(2)(vi)(F), section C2 of the submitted RH 309 SIP provides the overarching specifications for an Emissions and Allowance Tracking System (EATS). According to the SIP submittal, the EATS must provide that all necessary information regarding emissions, allowances, and transactions is publicly available in a secure, centralized database. The EATS must ensure that each allowance is uniquely identified, allow for frequent updates, and include enforceable procedures for recording data. If the program is triggered, the State will work with other states and tribes participating in the trading program to implement this system. More detailed specifications for the EATS are provided in the *WEB Emission and Allowance Tracking System (EATS) Analysis.*[21] New Mexico assumes responsibility for ensuring that all the EATS provisions are completed as described in its SIP.

In addition, the State will work with the other participating states to designate one tracking system administrator (TSA). The submitted RH 309 SIP provides that the TSA shall be designated as expeditiously as possible, but no later than six months after the program trigger date. The State will enter into a binding contract with the TSA that shall require the TSA to perform all TSA functions described in the SIP and in 20.2.81 NMAC, such as transferring and recording allowances. We propose to determine the submitted trading program has adequate tracking system provisions to satisfy the requirements of CFR 51.308(e)(2)(vi)(F).

5. Account Representative

Pursuant to 40 CFR 51.308(e)(2)(vi)(G), the submitted RH 309 SIP relies on submitted rule 20.2.81.102 NMAC, which contains provisions for the establishment of an account representative. The SIP submittal requires each source to identify one account representative. The account representative shall submit to the State and the TSA a signed and dated certificate that contains a certification statement verifying that the account representative has all the necessary authority to carry out the account representative responsibilities under the trading program on behalf of the owners and operators of the sources. The certification statement also needs to indicate that each such owner and operator shall be fully bound by the account representatives representations, actions, inactions, or submissions and by any decision or order issued to the account representative by the State regarding the trading program. We are proposing to determine the submitted rule 20.2.81.102 NMAC and submitted SIP meet the requirements for ''authorized account representative provisions'' in 40 CFR 51.308(e)(2)(vi)(G).

6. Allowance Transfers

The submitted RH 309 SIP establishes procedures pertaining to allowance transfers to meet the requirement of 40 CFR 51.308(e)(2)(vi)(H). 20.2.81.107 NMAC, a submitted rule we propose to approve, contains requirements sources must follow for allowance transfers. To transfer or retire allowances, the account representative shall submit the transfer account number(s) identifying the transferor account, the serial number of each allowance to be transferred, the transferor's account representative's name and signature, and date of submission. The allowance transfer deadline is midnight Pacific Standard Time on March 1 of each year following the end of the control period. Sources must correctly submit transfers by this time in order for a source to be able to use the allowance to demonstrate compliance. We are proposing to approve 20.2.81.107 NMAC as being consistent with the program elements required at 40 CFR 51.308(e)(2)(vi)(H).

Section C3 of the RH 309 SIP submittal provides the procedures the TSA must follow to transfer allowances. The TSA will record an allowance transfer by moving each allowance from the transferor account to the transferee account as specified by the request from the source, if the transfer is correctly submitted and the transferor account includes each allowance identified in the transfer. Within five business days of the recording of an allowance transfer, the TSA shall notify the account representatives of both the transferor and transferee accounts, and make the transfer information publicly available on the Internet. Within five business days of receipt of an allowance transfer that fails to meet the requirements for transfer, the TSA will notify the account representatives of both accounts of the decision not to record the transfer, and the reasons for not recording the transfer. We are proposing to determine the submitted trading program is consistent with the ''allowance transfer provisions'' requirement of 40 CFR51.308(e)(2)(vi)(H).

7. Compliance Provisions

Pursuant to 40 CFR 51.308(e)(2)(vi)(I), the trading program in the submitted RH 309 SIP provides the procedures for determining compliance and relies on submitted rule 20.2.81.109 NMAC, which we are proposing to approve. Per this submitted rule, the source must hold allowances as of the allowance transfer deadline in the source's compliance account (together with any current control year allowances held in the source's special reserve compliance account) in an amount not less than the total SO_2 emissions for the control period from the source. The State determines compliance by comparing allowances held by the source in their compliance account(s) with the total annual SO_2 emissions reported by the source. If the comparison of the allowances to emissions results in emissions exceeding allowances, the source's excess emissions are subject to the allowance deduction penalty in 20.2.81.109 C. NMAC (discussed in further detail below). We are proposing to determine the submitted rule

[21] Western Backstop (WEB) Emissions and Allowance Tracking System (EATS) Analysis. Perrin Quarles Associates, Inc. July 18, 2003. Available at: *http://www.wrapair.org/forums/mtf/documents/eats/WEB_EATS_Final_Report_July_31.pdf.*

20.2.81.109 NMAC is consistent with the ''compliance provisions'' requirement of 40 CFR 51.308(e)(2)(vi)(I).

8. Penalty Provisions

The submitted rule 20.2.81.109 C. NMAC provides the penalty provisions required by 40 CFR 51.308(e)(2)(vi)(J). Per this section, a source's allowances will be reduced by an amount equal to three times the source's tons of excess emissions if they are unable to show compliance. We are proposing to determine the submitted rule 20.2.81 is consistent with the ''penalty provisions'' requirement of 40 CFR 51.308(e)(2)(vi)(J).

9. Banking of Allowances

As allowed by 40 CFR 51.308(e)(2)(vi)(K), 20.2.81.108 NMAC, which we propose to approve, allows sources to use allowances from current and prior years to demonstrate compliance, with some restrictions. Sources can only use 2018 allowances to show compliance with the 2018 milestone and may not use allowances from prior years. In order to insure that the use of banked allowances does not interfere with the attainment or maintenance of reasonable progress goals, the backstop trading program includes flow-control provisions (see section C4 of the RH 309 SIP submittal). The flow control provisions are triggered if the TSA determines that the banked allowances exceed ten percent of the milestone for the next control year, and thereby ensure that too many banked emissions are not used in any one year. We are proposing to determine the submitted trading program has provisions that clarifies the restrictions on the use of banked allowances, consistent with the requirement in 40 CFR 51.308(e)(2)(vi)(K).

10. Program Assessment

Pursuant to 40 CFR 51.308(e)(2)(vi)(L), section D1 of the RH 309 SIP submittal contains provisions for a 2013 assessment. For the 2013 assessment, the State will work with other participating states to develop a projected emission inventory for SO_2 through the year 2018. The State will then evaluate the projected inventory and assess the likelihood of meeting the regional milestone for the year 2018. New Mexico shall include this assessment as part of the 2013 progress report that must be submitted under 40 CFR 51.309(d)(10). We are proposing to determine the RH 309 SIP submittal is consistent with the program assessment provisions requirement in 40 CFR 51.308(e)(2)(vi)(L).

F. Provisions for Stationary Source NO_X and PM

Pursuant to 40 CFR 51.309(d)(4)(vii) and 40 CFR 51.309(g), NMED's submittal contains BART and long-term strategies to address NOx and PM emissions. An initial assessment of emissions control strategies for stationary source NOx and PM, and the degree of visibility improvement that would result from implementation of the identified strategies was prepared by the WRAP. This report, *Stationary Source NO_X and PM Emissions in the WRAP Region: An Initial Assessment of Emissions, Controls, and Air Quality Impacts,* is included in Appendix C–2 of the submitted NM RH 309 SIP. This report represents an initial assessment of stationary source NO_X and PM strategies for regional haze performed in 2003 using emission inventories, available ambient monitoring data, and very limited modeling. Based on this analysis, NMED concluded that for the majority of the Class I areas in the WRAP, NO_X and PM emissions are not major contributors to visibility impairment, and that RAVI remedies are available in cases where particular stationary sources may impact a particular Class I area. An additional assessment of long-term strategies and BART requirements for NO_X and PM are included in the NM RH 309(g) SIP. An evaluation of NMED's PM BART determination is in this section. As previously stated, we are not proposing action on the NO_X BART determination for SJGS. Evaluation of NMED's LTS is available in Section V.N.4 of this proposal. NMED has committed to reassess its NO_X and PM long-term strategies in its SIP updates in 2013 and 2018.

BART is an element of New Mexico's LTS for the first implementation period. As discussed in more detail in section III.D. of this preamble, the BART evaluation process consists of three components: (1) An identification of all the BART-eligible sources, (2) an assessment of whether those BART-eligible sources are in fact subject to BART and (3) a determination of any BART controls. NMED addressed these steps as follows:

1. Identification of BART-Eligible Sources

The first step of a BART evaluation is to identify all the BART-eligible sources within the state's boundaries. NMED identified the BART-eligible sources in New Mexico by utilizing the three eligibility criteria in the BART Guidelines (70 FR 39158, July 6, 2005) and our regulations (40 CFR 51.301): (1) One or more emission units at the facility fit within one of the 26 categories listed in the BART Guidelines; (2) the emission unit(s) was constructed on or after August 6, 1962, and was in existence prior to August 6, 1977; and (3) potential emissions of any visibility-impairing pollutant from subject units are 250 tons or more per year. Table 3 above lists the BART-eligible sources in New Mexico.

2. Identification of Sources Subject to BART

The second step of the BART evaluation is to identify those BART-eligible sources that may reasonably be anticipated to cause or contribute to visibility impairment at any Class I area, *i.e.* those sources that are subject to BART. The BART Guidelines allow states to consider exempting some BART-eligible sources from further BART review because they may not reasonably be anticipated to cause or contribute to any visibility impairment in a Class I area. Consistent with the BART Guidelines, NMED relied on the WRAP's initial BART screening modeling to assess the extent of each facility's contribution to visibility impairment at surrounding Class I areas and identify sources subject to BART. Appendix C of the submitted NM RH SIP for 309(g) summarizes the initial BART screening performed by the WRAP for New Mexico.

a. Modeling Methodology

The BART Guidelines provide that states may choose to use the CALPUFF modeling system or another appropriate model to predict the visibility impacts from a single source on a Class I area, and to therefore determine whether an individual source is anticipated to cause or contribute to impairment of visibility in Class I areas, *i.e.,* ''is subject to BART''. The Guidelines state that we believe CALPUFF is the best regulatory modeling application currently available for predicting a single source's contribution to visibility impairment (70 FR 39162, July 6, 2005). NMED relied on WRAP screening modeling using the CALPUFF modeling system to determine whether individual sources in New Mexico were subject to or exempt from BART.

The BART Guidelines also recommend that states develop a modeling protocol for making individual source attributions, and suggest that states may want to consult with us and their RPO to address any issues prior to modeling. The procedures used are outlined in the WRAP Regional Modeling Center (RMC)

BART Modeling Protocol.[22] Stakeholders, including EPA, FLMs, industrial sources, trade groups, and other interested parties, actively participated in the development and review of the WRAP protocol at the time it was developed. We propose to find the chosen model and the general modeling methodology used by the WRAP to be acceptable at the time it was utilized for identifying which units were subject to BART.

b. Contribution Threshold

For states using modeling to determine the applicability of BART to single sources, the BART Guidelines note that the first step is to set a contribution threshold to assess whether the impact of a single source is sufficient to cause or contribute to visibility impairment at a Class I area. The BART Guidelines state that, ''[a] single source that is responsible for a 1.0 deciview change or more should be considered to 'cause' visibility impairment.'' 70 FR 39104, 39161 (July 6, 2005). The BART Guidelines also state that ''the appropriate threshold for determining whether a source contributes to visibility impairment may reasonably differ across states,'' but, ''[a]s a general matter, any threshold that you use for determining whether a source 'contributes' to visibility impairment should not be higher than 0.5 deciviews.'' *Id.* Further, in setting a contribution threshold, states should ''consider the number of emissions sources affecting the Class I areas at issue and the magnitude of the individual sources' impacts. The Guidelines affirm that states are free to use a lower threshold if they conclude that the location of a large number of BART-eligible sources in proximity of a Class I area justifies this approach. NMED and the WRAP used a contribution threshold of 0.5 dv for determining which sources are subject to BART. The results of the visibility impacts modeling demonstrated that the majority of the individual BART-eligible sources had visibility impacts well below 0.5 dv.[23] With the exception of the San Juan Generating Station that had modeled visibility impacts well above 0.5 dv, the highest visibility impact of the remaining BART-eligible sources was 0.33 dv. We agree with the State's rationale for choosing this threshold value.

c. Sources Identified to be Subject-to-BART

The WRAP screening modeling evaluated sources that were identified as BART-eligible and determined the only sources that did not screen out in New Mexico were the four units of the SJGS. An eligible BART source with a predicted impact of 0.5 dv or more of impairment in a Class I area ''contributes'' to visibility impairment and is subject to BART.[24] A single source that is responsible for a 1.0 deciview change or more should be considered to ''cause'' visibility impairment. The results of this analysis indicated that SJGS, on a facility-wide basis, causes visibility impairment at all 16 Class I areas that lie within 300 km of the facility. However, this modeling was based on the installed control technology at the time and does not reflect emission reductions due to the installation of consent decree[25] controls. Revised modeling performed by NMED and by us, including controls required by the consent decree and currently installed, further confirmed that SJGS still causes visibility impairment at more than half of the Class I areas in the vicinity of the facility and contributes (above 0.5 deciviews) to visibility impairment at the remaining areas on a facility-wide basis. Furthermore, on an individual unit basis, all units cause visibility impairment at Mesa Verde National Park, and cause or contribute to visibility impairment at a number of other Class I areas.[26] Our modeling indicates that the visibility impairment is primarily dominated by nitrate particulates. Therefore, as the WRAP screening modeling has previously concluded, and further modeling by NMED and EPA confirms, even with post-consent decree controls on SJGS units, the SJGS units 1, 2, 3, and 4 still have a significant impact at surrounding Class I areas. Consequently, we propose to approve NMED's subject-to-BART determination and find that units 1, 2, 3, and 4 of the SJGS are the only New Mexico sources subject to BART.

3. BART Determination for SJGS

The third step of a BART evaluation is to perform the BART analysis. The BART Guidelines[27] describe the BART analysis as consisting of the following five basic steps:

- Step 1: Identify All Available Retrofit Control Technologies,
- Step 2: Eliminate Technically Infeasible Options,
- Step 3: Evaluate Control Effectiveness of Remaining Control Technologies,
- Step 4: Evaluate Impacts and Document the Results, and
- Step 5: Evaluate Visibility Impacts.

The SJGS consists of four (4) coal-fired generating units and associated support facilities. Each coal-fired unit burns pulverized coal and No. 2 diesel oil (for startup) in a boiler, and produces high-pressure steam which powers a steam turbine coupled with an electric generator. Electric power produced by the units is supplied to the electric power grid for sale. Coal for the units is supplied by the adjacent San Juan Mine and is delivered to the facility by conveyor. Units 1 and 2 have a unit capacity of 350 and 360 MW, respectively. Units 3 and 4 each have a unit capacity of 544 MW.

In June, 2007, the operator of the SJGS, Public Service Company of New Mexico (PNM) submitted its PM and NO_X BART evaluation to NMED. That evaluation was revised multiple times to incorporate additional visibility modeling analyses, control technology considerations, and cost analyses.[28] NMED's final evaluation of this BART determination for NO_X and PM is available in Chapter 10 and Appendix D of the NM RH 309(g) SIP submittal. Our evaluation and proposal for action only

[22] The procedures used are outlined in the WRAP Regional Modeling Center (RMC) BART Modeling Protocol that is available at: *http://pah.cert.ucr.edu/aqm/308/bart/WRAP_RMC_BART_Protocol_Aug15_2006.pdf.*

[23] See Appendix C of the NM RH 309(g) SIP for a Summary of WRAP RMC BART Modeling for New Mexico Draft#6, December 17, 2010.

[24] 70 FR 39104, 39121 (July 6, 2005).

[25] Consent Decree in *The Grand Canyon Trust and Sierra Club, Plaintiffs, The State of New Mexico, Plaintiff-Intervenor,* v. *Public Service Company of New Mexico, Defendant,* (CV 02–552 BB/ACT (ACE)), lodged in the United States District Court, District of New Mexico, on March 10, 2005, at 15–16. The consent decree resulted in the installation of low-NO_X burners with overfire air ports and a neural network system to reduce NO_X emissions, and a full-sized pulse jet fabric filter to reduce PM emissions. The wet limestone scrubber was modified to eliminate flue gas bypass, and dibasic acid was added to the scrubber process to improve SO_2 removal. Installation of these controls on all four units was completed in the spring of 2009. The consent decree requires compliance with emission limits of 0.3 lb/MMBtu NO_X, 0.015 lb/MMBtu PM, and 90% annual average control, not to exceed 0.25 lb/MMBtu SO_2 for a seven day block average for each unit.

