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SECTION 309 REGIONAL HAZE STATE IMPLEMENTATION PLAN ELEMENT:

ALBUQUERQUE - BERNALILLO COUNTY, NEW MEXICO

[FINAL VERSION] ~~EPA / Stakeholder Review Draft 10/22/10~~
Public Review Draft 2/22/11

Main Document

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City of Albuquerque Environmental Health Department
Air Quality Division
Control Strategies Section

PREFACE

This request was first submitted pursuant to the U.S. Environmental Protection Agency (EPA) requirements published as a Federal Register notice (FR Vol. 64, No. 126) on Thursday, July 1, 1999. The documentation in this report addresses requirements found in Part 51, Appendix V relating to completeness of State Implementation Plan (SIP) submissions. This report was first presented at a public hearing before the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) held on October 8, 2003 and continued on November 12, 2003. Appropriate public notices and opportunities for public comment were provided. The AQCB adopted the initial Regional Haze SIP on November 12, 2003.

In 1999 the first regulation to address the type of visibility impairment known as Regional Haze was promulgated by EPA. Since that time it has been judicially challenged twice. On May 24, 2002, the U.S. Court of Appeals for the District of Columbia Circuit issued a ruling vacating the Regional Haze Rule in part and sustaining it in part, based on a finding that EPA's prescribed methods for determining best available retrofit technology (BART) were inconsistent with the Clean Air Act (CAA) [American Corn Growers Association v. EPA, {291 F.3d 1 (DC Cir. 2002)}]. EPA finalized a rule on July 6, 2005 addressing the court's ruling in this case [FR Vol. 70 No. 128 39104-39172]. On February 18, 2005, the U.S. Court of Appeals for the District of Columbia Circuit issued another ruling, in Center for Energy and Economic Development (CEED) v. EPA, [398 F.3d 653(DC Cir. 2005)], granting a petition challenging provisions of the Regional Haze Rule governing an optional emissions trading program for certain western States and Tribes [the Western Regional Air Partnership (WRAP) Annex Rule]. EPA published proposed regulations to revise the provisions of the Regional Haze Rule governing alternative trading programs, and to provide additional guidance on such programs in August 2005. EPA received several comments on the August 2005 proposal. This final rule [Federal Register: October 13, 2006 (Volume 71, Number 198)] finalized the proposed revisions, including changes in response to the public comments. This rule became effective December 12, 2006. The following report has been amended to address all these actions, as well as addressing comments received by the Department, from EPA on 11/3/04, and in 2007.

In 2010 EPA Region 6 conveyed to New Mexico and Albuquerque-Bernalillo County that there were certain technical issues concerning the $S0_2$ trading program in New Mexico's Regional Haze SIP that remained to be resolved. Regions 6, 8, and 9 (the "Regions") had reviewed the document entitled *Demonstration that the $S0_2$ Milestones Provide Greater Reasonable Progress than BART dated July 23, 2009*. This document illustrated the position held by the States participating in the Regional Haze option under 40 CFR 51.309 (the 309 SIPs), that a 2018 $S0_2$ milestone of 234,624 tons $S0_2$ satisfied the requirements under Section 51.309(d)(4), and specifically, that the 2018 milestone will achieve greater reasonable progress than would have been achieved from the installation and operation of Best Available Retrofit Technology (BART). EPA Regions 6, 8 and 9 determined that based on their review, the proposed 2018 milestone did not satisfy Section 51.309(d)(4). Therefore, in order to approve the Regional Haze SIP for the aforementioned states, EPA has asked that the proposed milestones be revised in order to meet the requirements of Section 51.309(d)(4). To this end, the States and Regions have negotiated a revised set of milestones. These revised milestones and their associated changes have been incorporated into this revised Regional Haze SIP. In addition, since this SIP was last amended, the state

of Arizona has changed from a “309” program to a “308” program, and so this change has been also noted in this SIP.

ACKNOWLEDGEMENTS IN THE PREPARATION OF THIS REPORT

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ACRONYMS

ACI	Air Curtain Incinerator
AEG	Annual Emissions Goal
AQD	Air Quality Division (City of Albuquerque)
AQCB	Albuquerque-Bernalillo County Air Quality Control Board
ATS	Allowance Tracking System
BACT	Best Available Control Technology
BART	Best Available Retrofit Technology
CAA	The Clean Air Act
CFR	Code of Federal Regulations
Dv	DeciView
EATS	Emission Allowance Tracking System
EC	Elemental Carbon
EDMS	Emissions Data Reporting, Management and Tracking System
EIB	Environmental Improvement Board
EPA	U.S. Environmental Protection Agency
ERT	Emission Reduction Technique
ESMP	Enhanced Smoke Management Policy
FEJF	Fire Emissions Joint Forum
FEP	Fire Emissions Project
FIP	Federal Implementation Plan
FLM	Federal Land Manager
GCVTC	Grand Canyon Visibility Transport Commission
I&M	Inspection and Maintenance Program
MOU	Memorandum of Understanding
MW	MegaWatts
NAAQS	National Ambient Air Quality Standards
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NOx	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
NVC	Natural Visibility Conditions
OC	Organic Carbon
PBII	Prescribed Burn II
PM	Particulate Matter
RATA	Relative Accuracy Test Audit
RAVI	Reasonable Attributable Visibility Impairment
RHR	Regional Haze Rule
SEP	Supplemental Environmental Project
SIP	State Implementation Plan
SMP	Smoke Management Plan or Smoke Management Program
SO2	Sulfur Dioxide
TIP	Tribal Implementation Plan
TPY	Tons per Year
TSA	Tracking System Administrator
TSD	Technical Support Document
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds

WEB	Western Emissions Budget
WEB EATS	WEB Emission Allowance Tracking System
WESTAR	Western States Air Resources Council
WFU	Wildland Fire Managed for Resource Benefit
WGA	Western Governor's Association
WRAP	Western Regional Air Partnership

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http://www.epa.gov/EPA-AIR/2005/July/Day-06/a12526.htm

Regional Haze Regulations; Revisions to Provisions Governing Alternative to Source-Specific BART Determinations, FR Vol. 71, No. 198, 60612-60634, 10/13/06.

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Market Trading Forum Non-Utility Sector Allocation. Final Report from the Allocations Working Group, November 2002, E.H. Pechan, Report No. 02.11.001/9422.000.

http://www.wrapair.org/forums/mtf/documents/FinalDocs/NonUtilityreport.pdf

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http://www.wrapair.org/forums/ef/inventories/mobile/FinalMobile_Emissions_Memo_Nov26.doc

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Chapter 5 of the Regional Technical Support Document for the Requirement of §309 of the Regional Haze Rule entitled: Assessment of Mobile Sources, WRAP Technical Oversight Committee, December 15, 2003.

http://www.wrapair.org/309/031215Final309TSD.pdf

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WRAP's guidance on Nonburning Alternatives for Vegetation & Fuel Management. November 2002, J & S 01-562.

http://www.wrapair.org/forums/fejf/documents/altwild/nonburning_manual.pdf

WRAP's guidance on Burning Management Alternatives on Agricultural Lands in the Western US.

http://www.wrapair.org/forums/fejf/tasks/FEJFtask4.html

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Glossary

(After Malm, W. C., *Introduction to Visibility*, National Park Service, May 1999 http://vista.cira.colostate.edu/improve/Education/IntroToVisinstr.htm)

Absorption: a class of processes by which one material is taken up by another.

Absorption Coefficient: a measure of the ability of particles or gases to absorb photons; a number that is proportional to the number of photons removed from the sight path by absorption per unit length.

Aerosol: a dispersion of microscopic solid or liquid particles in a gaseous medium, such as smoke and fog.

Air Parcel: a volume of air that tends to be transported as a single entity.

Anthropogenic: produced by human activities.

Apportionment: to distribute or divide and assign proportionately.

Attenuation: the diminuation of quantity. In the case of visibility, attenuation or extinction refers to the loss of image-forming light as it passes from an object to the observer.

Coagulation: the process by which small particles collide with and adhere to one another to form larger particles.

Condensation: the process by which molecules in the atmosphere collide and adhere to small particles.

Condensation Nuclei: the small nuclei or particles with which gaseous constituents in the atmosphere (e.g., water vapor) collide and adhere.

Deciview: a unit of visibility proportional to the logarithm of the atmospheric extinction, an index of haziness. Under many circumstances a change in one deciview will be perceived to be the same on clear and hazy days.

Extinction: the attenuation of light due to scattering and absorption as it passes through a medium.

Extinction Coefficient: a measure of the ability of particles or gases to absorb and scatter photons from a beam of light; a number that is proportional to the number of photons removed from the sight path per unit length. See absorption.

Haze: an atmospheric aerosol of sufficient concentration to be visible. The particles are so small that they cannot be seen individually, but are still effective in visual range restriction. See visual range.

Homogenous Nucleation: process by which gases interact and combine with droplets made up of their own kind. For instance, the collision and subsequent adherence of water vapor to a water droplet is homogenous nucleation. See nucleation.

Hydrocarbons: compounds containing only hydrogen and carbon. Examples: methane, benzene, decane, et cetera.

Hygroscopic: readily absorbing moisture, as from the atmosphere.

IMPROVE: Interagency Monitoring of PROtected Visual Environments.

Integrating Nephelometer: an instrument that measures the amount of light scattered (scattering coefficient).

Isopleth: a line drawn on a map through all points having the same numerical value.

LAC or Light-Absorbing Carbon: carbon particles in the atmosphere that absorb light. Black carbon.

Light Extinction Budget: the percent of total atmospheric extinction attributed to each aerosol and gaseous component of the atmosphere.