[26] See the TSD for our FIP, ''Visibility Modeling for BART Determination: San Juan Generating Station, New Mexico'' available in the docket to our FIP (Docket No. EPA–R06–OAR–2010–0846) and included in the docket for this action.

[27] 70 FR 39164.

[28] Public Service Company of New Mexico, San Juan Generating Station, Best Available Retrofit Technology Analysis, June 6, 2007; PNM San Juan Generating Station, BART Analysis of SNCR, May 30, 2008. PNM San Juan Generating Station, BART Analysis of Nalco Mobotec NO_X Control Technologies, August 29, 2008; Public Service Company of New Mexico, San Juan Generating Station Final particulate matter BART analysis, August 28, 2008; Public Service Company of New Mexico, San Juan Generating Station Revised SNCR Analysis, February 11, 2011 and supporting reports and analysis.

concerns the PM BART determination. As discussed above, BART requirements for SO_2 are met through New Mexico's participation in a SO_2 milestone emissions and backstop trading program. As also discussed above, we are not proposing action on the submitted NO_X BART determination for the San Juan Generating Station. The NO_X BART requirement for the source is presently satisfied by the BART determination that is effective under the federal implementation plan at 40 CFR 52.1628. We will propose action on the submitted NO_X BART determination for San Juan Generating Station through a future, separate proposal, unless the state of New Mexico earlier withdraws it in favor of an alternative that it may develop through discussions with the source and EPA.

a. New Mexico's PM BART Determination

The SJGS currently has pulse jet fabric filters installed and an emission limit of 0.015 lb/MMBtu PM. PNM identified flue gas conditioning with hot side electrostatic precipitator (ESP), pulse jet fabric filter (PJFF), compact hybrid particulate collector, and max-9 electrostatic fabric filter as available controls for PM at SJGS. At NMED's request, PNM also identified wet ESP (WESP).

Hot-side ESP and compact hybrid particulate collector were eliminated because these technologies were determined to not provide control performance lower than the currently permitted limit for PM. The max-9 electrostatic fabric filter was also eliminated due to limited application in large utility boilers. WESP and PJFF were determined to be technically feasible and were evaluated in PNM's BART analysis for PM.[29] PNM determined that PJFF and WESP are capable of achieving emission limits of 0.015 lb/MMBtu PM and 0.010 lb/MMBtu PM, respectively. PNM then evaluated the impacts, including costs of compliance, energy impacts, non-air quality impacts, and the remaining useful life, of operating WESP in addition to the existing PJFF. PNM's evaluation considered auxiliary power consumption, additional water consumption, and waste water disposal requirements, as well as cost. The installation of WESP was estimated to reduce emissions of PM by 69 tons per year (tpy) each for Units 1 and 2, 107 tpy for Unit 3 and 105 tpy at Unit 4. The addition of WESP was determined by PNM and evaluated by NMED to have a cost-effectiveness ranging from about $145,000 to $173,000 per ton of PM removed for each unit. PNM then performed modeling to investigate the visibility impacts. Based on their five-factor analysis, NMED concluded that BART for units 1–4 for PM is the existing PJFF and the existing emission limit of 0.015 lb/MMBtu.

b. Our Evaluation of New Mexico's PM BART Determination

We have determined that PNM overestimated the cost of WESP because PNM did not follow the EPA Air Pollution Control Cost Manual,[30] where possible, as directed by the BART Guidelines.[31] For example, PNM's cost analysis includes costs not allowed under EPA's Cost Manual methodology, such as Allowance for Funds Used During Construction (AFUDC).[32] PNM's visibility analysis shows a maximum visibility improvement of 0.62 dv from WESP being installed on all four units at Mesa Verde and 0.14 dv improvement at San Pedro Parks. Visibility benefits at other Class I areas are below 0.1 dv. As discussed in detail in the FIP and accompanying TSD,[33] we identified inconsistencies between PNM's modeling and EPA guidance. In our evaluation of NMED's PM BART determination we considered these deviations from EPA guidance for cost estimates and visibility impact analysis. We note that some visibility benefit is anticipated at Mesa Verde through the installation of WESP at SJGS. However, given the high anticipated cost on a $/ton removed basis for WESP at SJGS, even if we corrected the cost estimate to be consistent with EPA guidance, we believe the cost of installation and operation of WESP would not be cost-effective. Therefore, we propose to approve NMED's PM BART determination for the SJGS that PM BART is satisfied by the existing PJFF and the existing emission limit of 0.015 lb/MMBtu.

G. Mobile Sources

Pursuant to 40 CFR 51.309(d)(5)(i), New Mexico, in collaboration with the WRAP, assembled a comprehensive statewide inventory of mobile source emissions that was included in the RH 309 SIP submittal. The inventory included on-road and non-road mobile source emissions inventories for Western states for the time period 1996 through 2018, inventorying 1996, and then projecting 2003, 2008, 2013, and 2018.[34] These inventories for New Mexico are summarized in Tables D–1 and D–2 of the NM RH 309 SIP and described in Chapter 5 of the WRAP TSD.[35] Mobile source emissions (on-road and non-road) are projected to be at their lowest level within New Mexico at the end of the planning period, primarily due to on-road vehicle emission and fuel standards by the EPA, with the exception of SO_2.

An emission inventory update was also done for a 2002 base year and emission projections for the years 2008, 2013, and 2018.[36] The inventory shows a continuous decline in emissions from mobile sources from VOC, NO_X, $PM_{2.5}$, elemental carbon (EC), and organic carbon (OC) emissions over the period of 2002–2018. Per 40 CFR 51.309(d)(5)(i)(A), the inventories show a decline in mobile source emissions and therefore no further action is required by New Mexico to address mobile source emissions.

Pursuant to 40 CFR 51.309(d)(5)(i)(B), the State will submit a SIP revision no later than December 31, 2013, containing any long-term strategies necessary to reduce SO_2 emissions from non-road mobile sources consistent with the goal of reasonable progress if necessary based on consideration of the emission reductions achieved by Federal standards. We note the updated available emission inventory projections show that there will be a 99 percent decrease in SO_2 emissions from non-road mobile sources for 2002–2018. The reduction will result from compliance with EPA's rule titled *Control of Emissions of Air Pollution from Non-*

[29] Public Service Company of New Mexico, San Juan Generating Station Final particulate matter BART analysis, PNM (August 28, 2008).

[30] U.S. EPA, EPA Air Pollution Control Cost Manual, Report EPA/452/B–02–001, 6th Ed., January 2002 (''Cost Manual''), The EPA Air Pollution Control Cost Manual is the current name for what was previously known as the OAQPS Control Cost Manual, the name for the Cost Manual in previous (pre-2002) editions of the Cost Manual.

[31] In order to maintain and improve consistency, cost estimates should be based on the OAQPS Control Cost Manual, where possible. 70 FR 39104, 39166 (2005).

[32] There may be other deficiencies in New Mexico's cost evaluation of PM BART for the SJGS, but we take no position on them, as they are moot in light of the potential visibility benefits versus the order of any possible magnitude adjustment in New Mexico's cost analysis.

[33] The proposed FIP, the TSD, and the Final Rule are added to the docket for this rule making and are also available in the docket to our FIP (Docket No. EPA–R06–OAR–2010–0846).

[34] Summary and Discussion of 1996 Through 2018 Mobile Source Emissions Inventories. Technical Memo from Tom Moore to Mobile Sources Forum. November 26, 2002.; Final Report: Development of WRAP Mobile Source Emission Inventories, ENVIRON, Feb. 9, 2004.

[35] WRAP Regional Technical Support Document for the Requirements of § 309 of the Regional Haze Rule (64 FR 35714–July 1, 1999) revised May 7, 2008.

[36] Detailed information on the emission inventory is contained in the ENVIRON Report *WRAP Mobile Source Emission Inventories Update,* May 2006.

road Diesel Engines and Fuel. 69 FR 38958 (June 29, 2004). A 99 percent reduction in SO_2 from non-road mobile sources is consistent with the goal of reasonable progress and no other long-term strategies are necessary to address SO_2 emissions from non-road mobile sources at this time. Pursuant to 40 CFR 51.309(d)(5)(ii), the State will submit interim reports to EPA in 2013 and 2018 on the implementation of regional and local recommendations from the GCVTC report pertaining to mobile sources. New Mexico will include these reports as part of the reports required by 40 CFR 51.309(d)(10). We propose to determine the RH 309 SIP submittal satisfies the requirements of 51 CFR 51.309(d)(5).

H. Programs Related to Fire

Pursuant to 40 CFR 51.309(d)(6)(i), the NM RH 309 SIP must provide for an evaluation of how its SIP meets the ''Programs related to fire'' requirements. Based on our review of Section E of the 309 SIP, we propose to find that the submittal meets the 309(d)(6) requirements as discussed in detail below. We also propose approval of 20.2.65 NMAC, *Smoke Management,* and revisions to 20.2.60 NMAC, *Open Burning,* both submitted on December 1, 2003. The 2003 submittal of 20.2.60 NMAC replaces the state's Open Burning that we previously approved as part of the New Mexico SIP at 62 FR 50514 (September 26, 1997). By proposing to approve the 2003 submittal, we are proposing to repeal from the New Mexico SIP the earlier version of the Open Burning Rule.

1. Evaluation of Current Fire Programs

The State's submittal meets 51.309(d)(6)(i) as it demonstrates how its smoke management program and all federal or private programs for prescribed fire in New Mexico have a mechanism in place for evaluating and addressing the degree of visibility impairment from smoke in their planning and application of burning. New Mexico has adopted 20.2.65 NMAC to meet regional haze rule requirements. New Mexico has also submitted revisions to 20.2.60 NMAC as a SIP revision. See submittals at the EPA docket identified No. EPA–R06–OAR–2009–0050. We note that 20.2.60 NMAC, the rule for Open Burning, is not strictly related to the satisfaction of regional haze requirements. We first approved the State's open burning regulation (20.2.60 NMAC) into the SIP on September 26, 1997 at 62 FR 50518, and we propose to approve the submitted 20.2.60 NMAC as improving the SIP. Because this new open burning rule is an improvement over the SIP open burning rule, we also are proposing to remove from the SIP, the previously approved open burning rule. Among other things, 20.2.60 NMAC adds new restrictions on the burning of household waste. A more detailed discussion of our proposed approval of the Smoke Management rule and Open Burning rule can be found in Appendix B of the Technical Support Document (TSD) that accompanies this notice.

We propose to find that the NM RH 309 SIP submittal and the companion rules meet the specific additional requirements of 309(d)(6)(i) which address: (a) Actions to minimize emissions, (b) evaluation of smoke dispersion, (c) alternatives to fire, (d) public notification, (e) air quality monitoring, (f) surveillance and enforcement, and (g) program evaluation. These are discussed below.

a. Actions To Minimize Emissions

In order to minimize emissions, New Mexico's RH 309 SIP relies on the use of emission reduction techniques by burners. Any techniques used in conjunction with burning that reduce the actual amount of emissions produced from a planned burn project are considered emission reduction techniques. The Smoke Management Rule submittal requires land managers burning SMP–II burns (burn projects that emit greater than or equal to one ton of PM_{10} emissions per day) to use at a minimum one emission reduction technique for each planned burn project. See 20.2.65.103.C NMAC. SMP–II burners will indicate on the required form which emission reduction techniques are being utilized for each planned burn project. We propose to find that these portions of the Smoke Management rule meet the requirement to address actions to minimize emissions.

b. Evaluation of Smoke Dispersion

The Smoke Management Rule only allows SMP–I burns (burn projects that emit less than one ton per day of PM_{10} emissions) to be ignited during daytime hours when the ventilation index category is rated ''Good'' or better. See 20.2.65.102.A(2)(a) NMAC. To comply with this requirement, the burner must conduct visual monitoring and document the results in writing. For burns within 1 mile of a population, the burner must notify the department at least two business days in advance and NMED may choose to conduct instrument monitoring. See 20.2.65.102.A(2)(b).

For SMP–II burns, the Smoke Management rule provides the burner can ignite a planned burn project only during times when the ventilation category is ''Good'' or better,[37] and must notify the public at least two days prior to the burn. See 20.2.65.103.D. The burner must conduct visual monitoring and document the results in writing. NMED may choose to conduct instrument monitoring in addition to visual monitoring. See 20.2.65.103.J.(1). We propose to find that these portions of the Smoke Management rule meet the requirement for evaluation of smoke dispersion.

c. Alternatives to Fire

The NM RH 309 SIP requires, through the Smoke Management Rule, that for burns exceeding 1 ton PM_{10} emissions per day, burners must consider the use of alternatives to burning. See 20.2.65.103.B and C. Burners must then document that the use of alternatives to burning was considered prior to the decision to utilize fire. The documentation includes citing the feasibility criterion that prevented the use of alternatives. This documentation must be included on the registration form provided by the NMED. The burner must maintain all records of actions and maintain such records for a minimum of one year. See 20.2.65.103.K. We propose to find that these portions of the Smoke Management Rule meet the requirement to consider alternatives to fire.

d. Public Notification

To meet the public notification requirements, the Smoke Management rule contains requirements for public notice for burn projects planned in proximity to population. For example, 20.2.65.102.E requires for SMP–I burns, that burners notify the populations that are located with one mile of the planned burn project. The burner must conduct public notification no sooner than 30 days and no later than two days in advance of the ignition of the planned burn project. In addition, under 20.2.65.102.B, the burner must notify the local fire authorities prior to igniting a burn and register the burn project with NMED. For SMP–II burns, the 20.2.65.103.J requires that burners notify the populations within 15 miles of the planned burn project. The burner must conduct public notification no sooner than 30 days and no later than

[37] Ventilation category is a classification that describes the potential for smoke to ventilate away from its source. The classification (Excellent, Very Good, Good, Fair, Poor) is determined by multiplying the mixing height in feet by the transport winds in knots, thus providing the ventilation category in knot-feet. The ventilation category can be found in the National Weather Service's Fire Weather Forecast, which is the State approved source for this information.

two days in advance of the ignition of the planned burn project. In addition, the burner will also notify the local fire authorities prior to igniting a burn and register the burn project with NMED under 20.2.65.103.F. We propose to find that these portions of the Smoke Management rule meet the requirement to address notification of the public.

e. Air Quality Monitoring

To address air quality monitoring, the Smoke Management rule requires that SMP–I and SMP–II burners conduct and document visual monitoring on all planned burn projects under 20.2.65.102.A(2)(b) and 20.2.65.103.E. The use of monitoring equipment will be based on the planned burn project's proximity to a population, nonattainment area, or Class I area and will be determined on a case-by-case basis by NMED. We propose to find that this portion of the Smoke Management rule meets this requirement.

f. Surveillance and Enforcement

To address surveillance and enforcement requirements, 20.2.65 NMAC requires that the permittee submit reports and burn project tracking forms to the NMED on SMP–I and SMP–II burns. See 20.2.65.102D NMAC and 20.2.65.103I NMAC. The New Mexico Air Quality Control Act, NMSA 1978 Chapter 74, Article 2 authorizes enforcement actions and the assessment of civil penalties for violations. Section E of the State's submittal contains a more detailed explanation of the existing procedures in place to address this. We propose to find that the current SIP and the State's enforcement mechanisms meet this requirement.

g. Program Evaluation

Pursuant to 40 CFR 51.309(d)(6)(i), the RH SIP submittal also contains an evaluation of whether its smoke management program and these prescribed fire smoke management programs contain the following elements: actions to minimize emissions; evaluation of smoke dispersion; alternatives to fire; public notification; air quality monitoring; surveillance and enforcement; and program evaluation. The SIP at Section E and Appendix E–1 describe the results of these evaluations in detail. For example, NMED, in its RH 309 SIP, commits to hosting an annual meeting with all burners and interested stakeholders to assess the adequacy of the design, impact, and implementation of the program. These program evaluations will be used to revise and improve the smoke management plan, as needed. The State also commits to review gathered data with stakeholders on an annual basis that will serve to establish annual emissions goals. In addition, that State has adopted a Smoke Management regulation at 20.2.65 NMAC that serves as the foundation of the smoke management plan, which the NMED administers and enforces. We propose to find that the New Mexico RH SIP submittal meets the requirement for program evaluation under 51.309(d)(6)(i).