Micron: a unit of length equal to one millionth of a meter; the unit of measure for wavelength.

NO_2 or Nitrogen Dioxide: a gas consisting of one nitrogen and two oxygen atoms. It absorbs blue light and therefore has a reddish-brown color associated with it.

Nucleation: process by which a gas interacts and combines with droplets. See homogenous nucleation.

Perceived Visual Air Quality (PVAQ): an index that relates directly to how human observers perceive changes in visual air quality.

Photon: a bundle of electromagnetic energy that exhibits both wave-like and particle-like characteristics.

Plume Blight: visual impairment of air quality that manifests itself as a coherent plume.

Point Source: 1) generally, any stationary source for which individual records are maintained for emission inventory purposes; distinguished from area source, often by a criterion involving emission rate, such as 100 tons per year. 2) A source of pollution that is point-like in nature. An example is the smoke stack of a coal-fired power plant or smelter. See source.

Polar Nephelometer: an instrument that measures the amount of light scattered in a specific direction. See also integrating nephelometer.

Precursor Emissions: emissions from point or regional sources that transform into pollutants with varied chemical properties.

Rayleigh Scattering: the scattering of light by particles much smaller than the wavelength of the light. In the ideal case, the process is one of a pure dipole interaction with the electric field of the light wave.

Relative Humidity: the ratio of the partial pressure of water to the saturation vapor pressure, also called saturation ratio; often expressed as a percentage.

Scattering (light): an interaction of a light wave with an object that causes the light to be redirected in its path. In elastic scattering, no energy is lost to the object.

Scattering Coefficient: a measure of the ability of particles or gases to scatter photons out of a beam of light; a number that is proportional to the amount of photons scattered per unit length.

Secondary Aerosols: aerosol formed by the interaction of two or more gas molecules and/or primary aerosols.

SO_2: See sulfur dioxide.

Source: in atmospheric chemistry, the place, places, group of sites, or areas where a substance is injected into the atmosphere; can include point sources, elevated sources, area sources, regional sources, multiple sources, etc.

Sulfates: those aerosols which have origins in the gas-to-aerosol conversion of sulfur dioxide; of primary interest are sulfuric acid and ammonium sulfates.

Sulfur Dioxide: a gas (SO_2) consisting of one sulfur and two oxygen atoms. Of interest because sulfur dioxide converts to an aerosol that very efficiently scatters light. Also, it can convert into acid droplets consisting primarily of sulfuric acid.

Temperature Inversion: in meteorology, a departure from the normal decrease of temperature with increasing altitude such that the temperature is higher at a given height in the inversion layer than would be expected from the temperature below the layer. This warmer layer leads to increased stability and limited vertical mixing of air.

Visual Range: the distance at which a large black object just disappears from view.

VOC: Volatile Organic Compound - gaseous hydrocarbon.

Wavelength: the distance, measured in the direction of propagation of a wave, between two successive points in the wave that are characterized by the same phase of oscillation.

I. BACKGROUND ON REGIONAL HAZE

A. Introduction

Regional haze is a type of air pollution that is transported long distances and reduces visibility in national parks and wilderness areas across the country. Over the years this haze has reduced the visual range from 90 miles (145 kilometers) to 15-31 miles (24-50 kilometers) in the East, and from 140 miles (225 kilometers) to 35-90 miles (56-145 kilometers) in the West. The pollutants that create this haze are sulfates, nitrates, organic carbon, elemental carbon, and soil dust. Anthropogenic haze sources include industry, motor vehicles, agricultural and forestry burning, and windblown dust from roads and farming practices.

In 1999, the Environmental Protection Agency (EPA) issued regulations to address regional haze in 156 national parks and wilderness areas across the country. These regulations were published in the Federal Register on July 1, 1999 [64 FR 35714]. The goal of the Regional Haze Rule (RHR) is to eliminate anthropogenic visibility impairment in national parks and wilderness areas across the country. It contains strategies to improve visibility over the next 60 years, and requires states to adopt implementation plans to address Regional Haze.

EPA's RHR provides two paths to address regional haze. One is 40 CFR 51.308 ("Section 308"), and requires most states to develop long-term strategies out to the year 2064. 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 is 40 CFR 51.309 (Section 309"), and is an option for nine states - Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming - and the 211 Tribes located within those States to adopt regional haze strategies for the period from 2003 to 2018. These strategies are based on recommendations from the Grand Canyon Visibility Transport Commission (GCVTC) for protecting the 16 Class I areas in the Colorado Plateau area. Adopting these strategies constitutes reasonable progress until 2018. These same strategies can also be used by the nine western states and tribes to protect the other Class I areas within their own jurisdiction.

Best Available Retrofit Technology (BART) is one of the main provisions in the RHR. It applies to certain industrial sources built between 1962 and 1977. Section 308 requires states to identify BART-eligible sources, estimate the expected visibility improvements, and determine BART for each eligible source. Section 309 initially provided an alternative method of satisfying the 308 BART requirements by setting voluntary SO_2 emission reductions for BART sources, with a backup market trading program if the SO_2 reduction milestones are not met. This alternative to BART in Section 309 was referred to as the Annex. SO_2 reductions in the Annex were designed to be "better than BART". However, in response to lawsuits filed by CEED and American Corn Growers, EPA has modified the Regional Haze Rule so that: Section 309 States must also determine BART eligibility for sources and the "Annex" is unaffected.

B. 1977 Clean Air Act

In 1977, Congress amended the Clean Air Act (CAA), including provisions to protect the scenic vistas of the nation's national parks and wilderness areas. Section 169A was added to the CAA for the protection of visibility in mandatory Class I Federal areas (Class I Areas) of great scenic importance. In Section 169A(a)(1), Congress established the national goal for visibility protection:

> "Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from man-made air pollution".

In 1980, the EPA developed regulations to address this goal by reducing the impact of large industrial sources on nearby Class I areas[1]. It was recognized at the time that regional haze, which comes from a wide variety of sources that may be located far away from a Class I area, were also a part of the visibility problem. However, monitoring networks and visibility models were not yet developed to the degree necessary to understand the causes of regional haze. Therefore, EPA deferred additional rulemaking until scientific knowledge of visibility impairment had improved.

The final Regional Haze Rule (RHR), which precipitated the development of this SIP element, was promulgated on July 1, 1999 and became effective on August 30, 1999 (See Appendix A-O). In response to the lawsuits brought by CEED and American Corn Growers Ass'n, EPA has since issued amendments to the Regional Haze Rule (See 7/6/05 FR & 10/13/06 FR). See Appendix 2007-A

C. Grand Canyon Visibility Transport Commission

Amendments to the Clean Air Act in 1990 created the Grand Canyon Visibility Transport Commission (GCVTC). The Commission was given the charge to assess the currently available scientific information pertaining to adverse impacts on visibility from potential growth in the region, identify clean air corridors, and recommend long-range strategies for addressing regional haze. The GCVTC completed significant technical analyses and developed recommendations to improve visibility in the 16 mandatory federal Class I areas on the Colorado Plateau. The Commission found that visibility impairment on the Colorado Plateau was caused by a wide variety of sources and pollutants. A comprehensive strategy was needed to address all of the causes of regional haze. The GCVTC submitted these recommendations to EPA in a report dated June 1996 for consideration in rule development. These recommendations were:

Air Pollution Prevention. Air pollution prevention and reduction of per capita pollution was a high priority for the Commission. The Commission recommended policies based on energy conservation, increased energy efficiency and promotion of the use of renewable resources for energy production.

Clean Air Corridors. Clean air corridors are a key source of clean air at Class I areas, and the Commission recommended careful tracking of emissions growth that may affect air quality in these corridors.

Stationary Sources. For stationary sources, the Commission recommended closely monitoring the impacts of current requirements under the Clean Air Act and ongoing source attribution studies. Regional targets for SO2 emissions from stationary sources should be set, starting in 2000. If these targets are exceeded, this will trigger a regulatory program, probably including a regional cap and market-based trading.

Areas In and Near Parks. The Commission's research and modeling showed that a host of identified sources adjacent to parks and wilderness areas, including large urban areas, have significant visibility impacts. However, the Commission lacked sufficient data regarding the visibility

1 Class I Areas generally include national parks, monuments, wildlife refuges and wildernesses.

impacts of emissions from some areas in and near parks and wilderness areas. In general, the models used by the Commission were not readily applicable to such areas. Pending further studies of these areas, the Commission recommended that local, state, tribal, federal, and private parties cooperatively develop strategies, expand data collection, and improve modeling for reducing or preventing visibility impairment in areas within and adjacent to parks and wilderness areas.

Mobile Sources. The Commission recognized that mobile source emissions are projected to decrease through about 2005 due to improved control technologies. The Commission recommended capping emissions at the lowest level achieved and establishing a regional emissions budget, and also endorsed national strategies aimed at further reducing tailpipe emissions, including the so-called 49-state low emission vehicle, or 49-state LEV.

Road Dust. The Commission's technical assessment indicated that road dust is a large contributor to visibility impairment on the Colorado Plateau. As such, it requires urgent attention. However, due to considerable skepticism regarding the modeled contribution of road dust to visibility impairment, the Commission recommended further study in order to resolve the uncertainties regarding both near-field and distant effects of road dust, prior to taking remedial action. Since this emissions source is potentially such a significant contributor, the Commission felt that it deserved high priority attention and, if warranted, additional emissions management actions.

Emissions from Mexico. Mexican sources are also shown to be significant contributors, particularly of SO_2 emissions. However, data gaps and jurisdictional issues made this a difficult issue for the Commission to address directly. The Commission recommendations called for continued bi-national collaboration to work on this problem, as well as additional efforts to complete emissions inventories and increase monitoring capacities. These matters should receive high priority for regional and national action.

Fire. The Commission recognized that fire plays a significant role in visibility on the Plateau. In fact, land managers propose aggressive prescribed fire programs aimed at correcting the buildup of biomass due to decades of fire suppression. Therefore, prescribed fire and wildfire levels are projected to increase significantly during the studied period. The Commission recommended the implementation of programs to minimize emissions and visibility impacts from prescribed fire, as well as to educate the public.

Future Regional Coordinating Entity. Finally, the Commission believed there was a need for an entity like the Commission to oversee, promote, and support many of the recommendations in their report. To support that entity, the Commission developed a set of recommendations addressing the future administrative, technical and funding needs of the Commission or a new regional entity. The Commission strongly urged the EPA and Congress to provide funding for these vital functions and give them a priority reflective of the national importance of the Class I areas on the Colorado Plateau.

D. Western Regional Air Partnership

The Western Regional Air Partnership (WRAP) was established in 1997 as the successor organization of the GCVTC. The WRAP is charged with coordinating and overseeing the implementation of the Commission's recommendations, as well as developing the technical and policy work that states and tribes in the West will need in order to implement the RHR. The WRAP

is a stakeholder-based organization, working cooperatively with States, tribes, federal agencies, environmental groups, and industry representatives to develop recommendations that meet the environmental goals most effectively. Since 2000, much of the work being conducted by the committees and forums of the WRAP have focused on identifying what information will be needed for Section 309 SIPs and TIPs.

II. STATE IMPLEMENTATION PLAN

A Objective

This document presents technical information to support the Albuquerque- Bernalillo County Air Quality Control Board's (AQCB) approval of this document as the Regional Haze element of the State Implementation Plan (SIP) for Bernalillo County, New Mexico. The AQCB proposes the following action: Approval of the report *Section 309 State Implementation Plan Element to Address Requirements of the final Regional Haze Rule*

The AQCB has opted to follow the recommendations of the Grand Canyon Visibility Transport Commission (GCVTC) and produce its regional haze SIP element to fulfill the requirements as specified in Section 51.309 (d) of the final Regional Haze Rule (RHR) [FR Vol. 64, No. 126] and subsequent rule changes.

Along with the State of New Mexico's Section 51.309(d) SIP governing thirty-two counties, Bernalillo County's regional haze SIP element will address all of the 16 Federal Class I Areas on the Colorado Plateau. The Department will address additional Class I Areas in this revision to the 2003 regional haze SIP element.

B. Statutory Authority

This SIP is adopted pursuant to the authority provided in the New Mexico Air Quality Control Act, NMSA 1978 Sections 74-2-4, 74-2-5.C; the Joint Air Quality Control Board Ordinance, Bernalillo County Ordinance 94-5 Sections 3 and 4; and the Joint Air Quality Control Board Ordinance, Revised Ordinances of Albuquerque 1994 Sections 9-5-1-3 and 9-5-1-4.

C. Scope

This SIP is applicable to sources within Bernalillo County, except those that are located on Indian lands over which the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) lacks jurisdiction.
For air quality purposes, Bernalillo County operates the same way as a state-level air agency. The U.S. Environmental Protection Agency (EPA) regulates and funds Bernalillo County as it does any other state air agency. Enacted in 1967, the New Mexico State Air Quality Control Act [NMSA 1978 Sections 74-2-4 & 74-2-5] allowed for the establishment of the AQCB as a local board and empowered it with the authority to administer and enforce its air quality regulations within Bernalillo County.

Pursuant to the authority of the Air Quality Control Act, Chapter 74, Article 2 NMSA 1978, Sections 74-2-5 and 74-2-7, the AQCB has jurisdiction over all of Bernalillo County, (including the City of

Albuquerque), except Indian lands. The State of New Mexico Environmental Improvement Board (EIB) has jurisdiction over all other counties in New Mexico. The City of Albuquerque Environmental Health Department, Air Quality Division (AQD) administers and staffs the air quality program for Bernalillo County. The term Department, as used in this document, refers to the Albuquerque Environmental Health Department.

D Options for Regional Haze SIPs:

The final Regional Haze regulation, also referred to as the Regional Haze Rule (RHR), establishes a comprehensive national visibility program to protect Federal Class I Areas and requires states to develop a SIP element to address requirements of the final RHR.

Class I areas are those designated as areas of special national or regional value from a natural, scenic, recreational, and/or historic perspective. These areas are the focus of federal visibility protection regulations, including the Regional Haze Rule. Across the country, Class I areas include such places as the Grand Canyon, Yosemite, Mt. Rainier, Great Smoky Mountains, Yellowstone, and the Everglades. There are a total of 156 mandatory federal Class I Areas in the U.S. There are nine Class I areas in New Mexico, including Carlsbad Caverns National Park, Bandelier National Monument, Bosque del Apache National Wildlife Refuge, and the Gila, Pecos, Salt Creek, San Pedro Parks, Wheeler Peak, and White Mountain Wilderness Areas.

The final RHR provides two options to states under 40 CFR Sections 51.308 and 51.309, known as Section 308 or "308" and Section 309 or "309", respectively. Section 309 of the Regional Haze Rule is an option only available to the nine western states that comprised the Grand Canyon Visibility Transport Commission (GCVTC), an organization formed by Congress in 1991 to study scientific and technical information on visibility protection for 16 Class I areas located on the Colorado Plateau, including the San Pedro Parks Wilderness Area in New Mexico. In 1996, the GCVTC submitted a report to EPA with recommendations on how to protect visibility for these areas. The Regional Haze Rule's Section 309 incorporates many of the recommendations of the GCVTC, which were developed through a consensus-based process that involved states, tribes, EPA, federal land managers, industry, citizens and environmental groups from the west.[2]. New Mexico was an active participant in the process, as were New Mexico tribal governments, industry representatives and environmental groups. The Albuquerque-Bernalillo County Air Quality Control Board (AQCB) chose to develop its regional haze SIP element using the 309 Option.

E. Requirements of the 309 Option:

The final RHR requires that States opting to follow Section 51.309 address the following topics in their regional haze SIP elements:

- Projection of Visibility Impairment
- Treatment of Clean Air Corridors
- Implementation of Stationary Source Reductions
- Mobile Sources
- Emissions Related to Fire
- Dust from Roads
- Pollution Prevention

2 See Section H, Additional Recommendations, for a discussion of all of the GCVTC's recommendations.

- Implementation of Additional Requirements
- Periodic Implementation Plan Revisions, and
- State Planning & Interstate Coordination

The AQCB includes all of these topics in this regional haze SIP element, and identifies specific control strategies to address the different types of emission sources.

III COORDINATION WITH THE STATE OF NEW MEXICO

Since 1967, when the New Mexico Air Quality Control Act was adopted, the City of Albuquerque and Bernalillo County have acted as agents of the AQCB to implement, administer and enforce the local air quality program within Albuquerque and Bernalillo County. After Congress adopted the 1970 Clean Air Act (CAA), the AQCB (formed by Albuquerque and Bernalillo County prior to the CAA) became the federally-delegated authority to implement the Federal CAA. Therefore the, City of Albuquerque acting as agents for the AQCB, administers and enforces the local Bernalillo County air quality program and interfaces with the U.S. Environmental Protection Agency (EPA) Region VI to implement CAA provisions.

This presents a unique situation for promulgating a 309 Regional Haze SIP element, because Bernalillo County has independent delegation for CAA purposes, but it is still part of the State of New Mexico. Therefore, coordination between Bernalillo County and the State of New Mexico is necessary. To this end, City of Albuquerque staff participated in the State's Regional Haze Stakeholder Workgroup (for the 2003 Regional Haze SIP), a series of meetings to build consensus regarding whether the State should pursue the 308 or the 309 SIP option.