2. Inventory and Tracking System

We propose to find the RH 309 SIP meets the requirements of 40 CFR 51.309(d)(6)(ii) for fire emissions inventorying and tracking. Pursuant to 40 CFR 51.309(d)(6)(ii), States must include in their section 309 plan a statewide process for gathering the essential post-burn activity information to support emissions inventory and tracking systems. The SIP submittal provides for a host of inventory and tracking measures that we believe meet the 309(d)(6)(ii) requirement. For example, the State follows the WRAP's guidance, ''Fire Tracking System Policy,'' on establishing an adequate system for tracking and emissions inventory of the following pollutants: VOC, NOx, elemental carbon, organic carbon, and fine particulate for fire sources within New Mexico. The SIP follows the WRAP's policies on emission inventory and tracking requirements that can be found in section E (c) and Appendix M–2, and Appendix E–6 of the state's submittal. In order to maintain the emission inventory, 20.2.65.102.D and 20.2.65.103.I NMAC requires the burners to complete and submit to the NMED a burn project tracking form within two weeks after completion of the burn activity to report on emissions from their burns including quantitative information regarding fuel types, fuel consumption, and type of burn. We are proposing to determine that the RH SIP submittal and the submitted Smoke Management rule meet these requirements.

3. Identification and Removal of Administrative Barriers

We propose to find that the NM RH 309 SIP submittal meets the 40 CFR 51.309(d)(6)(iii) requirements to address administrative barriers to facilitate alternatives to burning. Section E(d) and Appendix E–2 of the state's RH 309 SIP, describe the process the NMED commits to undertake to address this requirement.

In section E(d) of the SIP, the State commits to working with key public and private entities to identify and remove administrative barriers to the use of alternatives to burning for prescribed fire on federal, State, and private lands, pursuant to 40 CFR 51.309(d)(6)(iii). The process is collaborative and provides for continuing identification and removal of administrative barriers, and considers economic, safety, technical and environmental feasibility criteria, and land management objectives. The State relied on *Non-burning Alternatives for Vegetation and Fuel Management,* and *Burning Management Alternatives on Agricultural Lands in the Western United States* developed by the WRAP for non-burning alternatives and methods to assess their applicability. Should New Mexico determine that an administrative barrier exists, the State will work collaboratively with the appropriate public and private entities to evaluate the administrative barrier, identify the steps necessary to remove the administrative barrier, and initiate the removal of the administrative barrier, where it is feasible to do so. For example, NMED is committed to review the registration forms required for burns conducted under SMP II that requires burners to identify why alternatives to burning have not been used. The State commits to collect this data and analyze it to determine whether administrative barriers to the use of alternatives exist. The state commits to evaluate this information at the annual program evaluation meeting to be held each year in January with all burners. Should it be determined that a specific administrative barrier exists, New Mexico will contact the appropriate agency to determine how this barrier may be removed and will work collaboratively with the agency and the burners to remove the barrier. We accordingly, believe the requirement to address administrative barriers is satisfied.

4. Enhanced Smoke Management Program

We propose to find the submitted RH 309 SIP provides enhanced smoke management programs to meet the requirements of 40 CFR 51.309(d)(6)(iv). The smoke management programs that operate within the State are consistent with the *WRAP Policy on Enhanced Smoke Management Programs for Visibility* (WRAP ESMP). A copy of this policy can be found in the Appendix E–4 of the NM RH 309 SIP. This policy calls for programs to be based on the criteria of efficiency, economics, law, emission reduction opportunities, land management objectives, and reduction of visibility impacts. The intent of the WRAP ESMP is to assist states to

address visibility effects associated with fire in a way that is adequate for a SIP. Appendix E–1 of the NM RH 309 SIP explains how the smoke management program in New Mexico meets the Enhanced Smoke Management Program (ESMP) policy and the Regional Haze Rule (RHR) requirements. The RH 309 SIP submittal and the submitted Smoke Management rule meet the requirements as described above.

5. Annual Emission Goal

We propose to find the submitted RH 309 SIP satisfies the requirements of 40 CFR 51.309(d)(6)(v) for ''annual emission goals for fire, excluding wildfire.'' In its RH 309 SIP, the state commits to minimizing emission increases in fire through the use of annual emission goals using the policies set out by *Western Regional Air Partnership Policy on Annual Emission Goals for Fire.* A copy of this policy can be found in the Appendix E–5 of the NM RH 309 SIP. The State will use a collaborative mechanism for setting annual emission goals and developing a process for tracking their attainment on a yearly basis. New Mexico will rely on emission reduction techniques (ERT), where appropriate, to minimize emission increases in fire within the State. The State will quantify the ERTs that are being used within New Mexico on a project-specific basis to reduce the total amount of emissions being generated from areas where prescribed fire is being used. 20.2.65 NMAC, requires the use of at least one ERT for all prescribed fires with emissions exceeding one ton of PM_{10} per day.

Based on our review of Section E and Appendix E of the state's RH 309 submittal, we propose to find the submitted SIP meets the 309(d)(6)(v) requirements. We also propose approval of the state's Smoke Management and Open Burning rules submitted to us on December 1, 2003.

I. Paved and Unpaved Road Dust

To meet the requirements of 40 CFR 51.309(d)(7), the submitted RH 309 SIP relies on the assessment WRAP performed on the impact of dust emissions from paved and unpaved roads on the 16 Class I areas of the Colorado Plateau. The WRAP modeled and calculated the significance of road dust in terms of the impact on visibility on the worst 20 percent days. The modeled regional impact of road dust emissions ranged from 0.31 deciviews at the Black Canyon of the Gunnison National Park to 0.08 deciviews at the Weminuche Wilderness Area. For more information on the WRAP modeling and assessment of road dust impacts see Appendix F of the NM RH 309 SIP submittal and Chapter 7 of the WRAP TSD.[38] Based on the WRAP modeling, the State has concluded in section F of the SIP that road dust is not a significant contributor to visibility impairment in the 16 Class I areas. We propose to agree that road dust is not a significant contributor to visibility impairment in the 16 Class I areas. Since the State has found that road dust is not a significant contributor to visibility impairment, there is no need to include road dust control strategies in the SIP pursuant to 40 CFR 51.309(d)(7). The State will track road dust emissions with the assistance of the WRAP and provide an update on paved and unpaved road dust emission trends, including any modeling or monitoring information regarding the impact of these emissions on visibility in the 16 Colorado Plateau Class I Areas. A description of the road dust emission tracking program is included in Appendix M–3 of the NM RH 309 SIP. These updates will include a reevaluation of whether road dust is a significant contributor to visibility impairment. These updates shall be part of the periodic implementation plan revisions pursuant to 40 CFR 51.309(d)(10). We propose to determine the submitted RH 309 SIP satisfies 40 CFR 51.309(d)(7).

J. Pollution Prevention

Under 40 CFR 51.309(d)(8), states must provide information on renewable energy and other pollution prevention efforts in the state. 40 CFR 51.309(d)(8) does not require states to adopt any new measures or regulations. We propose to find the information New Mexico provided in the RH 309 SIP submittal adequate to meet the requirements of 40 CFR 51.309(d)(8) as discussed below.

1. Description of Existing Pollution Prevention Program

Pursuant to 40 CFR 51.309(d)(8)(i), Tables G–1 through G–3 of the NM RH 309 SIP submittal summarize all pollution prevention programs currently in place in New Mexico (as of 2002). Appendix G summarizes all renewable energy capacity and production in use or planned in the State as of 2002, the total energy generation capacity and production in the State and the percent of that total that is renewable.

2. Incentive Programs

Per 40 CFR 51.309(d)(8)(ii), Table G–6 of the RH 309 SIP submittal identifies incentive programs in the State of New Mexico that reward efforts for early compliance or to go beyond compliance with air pollution related requirements. Table G–6 lists the Green Zia Environmental Excellence Program that encourages establishment of prevention-based environmental management systems. The 309 regional SO_2 backstop trading program allows for early reduction credits. Sources of SO_2 subject to the trading program that reduce emissions prior to the program trigger date shall receive early reduction bonus allocations (20.2.81.104E NMAC). The source may use such allowances for compliance purposes or may sell them to other parties.

3. Programs To Preserve and Expand Energy Conservation Efforts

Per 40 CFR 51.309(d)(8)(iii), Tables G–1 through G–5 of the NM RH 309 SIP submittal discuss the policies and programs within the State of New Mexico that preserve and expand energy conservation efforts and renewable energy.

4. Potential for Renewable Energy

Pursuant to 40 CFR 51.309(d)(8)(iv), the RH 309 SIP submittal contains an assessment of areas where there is the potential for renewable energy to supply power in a cost effective manner. Appendix G of the submitted RH 309 SIP summarizes the potential for renewable energy development in New Mexico.

5. Projections of Renewable Energy Goals, Energy Efficiency, and Pollution Prevention Activities

Pursuant to 40 CFR 51.309(d)(8)(v), the submitted RH 309 SIP uses projections made by the WRAP of the short and long-term emissions reductions, visibility improvements, cost savings, and secondary benefits associated with renewable energy goals, energy efficiency, and pollution prevention activities. (A complete description of these projections can be found in Appendix G of the NM RH 309 SIP.) The NM RH 309 SIP provides overall projections of visibility improvements for the 16 Class I areas (Table 2). These projections include the combined effects of all measures in this SIP, including air pollution prevention programs. Although emission reductions and visibility improvements from air-pollution prevention programs are expected at some level, they were not explicitly calculated because the resolution of the regional air quality modeling system is not currently sufficient to show any significant visibility changes resulting from the marginal nitrogen oxide emission

[38] WRAP Regional Technical Support Document for the Requirements of § 309 of the Regional Haze Rule (64 **Federal Register** 35714–July 1, 1999) revised May 7, 2008.

expected from air pollution prevention programs.

6. Programs To Achieve GCVTC Renewable Energy Goal

Pursuant to 40 CFR 51.309(d)(8)(vi), the submitted RH 309 SIP indicates the State will rely on current renewable energy programs as described in G–1 through G–5 and Appendix G of the SIP submittal to demonstrate progress in achieving the renewable energy goal of the GCVTC. The GCVTC's goal is that that renewable energy will comprise 10 percent of the regional power needs by 2005 and 20 percent by 2015. New Mexico will submit progress reports in 2013 and 2018, describing New Mexico's contribution toward meeting the GCVTC renewable energy goals. To the extent that it is not feasible for New Mexico to meet its contribution to these goals, the State will identify what measures were implemented to achieve its contribution, and explain why meeting its contribution was not feasible.

K. Additional Recommendations

As part of the 1996 GCVTC report to EPA, *Recommendations for Improving Western Vistas,*[39] the Commission included additional recommendations that EPA did not adopt as part of 40 CFR 51.309. Pursuant to 40 CFR 51.309(d)(9), the submitted RH 309 SIP has an evaluation of the additional recommendations of the GCVTC to determine if any of these recommendations could be practicably included in the SIP. The RH 309 SIP includes the determination that no additional measures were practicable or necessary to demonstrate reasonable progress in the SIP. Pursuant to 40 CFR 51.309(d)(9), the State will submit to EPA a progress report in 2013 and 2018 on the progress toward developing and implementing policy or strategy options recommended in the Commission report. We propose to determine the RH 309 SIP submittal meets the requirements of 40 CFR 51.309(d)(9).

L. Periodic Implementation Plan Revisions

Pursuant to 40 CFR 51.309(d)(10)(i), section I of the NM RH 309 SIP submittal requires the State to submit to EPA, as a SIP revision, periodic progress reports for the years 2013 and 2018. New Mexico will assess whether current programs are achieving reasonable progress in Class I areas that are affected by emissions from New Mexico sources. New Mexico will address the elements listed under 40 CFR 51.309(d)(10)(i)(A) through (G) in the progress reports.

Pursuant to 40 CFR 51.309(d)(10)(ii), the RH 309 SIP submittal provides that the state will take one of the following actions based upon information contained in each periodic progress report. The State will provide a negative declaration statement to EPA saying that no SIP revision is needed if New Mexico determines reasonable progress is being achieved. If New Mexico finds that the SIP is inadequate to ensure reasonable progress due to emissions from outside New Mexico, the State will notify EPA and the contributing state(s), and initiate efforts through a regional planning process to address the emissions in question. If New Mexico finds that the SIP is inadequate to ensure reasonable progress due to emissions from another country, New Mexico will notify EPA and provide information on the impairment being caused by these emissions. If New Mexico finds that the SIP is inadequate to ensure reasonable progress due to emissions from within the State, New Mexico will develop emission reduction strategies to address the emissions and revise the SIP no later than one year from the date that the progress report was due. We propose to determine the RH 309 SIP submittal adequately addresses the requirements of 40 CFR 51.309(d)(10) for future progress reports.

M. Interstate Coordination

Pursuant to 40 CFR 51.309(d)(11), the State has participated in regional planning and coordination with other states by participating in the WRAP, and participating in interstate coordination efforts with the City of Albuquerque-Bernalillo County while developing its emission reduction strategies under 40 CFR 51.309. The backstop trading program in the NM RH 309 SIP submittal and companion rules involved coordination of the three states (Wyoming, Utah, and New Mexico, including Albuquerque-Bernalillo County) in its development and will continue to involve coordination of the participants once it is implemented. We propose to determine the submitted RH 309 SIP is consistent with the 40 CFR 51.309(d)(11).

N. Additional Class I Areas

Pursuant to 40 CFR 51.309(g), New Mexico must demonstrate reasonable progress for mandatory Class I Federal areas other than the 16 Class I areas covered by the GCVTC. With the RH 309 SIP submittal discussed above, New Mexico submitted a separately marked ''309(g)'' SIP revision, supported by various technical appendices. As discussed below, we have evaluated the demonstration in the 309(g) SIP submittal of the expected visibility conditions for the most and least impaired days at the additional Class I areas based on emission projections from the long-term strategies in the implementation plan. We have also evaluated the provisions establishing reasonable progress goals for the additional class I areas as required by 40 CFR 51.309(g)(2), as detailed below. These provisions must comply with 40 CFR 51.308(d)(1) through (4).

1. Affected Class I Areas

In accordance with 40 CFR 51.308(d), NMED has identified nine Class I areas within its borders, Bandelier Wilderness Area, Bosque del Apache National Wildlife Refuge, Carlsbad Caverns National Park, Gila Wilderness, Pecos Wilderness, Salt Creek Wilderness, Wheeler Peak Wilderness, White Mountain Wilderness, and San Pedro Parks Wilderness Area. As discussed above, the San Pedro Parks Wilderness Area is the only Class I area included as one of the 16 Class I areas of the Colorado Plateau and visibility requirements for this area are covered under the NM RH 309 SIP submittal evaluated in the preceding sections. NMED has also determined that New Mexico emissions can impact visibility at Class I areas outside of New Mexico. NMED evaluated the impact of New Mexico emissions at Class I areas in Arizona, Colorado, Nevada, Utah, Texas and Wyoming, based on modeled visibility for 2002 and projections of visibility in 2018 for the 20% worst visibility days focusing on available source apportionment modeling data for nitrate and sulfate. The modeling results for the 2002 base year indicate that New Mexico emissions are responsible for up to 60% of the nitrate concentrations and 43% of the sulfate at individual Class I areas in neighboring states on the 20% worst visibility days. See our TSD that accompanies this notice and Chapter 12 of the NM RH 309(g) SIP for more information on New Mexico's impact at specific Class I areas in nearby states. We are proposing to find that New Mexico has appropriately identified the Class I areas within New Mexico and the Class I areas outside of New Mexico which may be affected by emissions from within New Mexico, as required by 40 CFR 51.308(d).

2. Determination of Baseline, Natural and Current Visibility Conditions

As required by section 51.308(d)(2)(i) of the RHR and consistent with EPA's

[39] Recommendations for Improving Western Vistas, Report of the Grand Canyon Visibility Transport Commission to the EPA, June 1996. Available at: *http://www.wrapair.org/WRAP/reports/GCVTCFinal.PDF.*

2003 Natural Visibility Guidance,[40] the RH 309(g) SIP submittal includes calculations of the baseline/current and natural visibility conditions for the additional Class I areas, on the most impaired and least impaired days, as summarized below (and further described in the TSD). The natural visibility conditions, baseline visibility conditions, and visibility impact reductions needed to achieve the natural visibility conditions are presented in Table 7 and further explained in this section. More detail is available in Chapter 6 of the NM RH 309(g) SIP submittal.