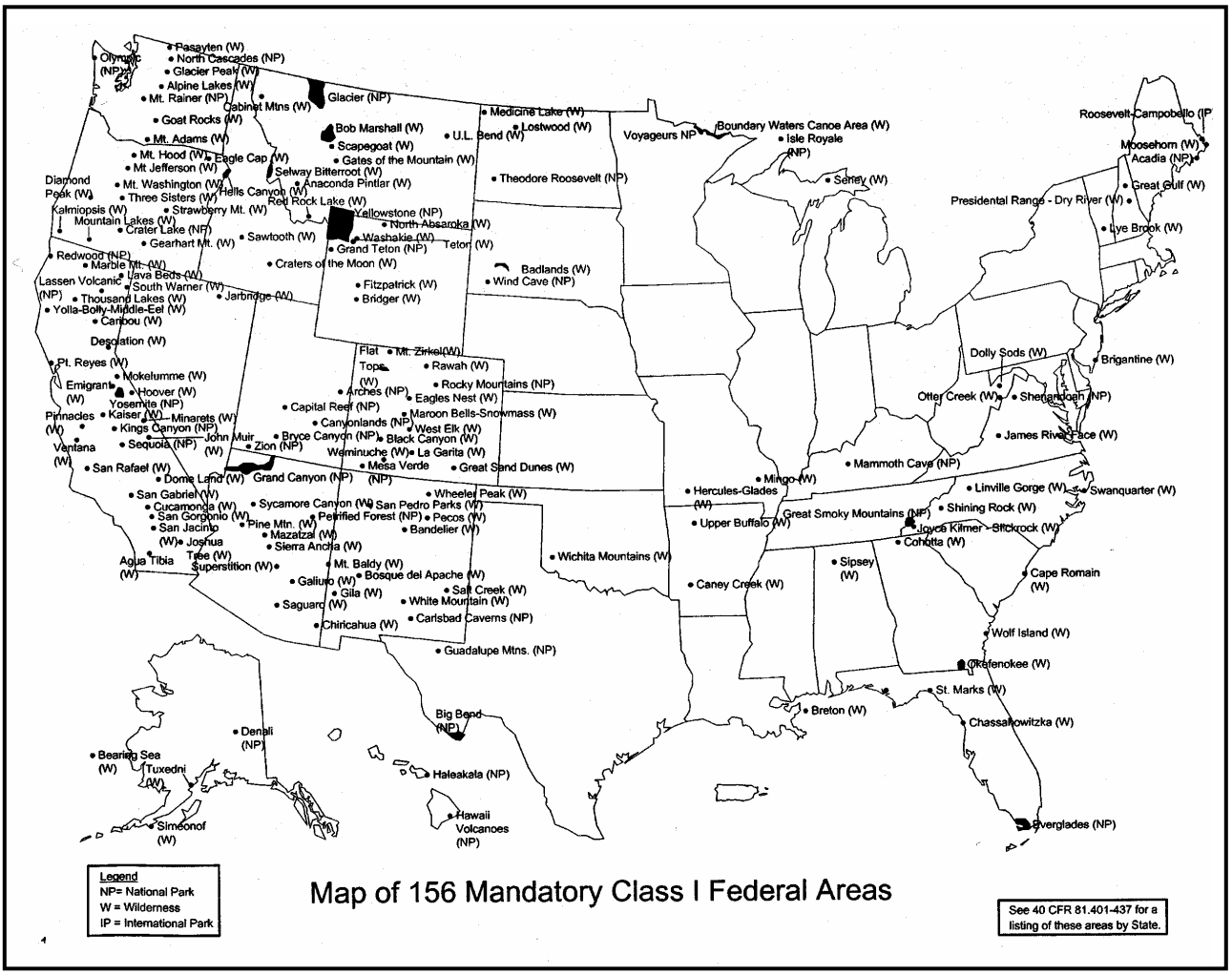
However, consensus was not reached. In a letter dated June 24, 2003 (see Appendix B-O), the New Mexico Secretary of the Environment recommended that the State pursue the 309 SIP option so it could build upon the GCVTC's technical work developed specifically for certain western states. City of Albuquerque staff met with State staff in June 2003 to coordinate how each would develop it's separate, yet related, 309 SIP element.

IV. SIP ELEMENTS

SECTION A. PROJECTION OF VISIBILITY IMPROVEMENT

Page 35751 of the Preamble to the Regional Haze Rule (RHR) discusses the requirement for projection of visibility improvement, which is only applicable to the 16 Class I Areas of the Colorado Plateau (see Figures 2a & 2b in Section B). There are, however, a total of 156 federal Class I Areas within the United States (see Figure 1).

Figure 1: Federal Class I Areas in the United States



This requirement for projection of visibility improvement applies to all transport region states, whether they have one or more of the 16 Class I Areas within their borders or whether they have none. States must show visibility improvement for each of the 16 Class I Areas. EPA requirements for the 2003 SIP submittal stipulated that, States do not need to show their individual contribution, just the regional contribution. Note that the same visibility improvement projections will be reflected in the SIPs of the transport region states because the states are utilizing technical work that the Western Regional Air Partnership (WRAP) has produced.

Many of the 156 Mandatory Federal Class I Areas in the United States are found in the West (see Figure 1. As mentioned, Section 51.309 of the final Regional Haze Rule (RHR) offers two alternatives for addressing Federal Class I Areas[3]. As part of their 2003 SIP element submittal, States either addressed 1) all of the 16 Class I Areas of the Colorado Plateau, or 2) all of the 16 Class I Areas of the Colorado Plateau and additional Class I Areas outside of the Colorado Plateau but inside the nine GCVTC state transport region.

3 For purposes here, the term Class I Areas means the Mandatory Class I Federal Areas.

In 2003, as part of this SIP element, the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) elected to address only the 16 Class I Areas of the Colorado Plateau. However since that time WRAP has made efforts to model the impact transport region states have on additional Class I areas outside of the Colorado Plateau. These efforts were made to address additional requirements for the 2007 Regional Haze SIP submittal, specifically 40 CFR 51.309(d)10(i) and 40 CFR 59.309(g), which call for an analysis the impacts each state has on other Class I areas. However, the WRAP has not analyzed transport impacts below the level of a state. Therefore, the determination of whether emissions from Bernalillo County will cause a significant (0.5 dv) impact on nearby Class I areas (i.e. Bosque del Apache) will be more qualitative than quantitative. The Department has worked with the WRAP to characterize this impact and it has been included in this report. A more quantitative analysis will be performed for the periodic SIP update due in 2013.

(a) Applicable Class I Areas

This projection of visibility improvement (presented here) covers the 16 Class I Areas of the Colorado Plateau as defined in 40 CFR 51.309(b)(1).

Table 1: 16 Class I Areas of the Colorado Plateau

Area	Location
Grand Canyon National Park	Arizona
Sycamore Canyon Wilderness	Arizona
Petrified Forest National Park	Arizona
Mount Baldy Wilderness	Arizona
San Pedro Parks Wilderness	**New Mexico**
Mesa Verde National Park	Colorado
Weminuche Wilderness	Colorado
Black Canyon of the Gunnison Wilderness	Colorado
West Elk Wilderness	Colorado
Maroon Bells Wilderness	Colorado
Flat Tops Wilderness	Colorado
Arches National Park	Utah
Canyonlands National Park	Utah
Capital Reef National Park	Utah
Bryce Canyon National Park	Utah
Zion National Park	Utah

Of the 16 Class I Areas listed, only the San Pedro Parks Wilderness Area lies within New Mexico (See Figure 2). Note that no such Class I Areas are located within Bernalillo County. However, Bernalillo County's impact on these 16 Class I Areas is embodied in the regional technical work that the WRAP has conducted. Results of this work indicate a change in visibility in the San Pedro Parks Wilderness Area on both the 20% worst visibility days and the 20% best visibility days (see Appendix A-SIP for further explanation).

Figure 2a: Class I Areas of the Southwestern U.S.

Note: The San Pedro Parks Wilderness Area is the only such area in New Mexico.

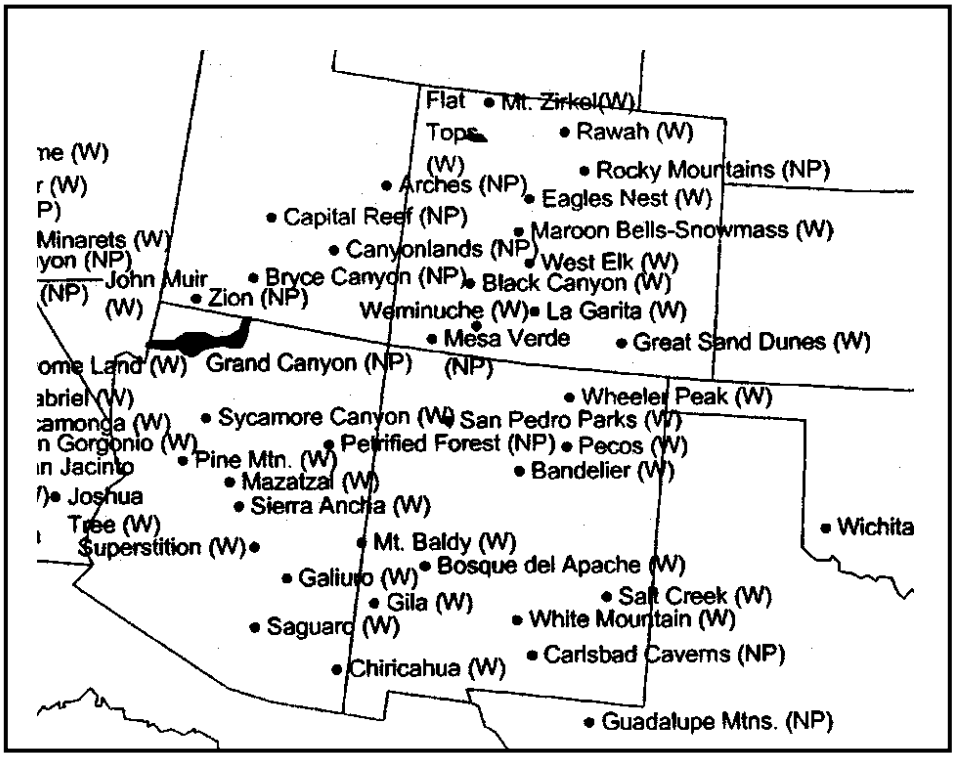
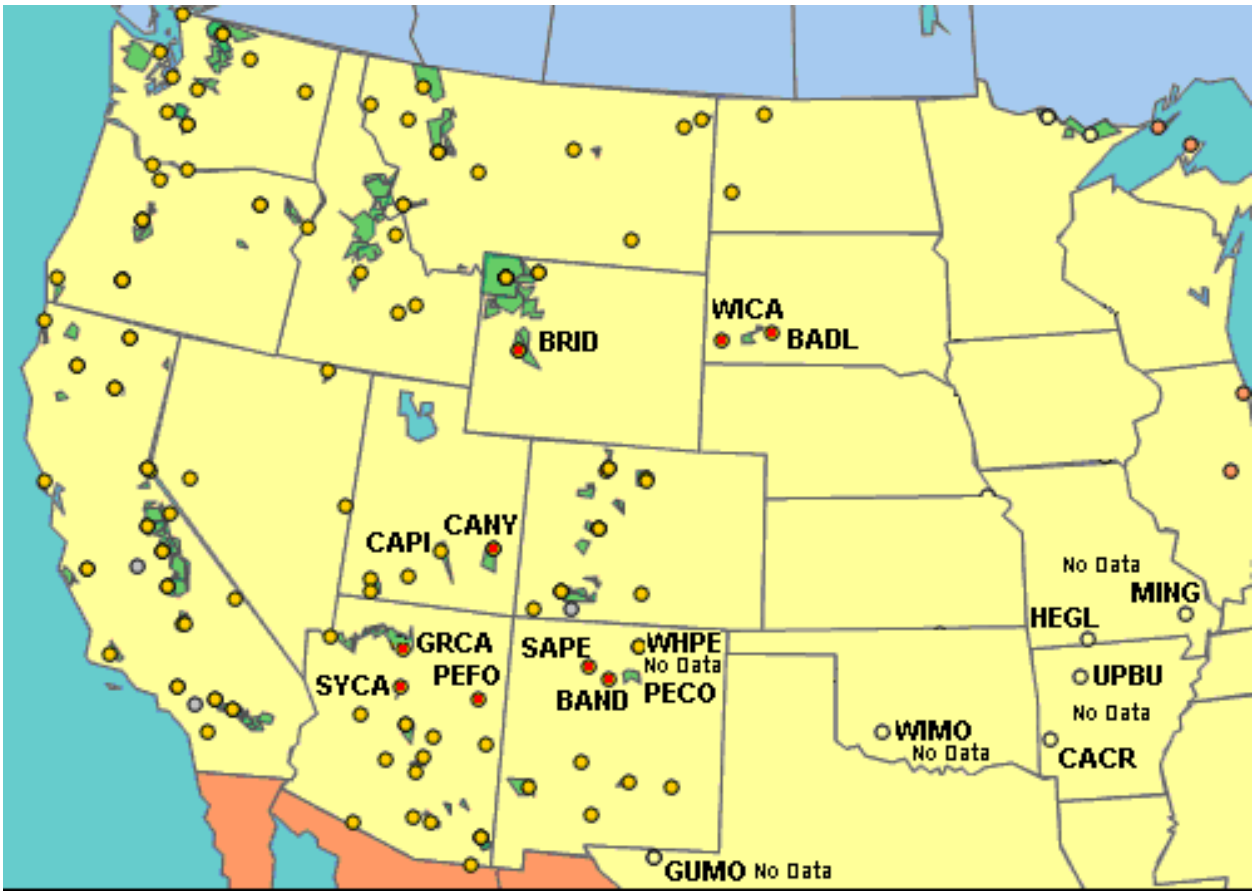


Figure 2b: Class I Areas of the Central and Western United States



(b) Projected Visibility Improvement For Colorado Plateau Class I Areas Pursuant To §309(d)(2)

Table #2 shown below compares the monitored 2000-04 baseline visibility conditions in deciviews for the 20% Best and 20% Worst days to the projected visibility improvement resulting from the 2018 Base Case (Base 18b) and 2018 Preliminary Reasonable Progress (PRP18) modeling scenarios completed to date.

These 2018 modeling scenarios are defined as follows:

- Base Case (base18b) = growth plus all controls "on the books" as of December 2004, No BART or SO_2 milestones assumptions
- Preliminary Reasonable Progress Case (PRP18) = refined growth estimates plus all controls "on the books" as of May 2007, includes presumptive limit or known SO_2 BART on EGUs; and
- *[future]* Final Reasonable Progress Case (FRP18) = all controls "on the books" as of 2007, will include all BART controls in the WRAP region and limits defined in the SO_2 milestone "better-than-BART" program.

When SO_2 and NOx controls for all BART sources have been adopted in the WRAP region, and the §309 states re-adopt the SO_2 milestone program, a 2018 Final Reasonable Progress (FRP18) modeling scenario will then be analyzed and the remaining cells completed in the table below. The data in the table below satisfy §309(d)(2) of the RHR.

All 16 Colorado Plateau Class I areas show a projected visibility improvement for 2018 using the monthly averages on the 20% Worst average visibility days, and no degradation on the 20% Best average visibility days for each monitoring site. The monthly average method for projecting visibility improvement is an allowed variation of EPA guidance, and the method description is found at: http://www.wrapair.org/forums/taf/meetings/070226c/Applying_Monitoring_Metrics_for_Regional_Haze_Planning_%20February_23_2007_finalreviewdraft.pdf. The monthly averaging method was chosen because it was the shortest averaging period for making the future visibility projections, while avoiding the use of the EPA specific days method that only assesses improvements on the Worst and Best days observed during one year (2002) of the 2000-04 baseline monitoring period.

		TABLE 2							
		Visibility Impairment in Deciviews*							
		20% Worst Visibility Days				20% Best Visibility Days			
		2000-04 Regional Haze Rule Baseline Monitoring Data	Projected Visibility (Monthly Average Method)			2000-04 Regional Haze Rule Baseline Monitoring Data	Projected Visibility (Monthly Average Method)		
Colorado Plateau Class I areas under §309(d)(2)	**State**		**2018 Base Case (Base 18b)**	**2018 Preliminary Reasonable Progress Case [RPC] (PRP18)**	**2018 Final RPC (FRP18)**		**2018 Base Case (Base1 8b)**	**2018 Preliminary RPC (PRP18)**	**2018 Final RPC (FRP18)**
Grand Canyon National Park	AZ	11.7	11.4	11.3		2.2	2.2	2.1	
Mount Baldy Wilderness	AZ	11.9	11.5	11.4		3.0	2.9	2.8	
Petrified Forest National Park	AZ	13.2	12.9	12.9		5.0	4.9	4.8	
Sycamore Canyon Wilderness	AZ	15.3	15.1	15.1		5.6	5.6	5.6	
Black Canyon of the Gunnison National Park Wilderness	CO	10.3	10.1	9.9		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	12.6		4.3	4.1	4.0	
Weminuche Wilderness	CO	10.3	10.1	9.9		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	10.9		3.8	3.6	3.5	
Bryce Canyon National Park	UT	11.6	11.3	11.2		2.8	2.7	2.6	
Canyonlands National Park	UT	11.2	11.0	10.9		3.8	3.6	3.5	
Capitol Reef National Park	UT	10.9	10.6	10.5		4.1	4.0	3.9	
Zion National Park	UT	13.2	13.0	13.0		5.0	4.7	4.7	

* Data are from: http://vista.cira.colostate.edu/TSS/Results/HazePlanning.aspx --> Modeling --> Visibility Projections

SECTION B. TREATMENT OF CLEAN AIR CORRIDORS

Clean Air Corridors (CACs) are geographic areas located within transport region states that contribute to good visibility in the 16 Class I Areas of the Colorado Plateau. In a CAC, additional

restrictions on emissions increases may be appropriate to protect visibility in affected Federal Class I Areas. The Clean Air Act (CAA) Amendments of 1990 require that the Grand Canyon Visibility Transport Commission (GCVTC) address the establishment of CACs. The GCVTC found that, in general, clean air comes to the Colorado Plateau from the northwest. The Meteorological Subcommittee of the GCVTC delineated a CAC that encompasses roughly SE Oregon and most of Idaho, Nevada and Utah (see Figure 3 on the following page).

Page 35751 of the Preamble to the RHR discusses the requirements for Clean Air Corridors (CACs). States are required to: 1) adopt an emissions tracking program; 2) identify the CAC boundary; 3) identify emissions growth that could be significant enough to result in visibility impairment at one or more of the 16 Class I Areas; 4) outside the CAC, identify significant emissions growth that could impact air quality inside the corridor; 5) if emission growth assessments inside and outside the CAC show visibility impairment in the CAC, conduct an analysis of the potential impact in the 16 Class I Areas; and 6) indicate if any other CACs exist. All transport-region states located within the CAC or not, need to address these requirements.

(a) Comprehensive emissions tracking program.

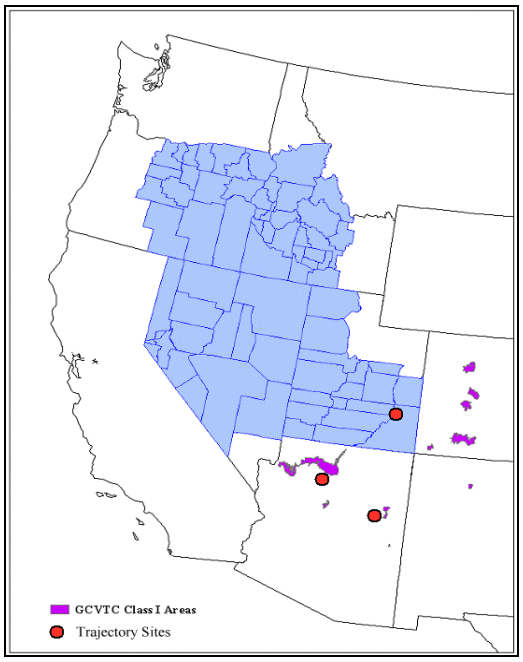
Pursuant to 40 CFR 51.309(d)(3), a comprehensive emissions tracking system has been established to track emissions within portions of Oregon, Idaho, Nevada and Utah, that have been identified as part of the Clean Air Corridor (CAC), as specified in B(b) below, to ensure that visibility is not degraded on the least-impaired days in any of the 16 Class I Areas of the Colorado Plateau. The WRAP developed this comprehensive emissions tracking system to assist these states in meeting this requirement. Note that the CAC emissions tracking system does not apply here, since no portion of the CAC lies within New Mexico.