TABLE 7—BASELINE AND NATURAL VISIBILITY CONDITIONS AT NEW MEXICO'S CLASS I AREAS *

Class I area	IMPROVE Monitor	2064 Natural visibility conditions (dv)		Baseline visibility conditions (dv)		Difference (dv)	
		20% Worst days	20% Best days	20% Worst days	20% Best days	20% Worst days	20% Best days
Bandelier	BAND1	6.26	1.29	12.22	4.95	5.96	3.66
Bosque del Apache	BOAP1	6.73	2.16	13.80	6.28	7.07	4.12
Carlsbad Caverns	GUMO1	6.65	0.99	17.19	5.95	10.54	4.96
Gila Wilderness	GICL1	6.66	0.52	13.11	3.31	6.45	2.79
Pecos Wilderness, Wheeler Park.	WHPE1	6.08	[41] −0.57	10.41	1.22	4.33	1.79
Salt Creek	SACR1	6.81	2.12	18.03	7.84	11.22	5.72
White Mountains	WHIT1	6.8	0.66	13.70	3.55	6.90	2.89

* **Note:** Because the San Pedro Parks Wilderness Area is on the Colorado Plateau, it is not subject to the requirements of Section 51.309(g) and is therefore missing from this and other tables in this section. Baseline and projected visibility conditions for San Pedro Parks Wilderness Area can be found in Table 1.

a. Estimating Natural Visibility Conditions

Natural background visibility, as defined in EPA's 2003 Natural Visibility Guidance, is estimated by calculating the expected light extinction using default estimates of natural concentrations of fine particle components adjusted by site-specific estimates of humidity. This calculation uses the IMPROVE equation, which is a formula for estimating light extinction from the estimated natural concentrations of fine particle components (or from components measured by the IMPROVE monitors). As documented in EPA's 2003 Natural Visibility Guidance, EPA allows states to use ''refined'' or alternative approaches to 2003 EPA guidance to estimate the values that characterize the natural visibility conditions of Class I areas. One alternative approach is to develop and justify the use of alternative estimates of natural concentrations of fine particle components. Another alternative is to use the ''new IMPROVE equation'' that was adopted for use by the IMPROVE Steering Committee in December 2005.[42] The purpose of this refinement to the ''old IMPROVE equation'' is to provide more accurate estimates of the various factors that affect the calculation of light extinction.

NMED opted to use the WRAP calculations in which the default estimates for the natural conditions were combined with the ''new IMPROVE equation,'' for the Class I areas in New Mexico. This is an acceptable approach under our 2003 Natural Visibility Guidance. NMED used the new IMPROVE equation to calculate the ''refined'' natural visibility value for the 20 percent worst days and for the 20 percent best days.[43] The natural conditions for New Mexico's Class I areas are summarized in Table 7, above. We have reviewed NMED's estimate of the natural visibility conditions and propose to find it acceptable using the new IMPROVE equation.

The new IMPROVE equation takes into account the most recent review of the science [44] and it accounts for the effect of particle size distribution on light extinction efficiency of sulfate, nitrate, and organic carbon. It also adjusts the mass multiplier for organic carbon (particulate organic matter) by increasing it from 1.4 to 1.8. New terms are added to the equation to account for light extinction by sea salt and light absorption by gaseous nitrogen dioxide. Site-specific values are used for Rayleigh scattering (scattering of light due to atmospheric gases) to account for the site-specific effects of elevation and temperature. Separate relative humidity enhancement factors are used for small and large size distributions of ammonium sulfate and ammonium nitrate and for sea salt. The terms for the remaining contributors, elemental carbon (light-absorbing carbon), fine soil, and coarse mass terms, do not change between the original and new IMPROVE equations.

[40] Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule, EPA–454/B–03–005, September 2003.

[41] Negative deciview values correspond to total extinction less than 10 Mm^{-1}, and can occur in areas of high elevation with lower Rayleigh Scattering, WHPE1 is located at an elevation of 11,000 ft.

[42] The IMPROVE program is a cooperative measurement effort governed by a steering committee composed of representatives from Federal agencies (including representatives from EPA and the FLMs) and RPOs. The IMPROVE monitoring program was established in 1985 to aid the creation of Federal and State implementation plans for the protection of visibility in Class I areas. One of the objectives of IMPROVE is to identify chemical species and emission sources responsible for existing anthropogenic visibility impairment. The IMPROVE program has also been a key participant in visibility-related research, including the advancement of monitoring instrumentation, analysis techniques, visibility modeling, policy formulation and source attribution field studies.

[43] Natural Haze levels for Class I areas and information calculation methodology can be found at: *http://vista.cira.colostate.edu/improve/Data/IMPROVE/summary_data.htm.*

[44] Hand, J.L., and Malm, W.C., 2006, *Review of the IMPROVE Equation for Estimating Ambient Light Extinction Coefficients—Final Report.* March 2006. Prepared for Interagency Monitoring of Protected Visual Environments (IMPROVE), Colorado State University, Cooperative Institute for Research in the Atmosphere, Fort Collins, Colorado, available at *http://vista.cira.colostate.edu/improve/publications/GrayLit/016_IMPROVEeqReview/IMPROVEeqReview.htm* and Pitchford, Marc., 2006, *Natural Haze Levels II: Application of the New IMPROVE Algorithm to Natural Species Concentrations Estimates.* Final Report of the Natural Haze Levels II Committee to the RPO Monitoring/Data Analysis Workgroup. September 2006, available at *http://vista.cira.colostate.edu/improve/Publications/GrayLit/029_NaturalCondII/naturalhazelevelsIIreport.ppt.*

b. Estimating Baseline Visibility Conditions

As required by section 51.308(d)(2)(i) of the RHR and consistent with EPA's 2003 Natural Visibility Guidance,[45] the 309(g) SIP submittal calculates baseline visibility conditions for the eight additional Class I areas. The baseline condition calculation begins with the calculation of light extinction, using the IMPROVE equation. The IMPROVE equation sums the light extinction [46] resulting from individual pollutants, such as sulfates and nitrates. As with the natural visibility conditions calculation, NMED chose to use the new IMPROVE equation.

The period for establishing baseline visibility conditions is 2000–2004, and baseline conditions must be calculated using available monitoring data. 40 CFR 51.308(d)(2). NMED calculated the baseline conditions at the Class I areas on the 20 percent worst days and 20 percent best days using available monitoring data for each Class I area. We have reviewed NMED's estimation of baseline visibility conditions and propose to find it acceptable.

c. Natural Visibility Impairment

To address the requirements of 40 CFR 51.308(d)(2)(iv)(A), the 309(g) SIP submittal also calculated the number of deciviews by which baseline conditions exceed natural visibility conditions at the State's Class I areas. These results are summarized in Table 7. We have reviewed NMED's estimate of the natural visibility impairment and propose to find it acceptable.

d. Uniform Rate of Progress

In setting the RPGs, the 309(g) SIP submittal analyzes and determines the Uniform Rate of Progress (URP) needed to reach natural visibility conditions by the year 2064 for the 20% worst days (Table 8). In so doing, NMED compared the baseline visibility conditions to the natural visibility conditions at each Class I area within the State (as described above) and determined the amount of improvement necessary to attain natural visibility conditions. The uniform rate of progress is calculated as the rate of improvement needed to attain natural visibility conditions for the 20% worst days by 2064 as described in Section 6.5 of the NM RH 309(g) SIP. NMED constructed the uniform rate of progress consistent with the requirements of the Regional Haze Rule and consistent with our 2003 Tracking Progress Guidance by plotting a straight graphical line from the baseline level of visibility impairment for 2000–2004 to the level of visibility conditions representing no anthropogenic impairment in 2064 for each New Mexico Class I area. The uniform rates of progress are summarized in Table 8 and further described below. We propose to find that NMED in its 309(g) SIP submittal has appropriately calculated the URP.

3. Evaluation of New Mexico's Reasonable Progress Goals

In order to establish reasonable progress goals for New Mexico's Class I areas and to determine the controls needed for the LTS, New Mexico followed the process established in the Regional Haze Rule. First, New Mexico identified the anticipated visibility improvement in 2018 in the New Mexico Class I areas using the WRAP Community Multi-Scale Air Quality (CMAQ) photochemical grid modeling results. This modeling identified the extent of visibility improvement from the baseline by pollutant for each Class I area. The modeling relied on projected source emission inventories, which included enforceable federal and state regulations already in place and assumptions of BART controls. New Mexico, through the WRAP, then identified the source categories that are major contributors to visibility impairment and evaluated controls for these sources based on a consideration of the factors identified in the CAA and EPA's regulations. See CAA 169A(g)(1) and 40 CFR 51.308(d)(1)(i)(A). Based on this analysis, the submitted 309(g) SIP sets the reasonable progress goals for each Class I area and compared the reasonable progress goals for each area to the 2018 uniform rate of progress.

- The submitted 309(g) SIP includes New Mexico's analysis and conclusion that reasonable progress will be made by 2018, including an analysis of pollutant trends, emission reductions, and improvements expected. The reasonable progress discussion and analyses are included in Chapter 11 of the NM RH 309(g) SIP. We have evaluated the 309(g) SIP submittal, and we are proposing to approve New Mexico's submitted reasonable progress goals as described more fully below. At the outset, however, we note that because we are not proposing action to approve or disapprove the submitted NO_X BART determination for SJGS, the RPGs are evaluated with the understanding that NO_X BART requirements for that source are presently satisfied by the requirements of 40 CFR § 52.1628. We expect future emission reductions will be achieved in compliance with the existing Federal implementation plan or in compliance with the terms of a future-approved NO_X BART determination for SJGS determined to be consistent with RHR requirements. In the absence of any proposed action on the submitted NO_X BART determination, we deem the RPGs to be approvable, as described more fully below. The reductions at the SJGS achieved in compliance with the existing Federal implementation plan or anticipated due to any other future-approved NO_X BART determination consistent with the RHR requirements will result in greater visibility improvements than projected in the WRAP modeling used to establish the reasonable progress goals included in the 309(g) SIP submittal. If the basis for evaluation of the RPGs were to change, as for example if we were to take final action approving or disapproving the submitted NO_X BART determination for SJGS, we recognize that a reevaluation of this proposal may be warranted.

a. WRAP Visibility Modeling

The primary tool WRAP relied upon for modeling regional haze improvements by 2018, and for estimating New Mexico's Reasonable Progress Goals, was the CMAQ model. The CMAQ model was used to estimate 2018 visibility conditions in New Mexico and all Western Class I areas, based on application of anticipated regional haze strategies in the various states' regional haze plans, including some assumed controls on BART sources.[47]

The Regional Modeling Center (RMC) at the University of California Riverside conducted the CMAQ modeling under the oversight of the WRAP Modeling Forum. The Regional Modeling Center developed air quality modeling inputs including annual meteorology and emissions inventories for: (1) A 2002 actual emissions base case, (2) a planning case to represent the 2000–2004 regional haze baseline period using averages for key emissions categories, and (3) a 2018 base case of projected emissions determined using factors known at the end of 2005. All emission inventories were spatially and

[45] Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule, EPA–454/B–03–005, September 2003.

[46] The amount of light lost as it travels over one million meters. The haze index, in units of deciviews (dv), is calculated directly from the total light extinction, b_{ext} expressed in inverse megameters (Mm^{-1}), as follows: $HI = 10 \ln(b_{ext}/10)$.

[47] We provide a more detailed discussion on the WRAP modeling in section IV.E.3 below and in *Technical Support Document for Technical Products Prepared by the Western Regional Air Partnership (WRAP) in Support of Western Regional Haze Plans,* EPA Regions 6, 8, 9, and 10, February 28, 2011, available in the docket as Appendix A to the TSD.

temporally allocated using the Sparse Matrix Operator Kernel Emissions (SMOKE) modeling system. Each of these inventories underwent a number of revisions throughout the development process to arrive at the final versions used in CMAQ modeling. A description of the CMAQ modeling performed by WRAP can be found in Chapter 9 of the NM RH 309(g) SIP submittal (for details on the WRAP photochemical modeling refer to the WRAP Technical Support Document [48] and our review of the technical products developed by the WRAP for the States in the western region, in support of their RH SIPs [49]). A detailed discussion of the emission inventories and modeling is also included in a subsequent section on long term strategy.

b. NMED's Reasonable Progress ''Four Factor'' Analysis

Sections 51.309(g) and 51.308(d)(1)(i)(A) require that in establishing a reasonable progress goal for any mandatory Class I Federal area within the State, the State must: consider the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources, and include a demonstration showing how these factors were taken into consideration in selecting the goal. The four factor analysis is used to identify and evaluate potential emission control strategies for facilities. For SO_2, the State of New Mexico has addressed visibility impairment associated with this pollutant under the separate 309 SIP submitted to EPA and evaluated above. New Mexico's participation in the SO_2 emissions milestone and backstop trading program will result in reductions in SO_2 emissions. To evaluate any additional measures necessary to demonstrate reasonable progress, NMED relied on an analysis prepared for the WRAP for specific source types throughout the WRAP states.[50] The WRAP identified reciprocal internal combustion engines and turbines, oil and gas exploration and production field operations, natural gas processing operations, industrial boilers, cement kilns, sulfuric acid manufacturing plants, pulp and paper lime kilns, and oil refineries as the major emission sources in the WRAP states to analyze for potential controls under the four factor analysis. NMED did not identify any additional reductions in their evaluation of the WRAP analysis. In the RH 309(g) SIP submittal, NMED commits to conduct further research to evaluate non-BART sources for possible emission controls and retrofits for the next Plan update in 2013.[51]

NMED also requested an additional analysis be done on specific sources in New Mexico.[52] This analysis included evaluation of selected sources at 3 petroleum refineries in New Mexico, (1) Navajo Refining Co., Artesia Refinery—Fluid Catalytic Cracking Unit (FCCU) #1, catalyst regeneration and process heater, (2) Western Refining Southwest, Bloomfield Refinery—FCCU #1, catalyst regeneration and process heater, and (3) Western Refining Southwest, Gallup Refinery—CO Boiler Unit #1. After evaluation of the four factors (Section 11.2.3 of the NM RH 309(g) SIP), the 309(g) SIP submittal includes a determination that due to the controls currently installed at the FCCU at the Artesia Refinery and the low level of emissions, additional controls at this source are unnecessary at this time. The Bloomfield Refinery has been in suspended operations since November 2009. The Bloomfield FCCU is subject to NO_X and SO_2 reductions according to the Catalyst Additive Program required by an Amended Stipulation and Final Order (AFSO) [53] as the result of an enforcement action. The 309(g) SIP submittal includes a determination that additional controls to address regional haze are not necessary at this source at this time due to the stringent emission limits already required by the Catalyst Additive Program. The FCCU at the Gallup Refinery is also subject to the Catalyst Additive Program and was required to decrease FCCU NO_X to 20 ppmvd and SO_2 to 25 ppmvd (both at 0% O_2) by December 31, 2010. The boiler will meet an emission rate of 0.04 lb/MMBtu after modifications including Low-NO_X burners. The 309(g) SIP submittal includes a determination that additional controls at this source to address regional haze are unnecessary at this time due to the stringent emission limits already required by the Catalyst Additive Program.

The submitted 309(g) SIP includes an analysis that considered the four statutory factors under 40 CFR 51.308(d)(1)(i)(A) to evaluate the potential of controlling certain sources or source categories for addressing visibility impacts from man-made sources within its borders. We propose to find that the submitted 309(g) four factor analysis meets the requirements under 40 CFR 51.308(d)(1)(i)(A).

c. Establishment of the Reasonable Progress Goal

40 CFR 308(d)(1) of the Regional Haze Rule requires States to ''establish goals (in deciviews) that provide for reasonable progress towards achieving natural visibility conditions'' for each Class I area of the State. These reasonable progress goals are interim goals that must provide for incremental visibility improvement for the most impaired visibility days, and ensure no degradation for the least impaired visibility days. The reasonable progress goals for the first planning period are goals for the year 2018.

Based on (1) The results of the WRAP CMAQ modeling, (2) the results of the four-factor analysis of 3 New Mexico refineries and major source categories, and (3) the emission controls on New Mexico's one BART source and other BART sources in nearby States, the 309(g) SIP submittal establishes reasonable progress goals for the most impaired days for the New Mexico Class I areas.

NMED relied on the 2018 projected visibility conditions from the WRAP photochemical modeling to establish RPGs for the 20% best days and 20% worst days for each Class I area. NMED's RPGs establish a slower rate of progress than the URP for each Class I area. NMED has calculated the number of years it would take to attain natural visibility conditions under the rate of progress selected by the State as reasonable (Table 8). As we discuss below, NMED indicated that emissions from wildfires, windblown dust, and/or emissions from other states and Mexico, impede New Mexico's ability to meet the URPs. See the TSD and Section 11.3 of the NM RH 309(g) SIP for a detailed discussion of the RPGs.

[48] WRAP Regional Technical Support Document for the Requirements of § 309 of the Regional Haze Rule (64 **Federal Register** 35714—July 1, 1999) revised May 7, 2008.

[49] Our review of the technical products developed by the WRAP is available as *Technical Support Document for Technical Products Prepared by the Western Regional Air Partnership (WRAP) in Support of Western Regional Haze Plans,* Regions 6, 8, 9, and 10, February 28, 2011, Appendix A to the TSD to this action.