Appendix B-SIP describes the comprehensive emissions tracking system and the process the WRAP will use to summarize annual emission trends in order to identify any significant emissions growth that could lead to visibility degradation in the 16 Class I Areas. Included in this summary will be an assessment of whether any significant emissions growth has occurred within the CAC, in accordance with B(c) below.

(b) Identification of Clean Air Corridors.

Pursuant to 40 CFR 51.309(d)(3)(i), the Department recognizes the Clean Air Corridor (CAC) indicated in Figure 3. This CAC was identified using studies conducted by the Meteorological Subcommittee of the GCVTC and updated by the Western Regional Air Partnership (WRAP), based on an assessment described in the *WRAP Policy Paper on Clean Air Corridors* and related technical analysis conducted by the WRAP. Appendix B-SIP of this implementation plan summarizes the *WRAP Policy Paper on Clean Air Corridors* and contains additional technical work associated with the identification of the CAC.

Figure 3: Map of the Clean Air Corridor in the Transport Region



(c) Patterns of Growth *Within* the Clean Air Corridor.

Pursuant to 40 CFR 51.309(d)(3)(ii), the Department has determined, based on the *WRAP Policy Paper on Clean Air Corridors* and technical analysis conducted by the WRAP, that inside the Clean Air Corridor identified in B(b) above there is no significant emissions growth occurring at this time that is causing visibility impairment in any of the 16 Class I Areas of the Colorado Plateau (see Appendix B-SIP).

The Department has determined that emissions growth in the CAC does not adversely affect the 309 Federal Class I Area in New Mexico—the San Pedro Parks Wilderness Area. Nor does this emissions growth adversely affect the other 15 Class I Areas on the Colorado Plateau. Appendix B-SIP contains a discussion of these findings. Future emissions growth will be tracked as applicable in accordance with the comprehensive emissions tracking system in B(a) above. The WRAP will summarize annual emission trends within the corridor and will assess whether any significant emissions growth has occurred within the corridor.

(d) Patterns of Growth *Outside* the Clean Air Corridor.

Pursuant to 40 CFR 51.309(d)(3)(iii), the AQCB has determined, based on the *WRAP Policy Paper on Clean Air Corridors* and technical analysis conducted by the WRAP, that, outside the Clean Air Corridor identified in B(b) above there is no significant emissions growth occurring at this time impairing air quality within the CAC sufficient to cause any visibility impairment in any of the 16 Class I Areas of the Colorado Plateau (see Appendix B-SIP). As part of its annual summary of emission trends within the corridor, the WRAP will assess emission and monitoring data trends outside the CAC in order to determine if significant emissions growth is occurring outside the corridor that could be impairing air quality within

the corridor and resulting in visibility impairment in the 16 Class I Areas (see Appendix B-SIP).

(e) Actions if Impairment Inside or Outside the Clean Air Corridor Occurs.

The Department, in coordination with the other transport region states and tribes, will review the WRAP's annual summary of emission trends within the Clean Air Corridor (CAC) and will determine if any significant emissions growth was identified either within the corridor or outside of it. If significant emissions growth is identified, the Department, in coordination with the other transport region states and tribes, will seek WRAP assistance in conducting an analysis of the effects of this emissions growth in terms of possible impact on air quality within the corridor and possible degradation of the least-impaired days in any of the 16 Class I Areas of the Colorado Plateau.

Pursuant to 40 CFR 51.309(d)(3)(iv), if this analysis finds that this growth is causing visibility impairment in the 16 Class I Areas, the Department, in coordination with the other transport region states and tribes, will evaluate the need for additional emission reduction measures and will identify an implementation schedule for such measures, if needed. The implementation of any additional emission reduction measures shall be coordinated between the Department and all appropriate transport region states and tribes, on a mutually agreed upon timetable, and reported to EPA in accordance with the periodic progress reports required under 40 CFR 51.309(d)(10)(i).

(f) Other Clean Air Corridors (CACs).

Pursuant to 40 CFR 51.309(d)(3)(v), the Department has concluded that one other Clean Air Corridor (CAC), the Grand Canyon National Park CAC, can be identified. This finding is based on the WRAP Regional Technical Support Document (TSD), which cites Green, et al. (1996) who conducted an alternative analysis of CACs for the Grand Canyon (see Appendix B-SIP). Other than the two mentioned in this chapter, no additional CACs have been identified for the Colorado Plateau Region at this time. Note that no CAC or portion thereof has been identified within New Mexico.

Although no formal update on this finding is required, the Department recognizes that future modeling or monitoring data may indicate that other possible CACs exist. The Department will notify EPA if there is evidence to support such a finding in the future, and will take appropriate action pursuant to this requirement.

Neither New Mexico nor Bernalillo County is included within the boundaries of either of the Clean Air Corridors (CACs) identified in this chapter. Based on technical analysis that the WRAP conducted (see Appendix B-SIP), the Department does not believe that Bernalillo County's emissions contribute to visibility impairment either within or outside of the CACs identified.

This is because the GCVTC found that clean air comes to the corridor mainly from the northwest. Bernalillo County is located about 200 miles southeast of the Utah border (the Corridor's southeastern-most edge), and lies generally downwind of the CAC hence, its emissions are not likely to be transported into this Corridor and therefore are not likely to adversely affect it.

SECTION C. EMISSION REDUCTIONS FOR STATIONARY SOURCES

Background:

The SO_2 Milestones and Backstop Trading Program was developed to implement the emissions reduction program for major industrial sources of sulfur dioxide (SO_2) in accordance with 40 CFR 51.309(d)(4), [68 FR 33764, June 5, 2003]. The program is implemented through the following documents:

- The *Section 309 Regional Haze State Implementation Plan Element for Albuquerque and Bernalillo County* describes the overall program and contains the Department's commitment to implement all parts of the program as outlined in the Implementation plan element. The Implementation plan element establishes the regional milestones, SO_2 emissions tracking requirements, and if the Western Backstop SO_2 Trading Program ("WEB Trading Program") is triggered, the Implementation plan element also describes how the Department shall determine allocations and manage the allowance tracking system that is needed to implement the program.

- 20.11.46 NMAC - *Sulfur Dioxide Emissions Inventory Requirements; Western Backstop SO_2 Trading Program* (see Appendix D-O) establishes the procedures and compliance requirements that shall apply to major industrial sources of sulfur dioxide (SO_2) as a backstop regulatory program if the SO_2 milestones are exceeded. The trading program outlined in this regulation may never be implemented if the goal to meet the regional SO_2 milestones through voluntary measures is achieved.

- 20.11.46.9 NMAC stipulates that, all stationary sources with ***actual*** emissions of 100 tons per year or more of SO_2 are required to submit an annual emissions inventory in the pre-trigger phase of the program to measure compliance with the regional SO_2 milestones. If the backstop program is triggered then these requirements will eventually be overridden by more rigorous monitoring requirements in 20.11.46 NMAC.

Requirements:

Pages 35751-35752 in the Preamble to the Regional Haze Rule (RHR) discuss the requirements for stationary sources. The stationary sources to which the requirements apply are those sources that emit 100 ***actual*** tons per year (tpy) or more of sulfur dioxide (SO_2). Section 309 originally contained two sets of requirements for controlling stationary source emissions. A third set of requirements in 40 CFR 51.309(h) was proposed via 67 FR 30418, May 6, 2002. These requirements were finalized via 68 FR 33764, June 5, 2003, and became known as "the Annex" or *Revisions to the Regional Haze Rule*.

Section 309(f) of the RHR [64 FR 35773] required submission of an Annex to the GCVTC report. A description of the requirements in Section 309(h) begins on page 33774 in *Revisions to the Regional Haze Rule*, 67 FR 33764, June 5, 2003. The Annex contains SO_2 emission reduction milestones showing steady and continuous reductions during the period 2003-2018, greater than what would be achieved by applying Best Available Retrofit Technology (BART) (see Appendix G-O for the complete rule citation). Section 309(d)(4) requires tracking emissions to ensure that the SO_2 milestones in the Annex are met, and that a backstop market trading program would be implemented if the milestones are not met. The new Section 309(h) has been added to reflect the elements of the submitted Annex, and contains requirements related to adjusting the SO_2

milestones, determining annual compliance with the milestones and key trading program elements.

Definitions:

Note: The definitions in this section apply only to this Implementation plan and correspond to the regulation 20.11.46 NMAC, *Sulfur Dioxide Emissions Inventory Requirements; Western Backstop SO_2 Trading Program* ("the regulation").

Account Certificate of Representation means the completed and signed submission required to designate an Account Representative for a WEB source or an Account Representative for a general account.

Account Representative means the individual who is authorized through an Account Certificate of Representation to represent owners and operators of the WEB source with regard to matters under the WEB Trading Program or, for a general account, who is authorized through an Account Certificate of Representation to represent the persons having an ownership interest in allowances in the general account with regard to matters concerning the general account.

Act means the federal Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.*

Actual Emissions means the total annual sulfur dioxide emissions determined in accordance with 20.11.46.16 NMAC, or determined in accordance with of 20.11.46.9 NMAC for sources that are not subject to 20.11.46.16 NMAC.

Allocate means to assign allowances to a WEB source through Section C(1) of this Implementation plan.

Allowance means the limited authorization under the WEB Trading Program to emit one ton of SO_2 during a specified control period or any control period thereafter subject to the terms and conditions for use of unused allowances as established by 20.11.46 NMAC.

Allowance Limitation means the tonnage of SO_2 emissions authorized by the allowances available for compliance deduction for a WEB source for a control period under Subsection A of 20.11.46.19 NMAC on the allowance transfer deadline for that control period.

Allowance Tracking System means the system developed by the Department where allowances under the WEB Trading Program are recorded, held, transferred and deducted.