[50] Supplementary Information for Four Factor Analyses by WRAP States, prepared by EC/R Incorporated, May 4, 2009 and corrected April 20, 2010, available as Appendix E to the NM RH 309(g) SIP.

[51] For example, New Mexico is evaluating and testing control strategies for emissions associated with oil and gas exploration and production to incorporate in future SIP updates. Control options for ozone are being evaluated simultaneously and the State believes that many co-benefits from controlling emissions for ozone will supplement the regional haze program.

[52] Supplementary Information for Four-Factor Analyses for Selected Individual Facilities in New Mexico, prepared by EC/R Incorporated, May 5, 2009. Available as Appendix F to the NM RH 309(g) SIP.

[53] NMED Stipulation and Final Order No. AQCA 02–09 (CO) and No. AQCA 05–22 (CO), August 2, 2005.

TABLE 8—URP, RPG AND YEARS TO NATURAL CONDITIONS FOR 20% WORST DAYS

Class I area	Baseline (dv)	Projected 2018 (RPG)	Natural conditions	Uniform rate of progress (dv/yr)	Rate of improvement under RPG	Years to natural conditions
Bandelier	12.22	11.9	6.26	0.099	0.0229	261
Bosque del Apache	13.80	13.59	6.73	0.118	0.0150	397
Carlsbad Caverns	17.19	16.93	6.65	0.176	0.0186	321
Gila Wilderness	13.11	12.99	6.66	0.108	0.0086	695
Pecos Wilderness, Wheeler Park	10.41	10.23	6.08	0.072	0.0129	464
Salt Creek	18.03	17.33	6.81	0.187	0.0500	119
White Mountains	13.70	13.27	6.8	0.115	0.307	194

The WRAP's projections for the 20% best and 20% worst days represent the RPGs for the 20% best and 20% worst days for the Class I areas in New Mexico are shown in Table 11–8 of the NM RH 309(g) SIP and reproduced below in Table 9.

TABLE 9—NEW MEXICO'S RPGS FOR THE 20% BEST AND WORST DAYS IN 2018

Class I area	20% Worst days			20% Best days	
	Baseline (dv)	2018 Uniform progress goal (dv)	2018 RPG (dv)	Baseline (dv)	2018 RPG (dv)
Bandelier	12.22	10.83	11.9	4.95	4.89
Bosque del Apache	13.80	12.15	13.59	6.28	6.1
Carlsbad Caverns	17.19	14.73	16.92	5.95	6.12
Gila Wilderness	13.11	11.61	12.99	3.31	3.2
Pecos Wilderness, Wheeler Park	10.41	9.40	10.23	1.22	1.12
Salt Creek	18.03	15.41	[54] 17.31	7.84	7.43
White Mountains	13.70	12.09	13.26	3.55	3.41

40 CFR 308(d)(1) requires that the reasonable progress goals must provide for an improvement in visibility for the 20% worst days and ensure no degradation of visibility on the 20% best days. NMED established reasonable progress goals that show an improvement over baseline conditions on the 20% worst days at all 8 Class I areas. With the exception of Carlsbad Caverns, all Class I areas also show no degradation on the 20% best days.

For Carlsbad Caverns, NMED provided modeling data that demonstrates that significant projected growth in emissions by 2018 from Mexico are responsible for the degradation in visibility conditions on the 20% best days at this Class I area (Section 11.3.3 of the NM RH 309(g) SIP submittal). WRAP visibility modeling results with Mexico emissions held constant from 2002 to 2018 show a slight improvement in visibility conditions at Carlsbad Caverns on the 20% best days. NMED also provides results of the Weighted Emissions Potential (WEP) analysis preformed by the WRAP that is based on emissions and residence time, rather than modeling. This analysis shows that the projected 2018 emissions of sulfur dioxide that potentially impact Carlsbad on the 20% best days from Mexico are much greater than emissions from other regions (See figures 11–3 and 11–4 of the submitted NM RH 309(g) SIP). The WRAP WEP analysis is described in more detail in section V.N.4.c. below. NMED notes that IMPROVE Monitor data for the Carlsbad Caverns Class I area, however, shows improvement in visibility conditions on the 20% best days since the baseline period. Due to the high level of uncertainty in projected Mexico emissions, the monitored improvement, and the lack of jurisdictional control over these Mexican emissions, the submitted 309(g) SIP found this RPG for Carlsbad to be reasonable. We agree with this assessment.

As explained in the submitted 309(g) SIP, New Mexico believes the reasonable progress goals it established for the New Mexico Class I areas on the 20% worst days are reasonable, and that it is not reasonable to achieve the glide path in 2018. In support of this conclusion, New Mexico includes a discussion of the pollutant contributions and the sources of visibility impairment at each Class I area and compares the RPGs to the URP goal on a pollutant specific basis (see Section 11.3 of the NM RH 309(g) SIP). The factors that New Mexico considered are summarized as: (1) For all of New Mexico's Class I areas, the contribution to visibility impairment from organic mass carbon (OMC) and/or coarse mass (CM) from natural sources that cannot be controlled is significant. Section V.N.4.c below discusses the sources of visibility impairment at each Class I area and the percent contribution from OMC and CM; (2) Sources outside the modeling domain and in Mexico contribute significantly to nitrate and sulfate at New Mexico's Class I areas. Sources in Mexico are not under the control of New Mexico and are projected to increase by 2018. This increase restricts the amount of progress achievable, particularly at those Class I areas located in Southern New Mexico. Section V.N.4.c below discusses the sources of visibility impairment at each Class I area and the percent contribution from Mexico and outside the modeling domain; (3) Controls on oil and gas emission sources are being evaluated and are anticipated to be in place over the next ten years. These emission reductions will allow for increased improvement in visibility conditions at those Class I areas located near oil and gas production regions in the State; and

[54] Corrected from 17.07 dv in the NM RH 309 (g) SIP Table 11–8 based on model projections data from the WRAP TSS for Salt Creek based on the PRP18b emission inventory. Model results using the PRP18a emission inventory project visibility impairment at Salt Creek to be 17.07 dv in 2018.

(4) Reductions due to NO_X BART will further improve visibility at Class I areas.

d. Reasonable Progress Consultation

NMED relied on the WRAP as its main vehicle for facilitating collaboration with FLMs and other states in developing its RH 309 SIP. NMED was able to use WRAP generated products, such as regional photochemical modeling results and visibility projections, and source apportionment modeling to assist in identifying neighboring states' contributions to the visibility impairment at New Mexico's Class I areas. The technical analyses and emission inventories developed by the WRAP are documented in the WRAP TSD and available online at the WRAP Technical Support System.[55] [56]

New Mexico consulted through the WRAP, and relied on the technical tools, policy documents, and other products that all Western states used to develop their regional haze plans. The WRAP Implementation Work Group was one of the primary collaboration mechanisms. All the states relied upon similar emission inventories, results from source apportionment studies and BART modeling, review of IMPROVE monitoring data, existing state smoke management programs, and other information in assessing the extent to which each state contributes to visibility impairment in other states' Class I areas. 40 CFR 51.308(d)(3)(ii) of the Regional Haze Rule requires a state to demonstrate that its regional haze plan includes all measures necessary to obtain its fair share of emission reductions needed to meet reasonable progress goals. Based on the consultation described above, New Mexico identified no major contributions that supported developing new interstate strategies, mitigation measures, or emission reduction obligations. New Mexico determined that the implementation of BART and other existing measures in state regional haze plans were sufficient for the states to meet the reasonable progress goals for their Class I areas, and that future consultation would address any new strategies or measures needed, and all states participating in the consultations agreed. We are proposing to find that New Mexico has satisfied the requirement under sections 51.309(g) and 51.308(d)(1)(iv) to consult with other states that may reasonably be anticipated to cause or contribute to visibility impairment at New Mexico's Class I areas.

e. Our Conclusion on New Mexico's Reasonable Progress Goals

Section 11.3 of the NM RH 309(g) SIP provides NMED's demonstration that the RPGs established by NMED provide reasonable visibility improvement though they provide for less improvement than the uniform rate of progress. We evaluated the analysis provided by NMED along with the WRAP modeling results, WRAP emission inventories and other information in examining the RPGs established by NMED. We preliminarily reach the following conclusions:

- NMED's analysis demonstrates that the predominant pollutants that affect the State's ability to meet the URP goals are OMC, CM and sulfate (SO4). OMC and CM emissions are primarily from naturally occurring wildfires and wind-blown dust. Figure 11–12 of the NM RH 309(g) SIP submittal identifies the source categories that contribute to emissions of OMC and CM that impact the State's Class I areas. Over 70% of OMC emissions are due to natural fires. More than 65% of CM emissions are from wind-blown dust. The State has developed Natural Event Action Plans that include measures to address anthropogenic sources of windblown dust during high wind events. However, windblown dust emissions that are both directly associated with anthropogenic activities and are controllable have a minimal effect on visibility at New Mexico's Class I areas compared to other sources of windblown dust. Because the State has limited ability to control these sources of visibility impairment, OMC and CM emissions will continue to impact visibility at New Mexico's Class I areas and limit the visibility improvement achievable during the planning period. Because of the difficulty and uncertainty in estimating emissions of windblown dust and the limited ability to control these emissions, windblown dust emissions are held constant from 2002 to 2018. Other sources of CM including fugitive dust and road dust emissions are projected to increase by 2018, however, these increases contribute to only a 4% increase in total CM emissions in 2018. We also note that because visibility modeling performance for CM was poor, projected CM visibility impacts for 2018 were kept at 2002 levels.[57]
- In addressing visibility impairment due to sulfate emissions we analyzed the emission inventories developed by the WRAP. We note that New Mexico seeks approval for participation in the SO_2 emissions milestone and backstop trading program that applies to all stationary sources that emit greater than 100 tpy of SO_2 and will result in emission reductions of SO_2 between 2002 and 2018. Our analysis of the WRAP emission inventories used in the photochemical modeling to project visibility conditions revealed an overestimation of area source SO_2 emissions from New Mexico. In particular, emissions for Bernalillo County were much higher than current emissions and emission trends would suggest (See the TSD for a summary of Bernalillo County emission estimates). WRAP emission projections include a 200% increase in New Mexico's statewide area source SO_2 emissions, primarily in Bernalillo County, while no other WRAP state is projected to have an increase in area source SO_2 emissions greater than 50%. Bernalillo County emission estimates reported to the National Emission Inventory are much lower than those in the 2002 WRAP emission inventory and show a trend of decreasing emissions from 2002 to 2008. In development of the 2018 emission projections, WRAP used the EPA model EGAS to estimate growth for some area sources. This model can over predict area source growth by using a simple multiplier and does not take into account additional regulatory requirements, both federal and state, in the analysis. This over prediction in area source SO_2 emissions in New Mexico in the 2018 WRAP modeling results in overall less modeled visibility improvement than would be anticipated with the much lower rate of growth in emissions anticipated by 2018 and overestimates the contribution of New Mexico emissions to visibility impairment at Class I areas in 2018. Furthermore, these SO_2 emissions are also overestimated in the 2002 emission inventory and leads to an overestimate of the contribution of New Mexico emissions to visibility impairment at Class I areas in 2002. Refer to the TSD for detailed information on the WRAP emission estimates and source apportionment modeling for SO_2 area source emission at each Class I area.

[55] *http://vista.cira.colostate.edu/tss/.*

[56] *Technical Support Document for Technical Products Prepared by the Western Regional Air Partnership (WRAP) in Support of Western Regional Haze Plans,* EPA Regions 6, 8, 9, and 10, February 28, 2011, Appendix A to the TSD to this action.

[57] All CM relative response factors (RRF) were set to a value of 1 when projecting course matter visibility impacts to the future year 2018, regardless of the future year modeling results. For more information see our review of the technical products developed by the WRAP that is available as *Technical Support Document for Technical Products Prepared by the Western Regional Air Partnership (WRAP) in Support of Western Regional Haze Plans,* EPA Regions 6, 8, 9, and 10, February 28, 2011, Appendix A to the TSD for this action.

• Contributions of NO_X and SO_2 from Mexico point sources are also significant and are anticipated to increase by 2018. These emissions are not under the jurisdiction of NMED and will limit the rate of progress achievable on the 20% worst days. For the 20% best days, growth in emissions from Mexico results in a slight projected degradation in visibility conditions at the Carlsbad Caverns Class I area. We note that monitored data shows that visibility conditions have improved at this area from the baseline period.

• The San Juan Generating Station is by far the largest point source of NO_X and SO_2 emissions under NMED jurisdiction. Due to reductions required by the consent decree and by the implementation of BART, significant reductions in SO_2 and NO_X emissions from 2002 values will occur. Implementation of NO_X BART will result in more reductions than those included in the WRAP 2018 modeling. The FIP limits NO_X emissions to 0.05 lb/MMBtu, resulting in an approximate 83% reduction in NO_X from the emission limit the facility is currently complying with (0.3 lb/MMBtu). We note that NMED's submitted NO_X BART determination though not under review for this proposal and not legally effective unless it is approved would require control rates below the future year projected NO_X emissions for the source developed in the WRAP consultation process. The reductions at the SJGS achieved in compliance with the existing federal implementation plan or anticipated due to any other future-approved NO_X BART determination consistent with the RHR requirements will result in greater visibility improvements than projected in the WRAP visibility modeling relied upon to establish the reasonable progress goals included in the 309(g) SIP submittal. Through the WRAP consultation process, New Mexico provided the anticipated future year projected NO_X emissions from the SJGS to be 0.27 lb/MMBtu for units 1 and 3 and 0.28 lb/MMBtu for units 2 and 4. These values were used in the 2018 emission inventory and the WRAP modeling used to determine the RPGs. Consequently, implementation of NO_X BART at the SJGS will result in greater reasonable progress than is anticipated in the analysis included in the NM RH 309(g) SIP submittal.

• In addition to NO_X BART at SJGS, NO_X reductions at another large power plant within the State (Four Corners Power Plant) that lies on tribal lands, outside of the jurisdiction of NMED, are anticipated as the result of a BART determination that is part of a FIP. These two BART determinations represent significant reductions in NO_X emissions at the largest emission sources within the State.

Based on the above considerations, we propose to agree with New Mexico's conclusion that it is not reasonable to meet the uniform rate of progress for its Class I areas, and we propose approval of New Mexico's analysis and reasonable progress goals. In setting its RPGs for its Class I areas for the 20% worst days, New Mexico relied on certain NO_X emission reductions at the SJGS that may underestimate the reductions to be achieved. NO_X BART is an element of the long term strategy necessary to achieve the reasonable progress goals. Whether the existing federal implementation plan or another future-approved NO_X BART determination consistent with the RHR requirements is in place, we expect the state to include any corrections and updates to emission reductions in its next Regional Haze SIP with updated modeling to quantify the visibility improvement that results from all emission reduction measures in place by 2018.

4. Long-Term Strategy

As described in section III.L.3. of this action, the long-term strategy (LTS) is a compilation of state-specific control measures relied on by the state for achieving its RPGs. The LTS must include ''enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals'' for all Class I areas within, or affected by emissions from, the state. 40 CFR 51.308(d)(3). New Mexico's LTS for the first implementation period addresses the emissions reductions from federal, state, and local controls that take effect in the state from the end of the baseline period starting in 2004 until 2018. The New Mexico LTS was developed by NMED, in coordination with the WRAP RPO, through an evaluation of the following components: (1) Construction of a WRAP 2002 baseline emission inventory; (2) construction of a WRAP 2018 projected emission inventory, including reductions from WRAP member state controls required or expected under federal and state regulations (including BART); (3) modeling to determine visibility improvement and apportion individual state contributions; (4) state consultation; and (5) application of the LTS factors. The State's detailed long-term strategy is included in Chapter 12 of the NM RH 309(g) SIP.

a. Emissions Inventory

40 CFR 51.308(d)(3)(iii) requires that New Mexico document the technical basis, including modeling, monitoring and emissions information, on which it relied upon to determine its apportionment of emission reduction obligations necessary for achieving reasonable progress in each mandatory Class I Federal area it affects. New Mexico must identify the baseline emissions inventory on which its strategies are based. Section 51.308(d)(3)(iv) requires that New Mexico identify all anthropogenic sources of visibility impairment considered by the state in developing its long-term strategy. This includes major and minor stationary sources, mobile sources, and area sources. New Mexico addressed these requirements by relying on technical analyses developed by its RPO, WRAP and approved by all state participants, as described below.

Bernalillo County, New Mexico falls under the jurisdiction of the Albuquerque Air Quality Control Board (AQBC). The AQBC staff participated in meetings with the State of New Mexico staff to coordinate its efforts with the State of New Mexico in developing its separate 309 SIP. The WRAP emission inventory for New Mexico and source apportionment modeling results includes emissions from all of New Mexico, including Bernalillo County. For emission inventory data excluding Bernalillo County, refer to Chapter 8 of the NM RH 309(g) SIP submittal.

The emissions inventory used in the RH technical analyses was developed by WRAP with assistance from New Mexico using approved EPA methods. Emissions within New Mexico are both naturally occurring and man-made. Two primary sources of naturally occurring emissions in New Mexico include wildfires and windblown dust. An emissions inventory for each visibility impairing pollutant was developed by WRAP for New Mexico for the baseline year 2002 and for 2018, which is the first reasonable progress milestone. NMED and the WRAP developed an emission inventory for anthropogenic sources (point, stationary area, mobile, road dust, prescribed and agricultural fire) as well as other sources for the baseline year of 2002. See Chapter 8 and Appendix A of the NM RH 309(g) SIP submittal and Appendix A of our TSD for details on how the 2002 emissions inventory was constructed. The 2018 emissions inventory was then developed by projecting the 2002 emissions to 2018 and applying reductions expected from federal and state regulations affecting the emissions

of the visibility-impairing pollutants NO_X, SO_2,, volatile organic compounds (VOCs), primary organic aerosol (POA), elemental Carbon (EC), fine particulate matter (Soil—$PM_{2.5}$), CM, and ammonia (NH_3).

i. New Mexico's 2002 Emission Inventory

New Mexico's 2002 emissions inventory is summarized below in Table 10:

TABLE 10—NEW MEXICO'S 2002 EMISSIONS INVENTORY

[Including Bernalillo County]

Source category	SO_2	NO_X	VOCs	POA	EC	Soil	CM	NH_3
Point	37,918	100,398	17,574	978	13	1,180	2,286	75
Anthropogenic Fire	94	396	608	682	123	87	105	75
Natural Fire	2,729	8,613	18,846	16,272	3,293	1,223	5,400	1,875
Biogenic	0	42,139	1,016,487	0	0	0	0	0
Area	5,433	25,140	49,010	2,529	301	2,821	695	29,959
WRAP Area O&G	250	56,210	224,268	0	0	0	0	0
On-Road Mobile	2,066	67,835	38,768	653	756	0	403	2,132
Off-Road Mobile	3,846	45,311	13,580	563	1,526	0	0	26
Road Dust	4	1	0	114	9	1,305	11,074	0
Fugitive Dust	6	7	0	360	24	6,751	51,533	0
Wind Blown Dust	0	0	0	0	0	16,399	147,589	0
Total	52,347	346,050	1,379,410	22,151	6,046	29,765	219,086	34,141

We propose that New Mexico's 2002 emission inventory is acceptable for the purpose of developing the LTS. We note, however that some issues have been identified in the emission inventory as discussed above in Section V.N.3.e, that must be considered when analyzing the results of modeling analysis prepared using this inventory.

ii. New Mexico's 2018 Emission Inventory

In general, NMED used a combination of our Economic Growth Analysis System (EGAS 5), our mobile emissions factor model (MOBILE 6), our off-road emissions factor model (NONROAD), and the Integrated Planning Model (IPM) for electric generating units in constructing its 2018 emission inventory. More specifically, the WRAP developed emissions for a number of inventory source classifications: Point, area, non-road and on-road mobile sources, biogenic sources, anthropogenic and natural fire, road and fugitive dust, and area oil and gas emissions. The WRAP used its 2002 emission inventory, described above, to project emissions forward to 2018. Reductions expected from federal and state regulations were included in the inventory. See Chapter 8 of the NM RH 309(g) SIP and Appendix A of our TSD for more details on how the 2018 emissions inventory was constructed. The WRAP 2018 Base Case emission inventory (referred to as the Base18b emission inventory) reflects growth plus all controls ''on the books'' as of December 2004. The WRAP 2018 Preliminary Reasonable Progress Case (referred to as the PRP18b emission inventory) reflects refined growth estimates, all controls ''on the books'' as of 2007, and includes presumptive or known SO_2 BART controls. Emission inventory data summarized below is based on the PRP18b emission inventory. New Mexico's 2018 emissions inventory (including Bernalillo County emissions) is summarized in Table 11. Tables 12 and 13 summarize the projected change in emissions from 2002 to 2018 in the WRAP emission inventories.

TABLE 11—NEW MEXICO'S 2018 EMISSIONS INVENTORY

[Including Bernalillo County]

Source category	SO_2	NO_X	VOCs	POA	EC	Soil	CM	NH_3
Point	31,270	73,417	26,308	243	13	1,148	2,142	118
Anthropogenic Fire	72	263	388	442	85	44	63	42
Natural Fire	2,729	8,613	18,846	16,271	3,293	1,223	5,400	1,875
Biogenic	0	42,139	1,016,487	0	0	0	0	0
Area	16,285	33,931	70,566	2,848	374	3,644	1,231	30,233
WRAP Area O&G	12	74,648	267,846	0	0	0	0	0
On-Road Mobile	334	19,746	15,554	656	205	0	464	2,877
Off-Road Mobile	313	28,471	8,942	358	743	0	0	36
Road Dust	6	2	0	153	13	1,751	14,857	0
Fugitive Dust	7	7	0	366	25	7,026	56,533	0
Wind Blown Dust	0	0	0	0	0	16,399	147,589	0
Total	51,028	281,236	1,424,936	21,338	4,750	31,235	228,279	35,181

TABLE 12—CHANGE (TPY) IN NEW MEXICO EMISSIONS FROM 2002 TO 2018

[Including Bernalillo County]

Source category	SO_2	NO_X	VOCs	POA	EC	Soil	CM	NH_3
Point	−6,648	−26,981	8,734	−735	0	−32	−144	43
Anthropogenic Fire	−22	−133	−220	−240	−38	−43	−42	−33
Natural Fire	0	0	0	−1	0	0	0	0
Biogenic	0	0	0	0	0	0	0	0
Area	10,852	8,791	21,556	319	73	823	536	274
WRAP Area O&G	−238	18,438	43,578	0	0	0	0	0
On-Road Mobile	−1,732	−48,089	−23,214	3	−551	0	61	745
Off-Road Mobile	−3,533	−16,840	−4,638	−205	−783	0	0	10
Road Dust	2	1	0	39	4	446	3,783	0
Fugitive Dust	1	0	0	6	1	275	5,000	0
Wind Blown Dust	0	0	0	0	0	0	0	0
Total	−1,319	−64,814	45,796	−813	−1,296	1,470	9,193	1,040

TABLE 13—NET CHANGE (%) IN NEW MEXICO EMISSIONS FROM 2002 TO 2018

[Including Bernalillo County]

Source category	SO_2	NO_x	VOCs	POA	EC	Soil	CM	NH_3
Point	−18	−27	50	−75	0	−3	−6	58
Anthropogenic Fire	−24	−34	−36	−35	−31	−49	−41	−44
Natural Fire	0	0	0	0	0	0	0	0
Biogenic	0	0	0	0	0	0	0	0
Area	200	35	44	13	24	29	77	1
WRAP Area O&G	−95	33	19	0	0	0	0	0
On-Road Mobile	−84	−71	−60	0	−73	0	15	35
Off-Road Mobile	−92	−37	−35	−36	−51	0	0	38
Road Dust	50	100	0	34	44	34	34	0
Fugitive Dust	18	0	0	2	4	4	10	0
Wind Blown Dust	0	0	0	0	0	0	0	0
Total	−3	−19	3	−4	−21	5	4	3

The WRAP and NMED used New Mexico's and other states' 2018 emission inventories to construct visibility projection modeling for 2018. We propose to determine New Mexico's 2018 emission inventory is acceptable, while noting that some issues have been identified in the emission inventory as discussed above in Section V.N.3.e that must be considered when analyzing the results of modeling analysis prepared using this inventory.

Statewide, total NO_X and SO_2 emissions are projected to decrease from 2002 levels by 2018. NO_X emissions in the 2018 WRAP emission projections decrease by 19% primarily due to improvements in mobile sources and reductions at SJGS due to the 2005 consent decree. As discussed above, further reductions in NO_X emissions at the largest NO_X source in the state, the SJGS, due to implementation of BART are anticipated by 2018.

SO_2 mobile and point source emissions are also projected to decrease from 2002 to 2018. However, the large increase in area source SO_2 emissions (200%) is much larger than reasonably anticipated (see discussion above and our TSD). Increases in NO_X and VOC emissions are anticipated due to expansion of oil and gas production activities in the State. Much of the POA and EC emissions are due to natural fires that can fluctuate greatly in location and intensity from year to year. The 2018 emission inventory assumes that emissions from natural fires remain constant from 2002 levels. Anthropogenic sources of POA and EC are projected to decrease by 2018. We propose that New Mexico's 2018 emission inventory is acceptable for the purpose of developing the LTS. We note, however that some issues have been identified in the emission inventory as discussed above in Section V.N.3.e, that must be considered when analyzing the results of modeling analysis prepared using this inventory.

b. Visibility Projection Modeling

The WRAP performed modeling for the RH LTS for its member states, including New Mexico. The modeling analysis is a complex technical evaluation that began with selection of the modeling system. The WRAP used (1) The Mesoscale Meteorological Model (MM5) meteorological model, (2) the Sparse Matrix Operator Kernel Emissions (SMOKE) modeling system to generate hourly gridded speciated emission inputs, (3) the Community Multiscale Air Quality (CMAQ) photochemical grid model and (4) the Comprehensive Air Quality model with extensions (CAMx), as a secondary corroborative model. CAMx was also utilized with its Particulate Source Apportionment Technology (PSAT) tool to provide source apportionment for both the baseline and future case visibility modeling.

The photochemical modeling of RH for the WRAP states for 2002 and 2018 was conducted on the 36-km resolution national regional planning organization domain that covered the continental United States, portions of Canada and Mexico, and portions of the Atlantic and Pacific Oceans along the east and west coasts. The WRAP states' modeling was developed consistent with our guidance.[58]

[58] Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze, (EPA–454/B–07–002), April 2007, located at *http://www.epa.gov/scram001/guidance/guide/final-03-pm-rh-guidance.pdf.*

Continued

The WRAP examined the model performance of the regional modeling for the areas of interest before determining whether the CMAQ model results were suitable for use in the RH assessment of the LTS and for use in the modeling assessment. The 2002 modeling efforts were used to evaluate air quality/visibility modeling for a historical episode—in this case, for calendar year 2002—to demonstrate the suitability of the modeling systems for subsequent planning, sensitivity, and emissions control strategy modeling. Model performance evaluation was performed by comparing the output from model simulations with ambient air quality data for the same time period to determine whether the model's performance was sufficiently accurate to justify using the model for simulating future conditions. Once the WRAP determined the model performance to be acceptable, it used the model to determine the 2018 RPGs using the current and future year air quality modeling predictions, and compared the RPGs to the URP. The results of this modeling are discussed below.

c. Sources of Visibility Impairment in New Mexico Class I Areas

Baseline period monitoring data was used to analyze the contribution of pollutants to light extinction. Table 14 below summarizes the baseline period monitored data found in Chapter 7 of the NM RH 309(g) SIP, showing the contribution of each species to visibility impairment at each Class I area on the 20 worst days.

TABLE 14—PERCENTAGE OF LIGHT EXTINCTION ON 20% WORST DAYS DURING THE BASELINE PERIOD

Class I area	SO4 (percent)	NO3 (percent)	OMC (percent)	EC (percent)	Soil (percent)	CM (percent)	Sea salt (percent)
Bandelier	22.33	8.09	45.95	10.03	3.56	9.39	0.65
Bosque del Apache	24.35	10.39	26.25	8.44	6.17	21.75	0.65
Carlsbad Caverns	33.81	7.79	13.73	2.66	9.02	32.79	0.20
Gila Wilderness	21.97	2.87	50.96	10.19	4.78	8.92	0.32
Pecos Wilderness, Wheeler Park	23.56	7.11	37.33	9.78	7.56	12.44	2.22
Salt Creek	31.75	21.10	14.26	4.73	6.27	21.86	0.38
White Mountains	31.72	9.06	27.19	5.44	5.74	20.24	0.60

Visibility impairment in Class I areas is the result of local air pollution as well as transport of regional pollution across long distances. In order to determine the significant emission source regions and emission source types contributing to haze in New Mexico's Class I areas, New Mexico relied upon two source apportionment analysis techniques developed by the WRAP. The first technique was regional modeling using CAMx and the PSAT tool, used for the attribution of sulfate and nitrate sources only. The second technique was the Weighted Emissions Potential (WEP) tool, used for attribution of sources of organic carbon, elemental carbon, $PM_{2.5}$, and PM_{10}. The WEP tool is based on emissions and residence time, not modeling. PSAT uses the CAMx air quality model to show nitrate-sulfate-ammonia chemistry and apply this chemistry to a system of tracers or ''tags'' to track the chemical transformations, transport, and removal of NO_X and SO_2. These two pollutants are important because they can be significant contributors to visibility impairment and much of the total mass of NO_X and SO_2 originates from anthropogenic sources. Therefore, the results from this analysis can be useful in determining contributing sources that may be controllable, both in-state and in neighboring states. The PSAT results presented below are derived from Section 12.3 of the NM RH 309(g) SIP and the WRAP Technical Support System (TSS).[59] Tables 15 and 16 show the percent contribution of nitrate and sulfate from the WRAP and other source regions to modeled visibility impairment on the 20% worst days for 2002. Also shown is the percentage of the WRAP contributions from New Mexico sources. The Central Regional Air Planning Association (CENRAP) region includes the states and tribal areas of Nebraska, Kansas, Oklahoma, Texas, Minnesota, Iowa, Missouri, Arkansas, and Louisiana. Some errors were discovered in the tables of Section 12.3 for the WRAP's percentage contribution of nitrate of the 20% worst days during the baseline period. Those errors have been corrected in Table 15 below. We note that the 2018 emission inventory used in this analysis (Base18b) is an earlier version that does not include emission reductions due to BART. In New Mexico and surrounding states, BART requirements and reductions through the SO_2 emission milestone trading program will result in additional NO_X and SO_2 reductions beyond than those assumed in the source apportionment modeling.

TABLE 15—PERCENTAGE OF NITRATE CONTRIBUTION TO VISIBILITY IMPAIRMENT DURING BASELINE FOR THE 20% WORST DAYS

Class I area	WRAP (percent)	New Mexico * (percent)	CENRAP (percent)	Canada (percent)	Eastern U.S. (percent)	Mexico (percent)	Pacific off shore (percent)	Outside domain (percent)
Bandelier	[60] 71	[61] 66	10	2	0	1	1	15
Bosque del Apache	61	61	26	3	0	1	1	8
Carlsbad Caverns	30	42	44	5	0	5	2	14
Gila Wilderness	58	3	2	0	0	2	5	33
Pecos Wilderness, Wheeler Park	57	64	28	3	2	1	1	8

Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations, August 2005, updated November 2005 (''our Modeling Guidance''), located at *http://www.epa.gov/ttnchie1/eidocs/eiguid/index.html,* EPA–454/R–05–001.

[59] WRAP technical products are available at *http://vista.cira.colostate.edu/tss/.*

TABLE 15—PERCENTAGE OF NITRATE CONTRIBUTION TO VISIBILITY IMPAIRMENT DURING BASELINE FOR THE 20% WORST DAYS—Continued

Class I area	WRAP (percent)	New Mexico* (percent)	CENRAP (percent)	Canada (percent)	Eastern U.S. (percent)	Mexico (percent)	Pacific off shore (percent)	Outside domain (percent)
Salt Creek	61	75	26	0	0	2	0	11
White Mountains	40	38	36	4	0	2	2	16

*New Mexico's percentage shown in the above table is the percent of the WRAP contribution and not a percent of the total contribution. For example, New Mexico's nitrate contribution at Bandelier is 66% of the WRAPS contribution of 71%. New Mexico's contribution to the total nitrate at Bandelier is 47% (66% of 71%).

TABLE 16—PERCENTAGE SULFATE CONTRIBUTION TO VISIBILITY IMPAIRMENT DURING BASELINE FOR 20% WORST DAYS

Class I area	WRAP (percent)	New Mexico* (percent)	CENRAP (percent)	Canada (percent)	Eastern U.S. (percent)	Mexico (percent)	Pacific Off shore (percent)	Outside domain (percent)
Bandelier	32	48	16	1	12	9	3	27
Bosque del Apache	21	32	23	1	20	14	2	19
Carlsbad Caverns	5	29	28	2	43	10	1	11
Gila Wilderness	18	23	19	1	18	20	4	20
Pecos Wilderness, Wheeler Park	34	42	17	2	6	10	4	27
Salt Creek	12	54	29	2	31	10	1	15
White Mountains	11	33	30	2	34	10	1	12

*New Mexico's percentage shown in the above table is the percent of the WRAP contribution and not a percent of the total contribution.