Allowance Tracking System Account means an account in the Allowance Tracking System established for purposes of recording, holding, transferring, and deducting allowances.

Allowance Transfer Deadline means the deadline established in Subsection B of 20.11.46.17 NMAC when allowances must be submitted for recording in a WEB source's compliance account in order to demonstrate compliance for that control period.

Annex means the requirements in 40 CFR 51.309(h) of the Regional Haze Rule (RHR), also referred to as Revisions to the Regional Haze Rule, which was published in 67 FR 33764, June 5, 2003 and became effective August 4, 2003.

Bernalillo County means the jurisdiction of the air quality program that covers the Albuquerque city limits and all of the remaining areas of Bernalillo County, except for Tribal lands.

Board ("the Board") means the Albuquerque-Bernalillo County Air Quality Control Board (AQCB).

Compliance Account means an account established in the Allowance Tracking System under Subsection A of 20.11.46.15 NMAC for the purpose of recording allowances that a WEB source might hold to demonstrate compliance with its allowance limitation.

Compliance Certification means a submission to the Department by the Account Representative as required under Subsection B of 20.11.46.19 NMAC to report a WEB source's compliance or noncompliance with 20.11.46 NMAC.

Control Period means the period beginning January 1 of each year and ending on December 31 of the same year, inclusive.

Department means the City of Albuquerque Environmental Health Department, Air Quality Division.

Emissions Tracking Database means the central database where SO_2 emissions for WEB sources, as recorded and reported in accordance with 20.11.46 NMAC, are tracked to determine compliance with allowance limitations.

Emission Unit or **Unit** means any part of a stationary source that emits or would have the potential to emit any pollutant regulated pursuant to the Clean Air Act (CAA).

EPA Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Existing Source means a stationary source that commenced operation before the WEB Trading Program Trigger Date.

Floor Allocation means the amount of allowances set by the AQCB in accordance with this Implementation plan element that represents the minimum necessary for a source to operate under stringent control assumptions.

Fugitive Emissions are those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

General Account means an account established in the Allowance Tracking System under 20.11.46.15 NMAC for the purpose of recording allowances held by a person that are not to be used to show compliance with an allowance limitation.

Milestone means the maximum level of stationary source regional sulfur dioxide emissions for each year from 2003 to 2018, established according to the procedures in Section A of this Implementation Plan.

New WEB Source means a WEB source that commenced operation on or after the WEB Trading Program Trigger Date.

New Source Set-aside means a pool of allowances that are available for allocation to new WEB sources and modified WEB sources that have increased capacity in accordance with the provisions of Section C1.3 of this Implementation Plan.

Owner or Operator means any person who is an owner or who operates, controls or supervises a WEB source, and includes, but is not limited to, any holding company, utility system or plant manager.

Potential to Emit means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA Administrator.

Program Trigger Date means the date that the AQCB determines that the WEB Trading Program has been triggered in accordance with the provisions of Section A2 of this Implementation Plan.

Program Trigger Years means the years shown in Table 3, column 3, under Part C of this Implementation Plan element for the applicable milestone if the WEB Trading Program is triggered as described in Part A of this Implementation Plan element.

Reducible Allocation means the amount of allowances set by the AQCB in accordance with Section C1.1(b)(9) of this Implementation plan element that represents, for each source, emissions in excess of the floor allocation that shall be reduced over time as the regional milestone is decreased.

[~~**Renewable Energy Resource** means a resource that generates electricity by non-nuclear and non-fossil technologies that result in low or no air emissions. The term includes electricity generated by wind energy technologies; solar photovoltaic and solar thermal technologies; geothermal technologies; technologies based on landfill gas and biomass sources, and new low-impact hydropower that meet the Low-Impact Hydropower Institute criteria. Biomass includes agricultural, food and wood wastes. For the purposes of this Implementation plan, a renewable energy resource does not include pumped storage or biomass from municipal solid waste, black liquor, or treated wood.~~]

Retired Source means a WEB source that has received a retired source exemption as provided in Subsection E of 20.11.46.11 NMAC. Any retired source resuming operations under Paragraph (4) of Subsection E of 20.11.46.11 NMAC must submit its exemption as part of its registration materials.

Serial Number means, when referring to allowances, the unique identification number assigned to each allowance by the Tracking Systems Administrator, in accordance with Subsection B of 20.11.46.14 NMAC.

SO_2 Emitting Unit means any equipment that is located at a WEB source or other stationary source that emits SO_2.

Special Reserve Compliance Account means an account established in the Allowance Tracking System under Subsection A of 20.11.46.15 NMAC for the purpose of recording allowances that a WEB source might hold to demonstrate compliance with its allowance limitation for emission units that are monitored for SO_2 in accordance with Subsection B of 20.11.46.16 NMAC.

Stationary Source means any building, structure, facility or installation that emits or may emit any air pollutant subject to regulation under the Clean Air Act (CAA).

Submit means to send to the appropriate authority under the signature of the Account Representative. For purposes of determining when something is submitted, an official U.S. Postal Service postmark, or equivalent electronic time stamp, shall establish the date of submittal.

Ton means 2000 pounds and, for any control period, any fraction of a ton equaling 1000 pounds or more shall be treated as one ton and any fraction of a ton equaling less than 1000 pounds shall be treated as zero tons.

Tracking System Administrator means the person designated by the AQCB in collaboration with other participating states and tribes as the administrator of the WEB Allowance Tracking System and the emission tracking database.

Tribal Set Aside means a [~~8,500~~] 2,500-ton SO_2 WEB allowance allocated to tribes on an annual basis. The tribes will decide how to distribute the allowances in the set-aside among tribes in the region. The set-aside is intended to ensure equitable treatment for tribal economies and to prevent barriers to economic development.

Trigger refers to the activation of the WEB Trading Program for SO_2 in accordance with Section A of the Implementation Plan.

WEB Source means a stationary source that meets the applicability requirements of 20.11.46.11 NMAC.

Western Backstop Sulfur Dioxide (SO_2) Trading Program or WEB Trading Program refers to Sections 20.11.46.11 NMAC through 20.11.46.22 NMAC of 20.11.46 NMAC, *Sulfur Dioxide Emissions Inventory Requirements; Western Backstop SO_2 Trading Program*, which shall be triggered as a backstop in accordance with the provisions in the Implementation Plan element, if necessary, to ensure that regional SO_2 emissions are reduced.

Western Regional Air Partnership (WRAP) means the collaborative effort of tribal governments, state governments, and federal agencies to promote and monitor implementation of recommendations from the Grand Canyon Visibility Transport Commission (GCVTC) authorized under Section 169B(f) of the CAA, and to address other common Western regional air quality issues.

PART A - Milestones and Determination of Program Trigger:

A1 Regional Sulfur Dioxide (SO2) Milestones.

A1.1 Milestone Values

The regional SO_2 milestones for the years 2003 through 2018 are provided in Table 3. The milestones shall be adjusted annually as described in Paragraph A1.2 (on the following pages) of this implementation plan.

Table 3. Sulfur Dioxide Emissions Milestones

For the year	the regional sulfur dioxide milestone is:∗	and the annual SO_2 emissions for these years will determine whether emissions are greater than or less than the milestone
[~~2003 **~~	~~420,637 tons SO2~~	~~2003~~
~~2004~~	~~420,637 tons SO2~~	~~Average of 2003 and 2004~~
~~2005~~	~~420,637 tons SO2~~	~~Average of 2003, 2004 and 2005~~
~~2006~~	~~420,637 tons SO2~~	~~Average of 2004, 2005 and 2006~~
~~2007~~	~~420,637 tons SO2~~	~~Average of 2005, 2006 and 2007~~]
2008	[~~378,398~~] 269,083 tons SO2	Average of 2006, 2007 and 2008
2009	[~~336,160~~] 234,903 tons SO_2	Average of 2007, 2008 and 2009
2010	[~~293,921~~] 200,722 tons SO_2	Average of 2008, 2009 and 2010
2011	[~~293,921~~] 200,722 tons SO_2	Average of 2009, 2010 and 2011
2012	[~~293,921~~] 200,722 tons SO_2	Average of 2010, 2011 and 2012
2013	[~~278,985~~] 185,795 tons SO_2	Average of 2011, 2012 and 2013
2014	[~~264,050~~] 170,868 tons SO_2	Average of 2012, 2013 and 2014
2015	[~~249,114~~] 155,940 tons SO_2	Average of 2013, 2014 and 2015
2016	[~~249,114~~] 155,940 tons SO_2	Average of 2014, 2015 and 2016
2017	[~~249,114~~] 155,940 tons SO_2	Average of 2015, 2016 and 2017
2018	[~~234,624~~] 141,849 tons SO_2	Year 2018 only
2019 forward, until replaced by an approved SIP	[~~234,624~~] 141,849 tons SO_2	Annual; no multiyear averaging

∗ These values are rolling three-year averages of the actual milestones for the years 2008 through 2017, pursuant to 40 C.F.R. § 51.309(d)(4)(i). Accordingly, these values shall be compared for compliance purposes with the emissions listed in the 3rd column

~~** The 2003 through 2007 milestones have been adjusted to include only the [four] three states that are part of the regional backstop trading program using the adjustment methodology in the 2003 Regional Haze SIP~~