WEP is a screening tool that helps to identify source regions that have the potential to contribute to haze formation at specific Class I areas. Unlike PSAT, this method does not account for chemistry or deposition. The WEP combines emissions inventories, wind patterns, and residence times of air masses over each area where emissions occur, to estimate the percent contribution of different pollutants. Like PSAT, the WEP tool compares baseline values (2000–2004) to 2018 values, to show the improvement expected by 2018, for sulfate, nitrate, organic carbon, elemental carbon, $PM_{2.5}$, and PM_{10}. More information on the WRAP modeling methodologies is available in Appendix A to our TSD. The PSAT and WEP results presented below are derived from Chapter 9 and 12 of the NM RH 309(g) SIP and the WRAP TSS. More detailed information on sources of visibility impairment can be found in our TSD. Nitrate and sulfate source apportionment data presented below is based on the PSAT modeling results. WEP results of source type and region contributions are provided for other visibility impairing pollutants.

The submitted long-term strategy modeling also evaluates the sources of OMC and CM emissions. Figure 11–12 of the NM RH 309(g) SIP submittal identifies the source categories that contribute to emissions of OMC and CM that impact the State's Class I areas. Over 70% of OMC emissions are due to natural fires. More than 65% of CM emissions are from wind-blown dust. As discussed above, the State has developed Natural Event Action Plans that include measures to address anthropogenic sources of windblown dust during high wind events. However, windblown dust emissions that are both directly associated with anthropogenic activities and are controllable have a minimal effect on visibility at New Mexico's Class I areas, compared to other sources of windblown dust. A large portion of EC emissions are also due to natural fires, while mobile emission sources also contribute to the total EC emissions. EC emissions from mobile sources are expected to decrease significantly by 2018. These pollutants, primarily from natural sources, contribute significantly to visibility impairment in New Mexico.

i. Sources of Visibility Impairment in Bandelier Wilderness

Visibility impairment at Bandelier in 2002 on the worst 20% days is largely due to OMC and sulfate. OMC emissions are primarily from natural fires from NM and AZ. In 2002, the largest contributions of sulfate to Bandelier on the 20% worst days come from sources outside the modeling domain (26%), followed by point sources in CENRAP states (14%), the Eastern United States (11%), New Mexico (11%), and Mexico (8%). New Mexico area sources contribute 2% of the sulfate on these days.

The 2018 projections assume that natural fire emissions of OMC remain constant between 2002 and 2018. In 2018, visibility impairment is still primarily due to OMC from natural fires. New Mexico's emissions of OMC from anthropogenic fires are projected to decrease, while emissions from area sources are expected to increase. Visibility impairment due to sulfate is projected to decrease by 2018, due to large decreases in emissions in CENRAP states and the Eastern United States. Sulfate contributions to visibility impairment at Bandelier from Mexico will increase from 2002 levels due to increases in emissions from point sources in Mexico. Modeled sulfate contributions from New Mexico increase from 2002 levels due to projected increase in area source emissions in New Mexico. As discussed above, SO_2 emissions from area source emissions in New Mexico, particularly in Bernalillo County, are overestimated in the WRAP modeling. Bandelier is located only 83 km outside of Bernalillo County and is impacted by the WRAP's large assumed increase in SO_2 emissions. We also note that the PSAT results do not include NO_X and SO_2 reductions due to BART and the SO_2 milestone and emissions trading program. We anticipate additional visibility improvement in 2018 beyond the modeled visibility conditions due to

[60] Corrected from 17% in Table 12–4 of the NM RH 309(g) SIP submittal based on data from the WRAP TSS.

[61] Corrected from 58% in Table 12–5 of the NM RH 309(g) SIP submittal based on data from the WRAP TSS.

lower NO_X emissions from implementation of the existing federal implementation plan or another future-approved NO_X BART determination consistent with the RHR requirements and lower SO_2 area emissions than included in the WRAP 2018 modeling episode used in this analysis. See our TSD for additional data on visibility modeling results and emissions.

ii. Sources of Visibility Impairment in Bosque del Apache National Wildlife Refuge

Visibility impairment at Bosque del Apache in 2002 on the worst 20% days is mostly due to OMC, sulfate, CM and nitrate. OMC emissions are primarily from natural fires from NM and AZ. In 2002, the largest contributions of sulfate to Bosque del Apache on the 20% worst days come from point sources in CENRAP states (19%), sources outside the modeling domain (18%), point sources in the Eastern United States (18%), and Mexico (12%). New Mexico point and area sources contribute 4% and 1%, respectively, of the sulfate on these days. CM emissions impacting Bosque del Apache are primarily from windblown dust in New Mexico and neighboring CENRAP states. Contributions of nitrate are from mobile sources in New Mexico (19%) and CENRAP states (10%) along with contributions from New Mexico point sources (8%), CENRAP point sources (9%) and New Mexico area sources (7%).

The 2018 projections assume that natural fire emissions of OMC remain constant between 2002 and 2018. In 2018, visibility impairment is still largely due to OMC from natural fires. New Mexico's emissions of OMC from anthropogenic fires are projected to decrease, while emissions from area sources are expected to increase. CM emissions from windblown dust are held constant from 2002 levels and remain a significant contribution to visibility impairment in 2018. Visibility impairment due to sulfate is projected to decrease by 2018, due to large decreases in emissions in CENRAP states and the Eastern United States. Sulfate contributions to visibility impairment at Bosque del Apache from Mexico will increase from 2002 levels due to increases in emissions from point sources in Mexico. Modeled sulfate contributions from New Mexico increase from 2002 levels due to projected increase in area source emissions in New Mexico. As discussed above, SO_2 emissions from area source emissions in New Mexico, particularly in Bernalillo County, are overestimated in the WRAP modeling. Contributions of nitrate from CENRAP states and New Mexico from mobile sources are projected to decrease significantly, while contributions from area source emissions, including emissions from oil and gas production in New Mexico are projected to increase. We note that the PSAT results do not include NO_X and SO_2 reductions due to BART and the SO_2 milestone and emissions trading program. We anticipate additional visibility improvement in 2018 beyond the modeled visibility conditions due to lower NO_X emissions from implementation of the existing federal implementation plan or another future-approved NO_X BART determination consistent with the RHR requirements and lower SO_2 area emissions than included in the WRAP 2018 modeling episode used in this analysis. See our TSD for additional data on visibility modeling results and emissions.

iii. Sources of Visibility Impairment in Carlsbad Caverns National Park

Visibility impairment at Carlsbad Caverns in 2002 on the worst 20% days is largely due to sulfate and CM. The IMPROVE monitoring site for Carlsbad Caverns is located in Guadalupe Mountains National Park, Texas, south of Carlsbad Caverns National Park. In 2002, the largest contributions of sulfate to Carlsbad Caverns on the 20% worst days came from point sources in the Eastern United States (39%), CENRAP states (23%), and Mexico (9%). CM emissions impacting Carlsbad Caverns are primarily from windblown dust in New Mexico and neighboring CENRAP states. WEP results for organic carbon indicate that contributions are from area source emissions in CENRAP states and New Mexico as well as natural fires in New Mexico and Arizona and local New Mexico point sources.

Visibility impairment due to sulfate is projected to decrease by 2018, due to large decreases in point source emissions in CENRAP states and the Eastern United States. Sulfate contributions to visibility impairment at Carlsbad Caverns from Mexico will increase from 2002 levels due to increases in emissions from point sources. Contributions of nitrate from CENRAP states and New Mexico from mobile sources are projected to decrease significantly, while contributions from area source emissions, including emissions from oil and gas production in New Mexico and the CENRAP states are projected to increase. WEP results indicate that point source emissions of organic carbon in New Mexico impacting Carlsbad Caverns decrease significantly by 2018. CM emissions from windblown dust are held constant from 2002 levels and remain a significant contribution to visibility impairment in 2018. We note that the PSAT results do not include NO_X and SO_2 reductions due to BART and the SO_2 milestone and emissions trading program. We anticipate additional visibility improvement in 2018 beyond the modeled visibility conditions at Carlsbad Caverns due to lower SO_2 area emissions than included in the WRAP 2018 modeling episode used in this analysis. See our TSD for additional data on visibility modeling results and emissions.

iv. Sources of Visibility Impairment in Gila Wilderness

Visibility impairment at Gila Wilderness in 2002 on the worst 20% days is largely due to OMC and sulfate. OMC emissions are primarily from natural fires from NM and AZ and contribute to over 50% of the visibility impairment at Gila during the base period. In 2002, the largest contributions of sulfate to Gila Wilderness on the 20% worst days come from sources outside the modeling domain (20%), followed by point sources in the Eastern United States (17%), Mexico (17%), CENRAP states (16%), and Arizona (5%). We note that an error in data retrieval affected initial results for modeled visibility conditions at Gila Wilderness in 2002 and indicated that visibility would degrade from 2002 to 2018.[62] This error was corrected and the updated data was included in the NM RH SIP submitted to us.

The 2018 projections assume that natural fire emissions of OMC remain constant between 2002 and 2018. In 2018, visibility impairment is still primarily due to OMC from natural fires. Visibility impairment due to sulfate is projected to decrease by 2018, due to large decreases in point source emissions in CENRAP states and the Eastern United States. Sulfate contributions to visibility impairment at Gila from Mexico, Arizona, and New Mexico increase from 2002 levels due to increases in emissions from point sources.

v. Sources of Visibility Impairment in Pecos Wilderness and Wheeler Peak Wilderness

Similar to Bandelier, visibility impairment at Pecos/Wheeler Park in 2002 on the worst 20% days is largely due to OMC and sulfate. OMC emissions

[62] Correction of WRAP region Plan02d CMAQ visibility modeling results on TSS for Regional Haze Planning—Final Memorandum, June 30, 2011, available at: *http://vista.cira.colostate.edu/tss/help/plan02d_rev.pdf*.

are primarily from natural fires from NM and AZ. In 2002, the largest contributions of sulfate to Pecos/Wheeler Park on the 20% worst days come from sources outside the modeling domain (26%), followed by point sources in CENRAP states (15%), Mexico (9%), the Eastern United States (6%), and New Mexico (6%). Contributions from New Mexico natural fires are 6%. New Mexico area sources contribute 3% of the sulfate on these days.

The 2018 projections assume that natural fire emissions of OMC and SO_2 remain constant between 2002 and 2018. In 2018, visibility impairment is still primarily due to OMC from natural fires. New Mexico's emissions of OMC from anthropogenic fires are projected to decrease, while emissions from area sources are expected to increase. Visibility impairment due to sulfate is projected to decrease by 2018, due to large decreases in point source emissions in CENRAP states and the Eastern United States. Sulfate contributions to visibility impairment at Pecos/Wheeler Park from Mexico will increase from 2002 levels due to increases in emissions from point sources in Mexico. Modeled sulfate contributions from New Mexico increase from 2002 levels due to projected increase in area source emissions in New Mexico. As discussed above, SO_2 emissions from area source emissions in New Mexico, particularly in Bernalillo County, are overestimated in the WRAP modeling. We also note that the PSAT results do not include NO_X and SO_2 reductions due to BART and the SO_2 milestone and emissions trading program. We anticipate additional visibility improvement in 2018 beyond the modeled visibility conditions due to lower NO_X emissions from implementation of the existing federal implementation plan or another future-approved NO_X BART determination consistent with the RHR requirements and lower SO_2 area emissions than included in the WRAP 2018 modeling episode used in this analysis. See our TSD for additional data on visibility modeling results and emissions.

vi. Sources of Visibility Impairment in Salt Creek Wilderness

Visibility impairment at Salt Creek in 2002 on the worst 20% days is largely due to sulfate, nitrate, OMC and CM. In 2002, the largest contributions of sulfate to Salt Creek on the 20% worst days come from point sources in the Eastern United States (28%), CENRAP states (24%), Mexico (9%), and New Mexico (6%). Contributions of nitrate are primarily from area, mobile and point sources in New Mexico and CENRAP states. CM emissions impacting Salt Creek are primarily from windblown dust in New Mexico and neighboring CENRAP states. WEP results for organic carbon indicate that contributions are from area source emissions in CENRAP states and New Mexico as well as natural fires in New Mexico and Arizona and local New Mexico point sources.

Visibility impairment due to sulfate is projected to decrease by 2018, due to large decreases in emissions in CENRAP states and the Eastern United States. Sulfate contributions to visibility impairment at Salt Creek from Mexico increase from 2002 levels due to increases in emissions from point sources. Contributions of nitrate from CENRAP states and New Mexico from mobile sources are projected to decrease significantly, while contributions from area source emissions, including emissions from oil and gas production in New Mexico and the CENRAP states are projected to increase. WEP results indicate that point source emissions of organic carbon in New Mexico impacting Salt Creek decrease significantly by 2018. CM emissions from windblown dust are held constant from 2002 levels and remain a significant contribution to visibility impairment in 2018. We note that the PSAT results do not include NO_X and SO_2 reductions due to BART and the SO_2 milestone and emissions trading program. We anticipate additional visibility improvement in 2018 beyond the modeled visibility conditions at Salt Creek due to lower NO_X emissions and lower SO_2 area emissions than included in the WRAP 2018 modeling episode used in this analysis. See our TSD for additional data on visibility modeling results and emissions.

vii. Sources of Visibility Impairment in White Mountain Wilderness

Visibility impairment at White Mountain in 2002 and 2018 is similar to Salt Creek. Visibility impairment at White Mountain in 2002 on the worst 20% days is largely due to sulfate, nitrate, OMC and CM. Compared to Salt Creek, visibility impairment due to CM is higher at White Mountain, while impairment due to nitrate is less significant. In 2002, the largest contributions of sulfate to White Mountain on the 20% worst days come from point sources in the Eastern United States (30%), CENRAP states (25%), and Mexico (9%). Contributions of nitrate are primarily from area, mobile and point sources in New Mexico and CENRAP states. CM emissions impacting White Mountain are primarily from windblown dust in New Mexico and neighboring CENRAP states. WEP results for organic carbon indicate that contributions are from natural fires in New Mexico and Arizona and area source emissions in CENRAP states and New Mexico.

Visibility impairment due to sulfate is projected to decrease by 2018, due to large decreases in emissions in CENRAP states and the Eastern United States. Sulfate contributions to visibility impairment at White Mountain from Mexico increase from 2002 levels due to increases in emissions from point sources. Contributions of nitrate from CENRAP states and New Mexico from mobile sources are projected to decrease significantly, while contributions from area source emissions, including emissions from oil and gas production in New Mexico and the CENRAP states are projected to increase. CM emissions from windblown dust are held constant from 2002 levels and remain a significant contribution to visibility impairment in 2018. We note that the PSAT results do not include NO_X and SO_2 reductions due to BART and the SO_2 milestone and emissions trading program. We anticipate additional visibility improvement in 2018 beyond the modeled visibility conditions at White Mountain due to lower NO_X and SO_2 emissions than included in the WRAP 2018 modeling episode used in this analysis. See our TSD for additional data on visibility modeling results and emissions.

d. New Mexico's Contributions to Visibility Impairment at Class I Areas in Other States

CAMx PSAT results were also utilized to evaluate the impact of New Mexico emission sources in 2002 on visibility impairment at Class I areas outside of the state. Section 12.2 of the NM RH 309(g) SIP presents the contribution of New Mexico sources to nitrate and sulfate on the 20% worst days at the Class I areas in Colorado, Arizona, Nevada, Utah, Wyoming and Texas. New Mexico emissions are responsible for up to 60% of the nitrate and 43% of the sulfate at individual Class I areas in neighboring states on the 20% worst visibility days during the baseline period. The highest impact from New Mexico sources at other State's Class I areas occurs at Mesa Verde National Park and Weminuche Wilderness for both sulfate and nitrate. These two Class I areas are less than 100km from the SJGS. As discussed in the FIP, the SJGS has significant impacts on visibility conditions at a large number of surrounding Class I areas. Emissions

reductions as a result of implementation of the existing federal implementation plan or another future-approved NO_X BART determination consistent with the RHR requirements will lead to improvement in visibility conditions and a decrease in New Mexico's contributions to visibility impairment at the Class I areas in surrounding states by 2018. The SO_2 milestone emissions and trading program will result in a reduction of statewide SO_2 emissions by 2018. NO_X emissions from mobile sources are also anticipated to decrease significantly by 2018, reducing the impact of New Mexico sources on other Class I areas.

e. Consultation and Emissions Reductions for Other States' Class I Areas

As in the development of New Mexico's reasonable progress goals for its Class I areas, NMED used the WRAP as its main vehicle for facilitating collaboration with FLMs and other states in satisfying its LTS consultation requirement. This helped NMED and other state environmental agencies analyze emission apportionments at Class I areas and develop coordinated RH SIP strategies.

Section 51.308(d)(3)(i) requires that New Mexico consult with other states if its emissions are reasonably anticipated to contribute to visibility impairment at that state's Class I area(s), and that New Mexico consult with other states if their emissions are reasonably anticipated to contribute to visibility impairment at New Mexico's Class I areas. NMED's consultations with other states are described in section V.N.3.d above. As already discussed elsewhere, NM neither requested additional emission reductions from other states, nor made a commitment to other states for additional emission reductions beyond the coordinated emission management strategies developed through the WRAP consultation process and factored in the WRAP's 2018 visibility projections using photochemical grid modeling. New Mexico determined that the implementation of BART and other existing measures in state regional haze plans were sufficient for the states to meet the reasonable progress goals for their Class I areas, and that future consultation would address any new strategies or measures needed. All states participating in NM's consultation process agreed with this decision. New Mexico's evaluation relied upon NO_X BART and other reductions as described in the SIP. We are proposing to find that New Mexico satisfies the consultation requirements of 40 CFR 51.308(d)(3)(i).

Section 51.308(d)(3)(ii) requires that if New Mexico emissions cause or contribute to impairment in another state's Class I area, New Mexico must demonstrate that it has included in its RH SIP all measures necessary to obtain its share of the emission reductions needed to meet the progress goal for that Class I area. Section 51.308(d)(3)(ii) also requires that since New Mexico participated in a regional planning process, it must ensure it has included all measures needed to achieve its apportionment of emission reduction obligations agreed upon through that process. As we state in the RHR,[63] New Mexico's commitments to participate in the WRAP bind it to secure emission reductions agreed to as a result of that process, unless it proposes a separate process and performs its consultations on the basis of that process. 64 FR 35735 (July 1, 1999).

While States are not bound by the results of a regional planning effort, nor can the content of their SIPs be dictated by a regional planning body, we expect that a coordinated regional effort will likely produce results the States will find beneficial in developing their regional haze implementation plans. Any State choosing not to follow the recommendations of a regional body would need to provide a specific technical basis that its strategy nonetheless provides for reasonable progress based on the statutory factors. At the same time, we cannot require States to participate in regional planning efforts if the State prefers to develop a long-term strategy on its own. We note that any State that acts alone in this regard must conduct the necessary technical support to justify their apportionment, which generally will require regional inventories and a regional modeling analysis. Additionally, any such State must consult with other States before submitting its long-term strategy to EPA.

The emission limits and schedule of compliance that New Mexico relied on as required by section 51.308(d)(3)(ii) as part of its long-term strategy to achieve the reasonable progress goals includes projected reductions from a NO_X BART determination for SJGS that is not under review in this proposed action. The reductions at the SJGS achieved in compliance with the emission limits and schedule of compliance in the existing federal implementation plan or anticipated due to any other future-approved NO_X BART determination consistent with the RHR requirements will result in greater visibility improvements than projected in the WRAP modeling used to establish the reasonable progress goals included in the 309(g) SIP submittal. In the absence of a proposal on that component of the submittal, we propose to find that the already effective BART requirements for that source sufficiently support our proposed finding that the requirements of section 51.308(d)(3)(ii) have been met.

f. Mandatory Long Term Strategy Factors

Section 51.308(d)(3)(v) requires that New Mexico minimally consider certain factors in developing its long-term strategy (the LTS factors). These include: (a) Emission reductions due to ongoing air pollution control programs, including measures to address RAVI; (b) measures to mitigate the impacts of construction activities; (c) emissions limitations and schedules for compliance to achieve the reasonable progress goal; (d) source retirement and replacement schedules; (e) smoke management techniques for agricultural and forestry management purposes including plans as currently exist within the state for these purposes; (f) enforceability of emissions limitations and control measures; and (g) the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy. For the reasons outlined below, we propose to find that New Mexico has satisfied all the requirements of Section 51.308(d)(3)(v).

i. Reductions Due to Ongoing Air Pollution Programs

In addition to its PM BART determination for the SJGS and the SO_2 emission milestone and trading program, New Mexico's LTS incorporates emission reductions due to a number of ongoing air pollution control programs.

The two primary regulatory tools for addressing visibility impairment from industrial sources are BART and the Prevention of Signification Deterioration (PSD)/New Source Review (NSR) rules. The New Mexico PSD rules protect visibility in Class I areas from new major industrial sources and major changes to existing sources.[64] New Mexico's PSD SIP rules (20.2.74 NMAC) contain requirements for review of visibility impact assessment from new and modified major stationary sources within 100 km of a Class I area. New

[63] 64 FR 35735.

[64] 20.2.79 NMAC, the provisions for permitting in nonattainment areas, is not referenced in the state's discussion, but those provisions also address visibility impairment. The state presently has one designated nonattainment area.

Mexico's Construction Permits SIP rule (20.2.72 NMAC) addresses construction or modifications of sources, including minor sources, and assures compliance with ambient air quality standards. New Mexico's Operating Permit Program (20.2.70 NMAC) consolidates all air quality regulatory requirements and provides for appropriate compliance assurance monitoring and an opportunity for participation by the public, EPA, and other States in the permitting process. NMED issues permits to all major and the majority of minor point sources in New Mexico, and each permit contains enforceable limitations on emissions of various pollutants, including those which cause or contribute to RH at the Class I areas in New Mexico. New Mexico also periodically incorporates by reference Federal New Source Performance Standards (20.2.77 NMAC) and Federal National Emission Standards for Hazardous Air Pollutant (20.2.78 NMAC), and determines case-by-case Maximum Achievable Control Technology (MACT) under 20.2.82 NMAC which may result in reductions of emissions of visibility impairing pollutants.

We approved New Mexico's Visibility Protection Plan for Phase I, Parts I and II, as a SIP revision on January 27, 2006. See 71 FR 4490. This plan contains short and long-term strategies for reasonable progress related to addressing reasonably attributable visibility impairment in New Mexico's Class I areas through visibility monitoring and control strategies. It includes PSD requirements for visibility protection and applying BART to existing sources if certified as causing RAVI.

Mobile source annual emissions show a major decrease in NO_X in New Mexico from 2002 to 2018. This reduction will result from numerous ''on the books'' Federal mobile source regulations. This trend is expected to provide significant visibility benefits. Beginning in 2006, we mandated new standards for on-road (highway) diesel fuel, known as ultra-low sulfur diesel. This regulation dropped the sulfur content of diesel fuel from 500 parts per million (ppm) to 15 ppm. Ultra-low sulfur diesel fuel enables the use of cleaner technology diesel engines and vehicles with advanced emissions control devices, resulting in significantly lower emissions. Diesel fuel intended for locomotive, marine, and non-road (farming and construction) engines and equipment was required to meet a low sulfur diesel fuel maximum specification of 500 ppm sulfur in 2007 (down from 5,000 ppm). By 2010, the ultra-low sulfur diesel fuel standard of 15 ppm sulfur applied to all non-road diesel fuel. Locomotive and marine diesel fuels are required to meet the ultra-low sulfur diesel standard beginning in 2012, resulting in further reductions of diesel emissions. New Mexico also considered ongoing federal mobile source regulations including the Tier 2 Vehicle Emission Standards, federal low-sulfur gasoline, national low emissions vehicle standards, heavy-duty vehicle standards and other federal Non-Road measures in developing its LTS.

In December of 2007, NMED adopted 20.2.88 NMAC—Emission Standards for New Motor Vehicles, which incorporates California emission standards for new passenger cars, light-duty trucks and medium duty vehicles sold in New Mexico beginning with model year 2011.

New Mexico also considered programs established to address the PM_{10} NAAQS. This includes Natural Events Action Plans developed for Dona Ana and Luna Counties. The plans outline procedures to utilize control measures to reduce anthropogenic sources of wind-blown dust.

ii. Measures To Mitigate the Impacts of Construction Activities

Section 51.308(d)(3)(v)(B) requires that New Mexico consider measures to mitigate the impacts of construction activities in developing its LTS. New Mexico considered developing a rule to address fugitive dust. New Mexico conducted a survey to gather public comments on regulation of dust sources in New Mexico. We note that the earlier discussed programs developed to address the PM_{10} NAAQS, including the Natural Events Action Plans developed for Dona Ana and Luna Counties contain procedures for the use of control measures for anthropogenic sources of wind-blown dust. These control measures include the use of dust suppressants, phased construction, and stopping or slowing construction activities during high winds to mitigate the impacts of construction activities on visibility impairment. We also note that Bernalillo County, which falls under the jurisdiction of the AQCB, has a fugitive dust rule (20.11.20 NMAC) that addresses fugitive emissions from construction activities within the City of Albuquerque and Bernalillo County. New Mexico did not go forward to adopt the rule that was under consideration at the time the 309(g) SIP was developed. The State has the opportunity to provide an updated analysis of the issue in the progress report and in any needed, future SIP revisions, as contemplated by the requirements of Section 309. We are proposing to find that New Mexico satisfies this component of LTS to consider measures to mitigate the impacts of construction activities.

iii. Emission Limitations and Schedules of Compliance

40 CFR 51.308(d)(3)(v)(C) requires that in developing its LTS, New Mexico consider emissions limitations and schedules of compliance to achieve the RPGs. The SIP contains emission reduction milestones and a backstop trading program that addresses SO_2 emissions from point sources in the State. The backstop trading program provides emission limits and schedules of compliance for SO_2 emissions from point sources. As previously stated, the NO_X BART component of the submittal that applies to SJGS is not here under review and not within the scope of our proposal to ensure all remaining RH requirements are in place for the state of New Mexico. The NO_X BART requirements for SJGS are presently satisfied by 40 CFR 52.1628, though this would not preclude its withdrawal following any future approval of an alternative BART determination found to comply with the requirements of the RHR.

iv. Source Retirement and Replacement Schedules

The State does not anticipate any specific major source retirements or replacements. Replacement of existing facilities will be managed accordingly through the existing Prevention of Signification Deterioration program. As NMED becomes aware of such actions, they will be factored into future reviews. We are proposing to find that the NMED properly addressed the requirements of 40 CFR 51.308(d)(3)(v)(D) in the development of its LTS.

v. Agricultural and Forestry Smoke Management Techniques

40 CFR 51.308(d)(3)(v)(E) requires that New Mexico consider smoke management techniques for agricultural and forestry management purposes in developing its LTS. New Mexico's smoke management plan and Smoke Management Rule (20.2.65 NMAC) are described in Section V.H of this notice. We propose to find that the smoke management plan appropriately contains smoke management techniques for agricultural and forestry management purposes, and we are proposing to approve 20.2.65 NMAC that was submitted as a SIP revision in 2003.

vi. Enforceability of New Mexico's Measures

Section 51.308(d)(3)(v)(F) requires that New Mexico ensure the enforceability of emission limitations and control measures used to meet reasonable progress goals. With the exception of the NO_X BART limit included in the FIP, all existing emission limitations and control measures used to meet the RPGs for which the State is responsible are enforceable by the State either through New Mexico Administrative Code or the SIP measures previously approved by EPA. Future emission limitations will be enforceable through NSR permit conditions (that automatically become part of the SIP) or EPA approved SIP measures. The NO_X BART requirements for SJGS must be included by NMED in a Part 70 air quality permit whether they draw from 40 CFR 52.1628 or from any submitted determination that, on EPA approval, replaces those requirements. See 70 FR at 39172.

vii. Anticipated Net Effect on Visibility Due to Projected Changes

40 CFR 51.308(d)(3)(v)(G) requires that in developing its LTS, New Mexico consider the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy. The anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions during this planning period was analyzed using the WRAP visibility modeling for 2018 and is addressed in Chapter 9 of the NM RH 309(g) SIP submittal and elsewhere in this proposal. We are proposing to find that New Mexico satisfies this component of LTS.

g. Our Conclusion on New Mexico's Long Term Strategy

We propose to approve New Mexico's long-term strategy. The long-term strategy satisfies the requirements of 40 CFR 51.308(d)(3). Taking into account that NO_X BART requirements for SJGS are presently satisfied by the requirements of 40 CFR 52.1628 and may only be alternatively satisfied by an approvable determination that also complies with the Regional Haze Rule, we propose to also agree that additional controls and analysis are not presently warranted.

5. Monitoring Strategy and Other SIP Requirements

Section 51.308(d)(4) requires the SIP contain a monitoring strategy for measuring, characterizing, and reporting of RH visibility impairment that is representative of all mandatory Class I Federal areas within the state. This monitoring strategy must be coordinated with the monitoring strategy required in Section 51.305 for reasonably attributable visibility impairment. As Section 51.308(d)(4) notes, compliance with this requirement may be met through participation in the IMPROVE network. Since the monitors at the New Mexico Class I areas are IMPROVE monitors, we propose to determine the 309(g) SIP submittal has satisfied this requirement. See Chapter 4 of the NM RH 309(g) SIP and the TSD for details concerning the IMPROVE network.

Section 51.308(d)(4)(i) requires the establishment of any additional monitoring sites or equipment needed to assess whether reasonable progress goals to address RH for all mandatory Class I Federal areas within the state are being achieved. Table 4–1 of the NM RH 309(g) SIP submittal shows the IMPROVE monitor site locations, elevations, start date, and the Class I area to which the monitored visibility data corresponds. Chapter 4 of the NM RH 309(g) SIP submittal describes the location of each monitor. Monitors for Bandelier, Guadalupe Mountains (representative of Carlsbad), and Gila Wilderness were installed between 1988 and 1994. New monitors were established at Bosque del Apache, Salt Creek and Wheeler Peak (representative of both Wheeler Peak and Pecos Wilderness) in mid-2000. The monitor at White Mountain Wilderness began operation in early 2002. New Mexico has not identified the need for any additional monitors and we agree with this conclusion. We propose to find the 309(g) SIP submittal has satisfied this requirement.

Section 51.308(d)(4)(ii) requires that RH SIPs establish procedures by which monitoring data and other information are used in determining the contribution of emissions from within a state to RH visibility impairment at mandatory Class I Federal areas both within and outside the state. The IMPROVE monitoring program is national in scope, and other states have similar monitoring and data reporting procedures, ensuring a consistent and robust monitoring data collection system. As section 51.308(d)(4) indicates, participation in the IMPROVE program constitutes compliance with this requirement. We therefore propose that the 309(g) SIP submittal has satisfied this requirement by virtue of its participation in the IMPROVE program.

Section 51.308(d)(4)(iv) requires that RH SIPs provide for the reporting of all visibility monitoring data to the Administrator at least annually for each mandatory Class I Federal area in the state. To the extent possible, New Mexico should report visibility monitoring data electronically. Section 51.308(d)(4)(vi) also requires that NMED provide for other elements, including reporting, recordkeeping, and other measures, necessary to assess and report on visibility. We propose to determine that New Mexico's participation in the IMPROVE network ensures the monitoring data is reported at least annually, is easily accessible, and therefore the 309(g) SIP submittal complies with this requirement.

Section 51.308(d)(4)(v) requires that NMED maintain a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any mandatory Class I Federal area. The inventory must include emissions for a baseline year, emissions for the most recent year for which data are available, and estimates of future projected emissions. The state must also include a commitment to update the inventory periodically. Please refer to section V.N.4.a., above, where we discuss NMED's emission inventory. The 309(g) SIP submittal provides a stated commitment to update the New Mexico statewide emissions inventories periodically and review periodic emissions information from other states and future emissions projections. We propose to determine the RH SIP submittal satisfies this requirement.

VI. EPA's Conclusions and Proposed Action

EPA is proposing to approve New Mexico State Implementation Plan (SIP) revisions received July 5, 2011 and December 1, 2003, addressing the regional haze requirements for the mandatory Class I areas under 40 CFR 51.309 and the separate submittal for the regional haze requirements under 40 CFR 51.309(g). EPA is proposing to determine that the submittals meet the requirements of 40 CFR 51.309. We note that we are not, however, proposing action on one component of these submittals: the submitted NO_X BART determination for the San Juan Generating Station. We are also proposing to approve various companion regulations submitted to us as SIP revisions for our consideration alongside the state's Regional Haze plan, specifically: new sections 20.2.81 NMAC, 20.2.65 NMAC, 20.2.60 NMAC, and submitted revisions to the previously approved 20.2.73.300.F NMAC.

EPA is taking this action under section 110 of the CAA.

VII. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a ''significant regulatory action'' subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and the EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law. Consistent with EPA policy, EPA nonetheless is offering consultation to Tribes regarding this rule making action.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur dioxides, Visibility, Regional haze, Best available control technology.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: May 31, 2012.

Samuel Coleman,

Acting Regional Administrator, Region 6.

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