Table 4a. RESERVED

Table 4b. RESERVED

[~~A1.2. Smelter Specific Set-Aside.~~

~~Since 1990 the existing copper smelters in the west have made significant SO_2 emission reductions. In addition, three of the six smelters that were operating in 1990 have now been permanently closed. Because of the global nature of this industry, it is not expected that any new copper smelters will be constructed between 2008 and 2018. Representative emission estimates were developed for the existing copper smelters in the 2003 SIP. These estimates have been reviewed and determined to be a good estimate of future emissions from these smelters through 2018. There is the possibility that ore from mines located near the closed smelters could be transported to the existing smelters for processing. A small smelter-specific set-aside has been created to account for this possible production increase. The smelter-specific set-aside will be determined using the calculation procedures in provision A3.4, and the set-aside will be added to the milestone to account for capacity expansion at the remaining smelters. This set-aside shall only be available for use if sulfur input and emissions from the copper smelters are above the baseline levels listed in Table 5 in any particular year as a result of increased capacity. The increase to the milestone will be based on a smelter's proportional increase above its baseline sulfur input. The set-aside shall be recalculated every year to reflect actual operations of the remaining copper smelters. The set-aside may not be traded. Table 5 (below) contains the preliminary smelter set-aside values.~~

~~Table 5: Preliminary Smelter-Specific Set Aside~~

~~Company / Smelter~~	**~~Baseline Sulfur Input~~**	**~~Baseline Allocation~~**	**~~Smelter-Specific Set-Aside~~**
~~Asarco Hayden~~	~~235,000 tons~~	~~23,000 tons SO_2~~	~~3,000 tons SO_2~~
~~Phelps Dodge Miami~~	~~208,700 tons~~	~~8,000 tons SO_2~~	~~0 tons SO_2~~
~~Kennecott Salt Lake~~	~~340,269 tons~~	~~1,000 tons SO_2~~	~~100 tons SO_2~~
~~TOTAL~~	**~~575,269 tons~~**	**~~24,000 tons SO_2~~**	**~~3,100 tons SO_2~~**

~~Note: The smelter baseline has decreased from 86,000 tons SO_2 in the 2003 SIP to the current value of 24,000 tons SO_2 due to the permanent closure of the BHP San Manuel, Phelps Dodge Chino, and Phelps Dodge Hidalgo smelters. The Phelps Dodge Miami smelter is not included in this table because the smelter is currently operating at its permitted limit and therefore does not have a smelter specific set-aside. Total smelter emissions were 148,510 tons SO2 in 1990~~]

A[~~1.3~~] 1.2 Other Milestone Adjustments.

(a) All [~~other~~] milestone adjustments shall require a SIP revision. Section A3.3 of this implementation plan element outlines adjustments to be made to the emissions inventory to ensure a consistent comparison to the milestones. These adjustments shall be incorporated into the milestones every five years as part of the periodic implementation plan revisions required by 40 CFR 51.309(d)(10). The Department shall track all adjustments to the milestone pursuant to Section A3.3.

(b) Within 90 days of the periodic implementation plan revision incorporating adjustments based on section A3.3, the Department shall provide the date of the SIP revision reflecting the milestone adjustment to sources whose records were used as the basis for the milestone adjustment and state that the source needs to retain the record at least five years from the date of the SIP revision, or 10 years from the date of establishing the record, whichever is longer.

(c) Opt-in Provision for States and Tribes. The regional milestones in Table 3 were developed for a [~~four-state~~] three-state region: [~~Arizona,~~] New Mexico, Utah, and Wyoming. Other western states and tribes may choose to join this backstop trading program in the future. The addition of a state or tribe to the program will require a SIP/TIP revision for all participating states and tribes to adjust the regional milestones, and will not occur automatically. Any state or tribe that wishes to opt in to the program will propose milestone adjustments to the participating states and tribes using the same methodology that was used to develop the milestones in Table 3. A new participant must agree to develop a SIP and backstop trading rule that is consistent with those adopted by the other participating states and tribes.

A2 Regional Program Administration.

A2.1 Pre-trigger tracking of regional SO_2 emissions.

The Department shall work cooperatively with the states and tribes that are participating in the SO_2 Milestones and Backstop Trading Program to ensure that an emission tracking system for the regional SO_2 inventory is developed and maintained. The Western Regional Air Partnership (WRAP) compiled the SO_2 emission inventories that were used during the development of the Annex and subsequent SIP revisions, and the WRAP continues to refine and improve the overall tracking system for regional haze.

The WRAP shall maintain the pre-trigger emissions tracking functions outlined in this Implementation Plan element for the foreseeable future. If the WRAP is no longer able to fulfill this function, then the Department shall ensure that other arrangements are made, either through a different regional organization, independently, through a contractor, or in collaboration with the State of New Mexico to maintain the SO_2 tracking system that is described in this Implementation plan. The Department is responsible for all regional program administration functions as described in this Implementation plan. The Department shall perform these functions through the WRAP, as the AQCB agent.

The WRAP shall have no authority to make regulatory determinations. The WRAP has limited authority under this Implementation plan to perform tracking and accounting functions, prepare reports, and perform other administrative functions as directed by the states and

tribes. The Department shall work expeditiously to correct any problems if the WRAP fails to perform any of the functions described in the SIP in a timely manner.

A2.2 Designation of the Tracking System Administrator (TSA).

If the backstop trading program is triggered due to an exceedance of the SO_2 milestones as outlined in Section A3 of this Implementation plan, the Department shall work cooperatively with the other participating states and tribes to designate one Tracking System Administrator (TSA). The TSA shall be designated as expeditiously as possible, but no later than six months after the program trigger date. In addition, before the TSA is designated, the Department shall have entered into a binding contract or inter-governmental agreement with the TSA that shall require the TSA to perform all TSA functions described in this Implementation plan. In addition, the Department must obtain sufficient authority to ensure the functions in the Implementation Plan are carried out by the TSA.

A2.3 Information Provided by other States and Tribes.

The Department shall accept the emission inventory and permitting information provided by the other participating states and tribes in order to determine the milestone value and program trigger if such states and tribes have provided proper documentation and followed the public notification process outlined in Sections A3.6-A3.8 of this Implementation plan.

A3 Determination of Program Trigger (& Annual Emissions Report)

If and only if, the *actual* SO_2 emissions from any source subject to 20.11.46 NMAC are greater than or equal to 100 tons per year (TPY), shall the AQCB comply with the requirements of Section A3 (below):

A3.1 The Department shall submit an annual emissions report (covering the jurisdiction of the AQCB) to the WRAP and all participating states and tribes by September 30 of each year. The report shall document *actual* sulfur dioxide (SO_2) emissions during the previous calendar year for all sources subject to the requirements of 20.11.46.9 NMAC, *Emission Tracking Requirements for Sulfur Dioxide Emission Inventories*. The first report for calendar year 2003 was submitted by September 30, 2004. This report was not required, but instead was generated due to a misunderstanding of the SO2 threshold as being 100 TPY ***Potential*** To Emit (PTE) instead of 100 TPY ***Actual*** emissions. The Department shall prepare the supporting documentation that is included with the annual emissions report as noted in the provisions A3.2 & A3.3 (below).

A3.2 The annual emissions report for Bernalillo County shall include a source emissions change report that contains the following information:

(a) Identification of any new sources that were not contained in the previous calendar year's emissions report, and an explanation of why the source is now included in the program;

(b) Identification of any sources that were included in the previous year's report and are no longer included in the program, and an explanation of why this change has occurred; and

(c) An explanation for emissions variations at any applicable source that exceeds +/- 20 percent from the previous year.

A3.3 The annual emissions report for Bernalillo County shall include a proposed emissions adjustment as described in (a) through [~~(c)~~] (b) below to ensure a consistent comparison to the milestones.

~~[**(a) Changes in flow rate measurement methods**. The provisions in this Subsection (a), shall apply only to the 2003-2007 milestone report. Actual emission inventories for utilities that use EPA's Reference Method 2F, 2G, or 2H to measure stack flow rate will be adjusted to be comparable with the flow rate assumptions that were used in 1999, the base year inventory for the Annex. The adjustment may be calculated using any of the following three methods.~~

~~1. Directly determine the difference in flow rate through a side-by-side comparison of data collected with the new and old flow reference methods during a Relative Accuracy Test Audit (RATA) test.~~

~~2. Compare the annual average heat rate using Acid Rain heat input data (MMBtu) and total generation (MWHrs) as reported to the federal Energy Information Administration (EIA). Under this approach, the flow adjustment factor shall be calculated using the following ratio:~~

~~Heat input/MW for ***first*** full year of data using ***new*** flow rate method~~
~~Heat input/MW for ***last*** full year of data using ***old*** flow rate method~~

~~3. Compare the standard CFM per MW before and after the new flow reference method based on CEMs data submitted in the Acid Rain Program, as follows:~~

~~SCF/Unit of Generation for ***first*** full year of data using ***new*** flow rate method~~
~~SCF/Unit of Generation for ***last*** full year of data using ***old*** flow rate method~~]

~~[(b)~~] (a) **Changes in emission monitoring or calculation methods:** Actual emission inventories for sources that change the method of monitoring or calculating their emissions shall be adjusted to be comparable to the emission monitoring or calculation method that was used in the base year inventory.
~~[The base year inventory for the 2003-2007 milestone report is 1999 for utilities and 1998 for all other sources. The base year inventory for the 2008 and later milestone reports is the 2006 inventory for all sources.]~~

~~[(c)~~] (b) **Changes due to enforcement actions:**

1. Adjustments due to enforcement actions arising from settlements. Adjustments to the milestones shall be made as specified in [~~Section A3.3(c)3 and A3.3(c)4~~] Sections A3.3(b)3 and A3.3(b)4, if:

(A) an agreement to settle an action, arising from allegations of a failure of an owner or operator of an emissions unit at a source in the program to comply with applicable regulations which were in effect during the base year, is reached between the parties to the action;

(B) the alleged failure to comply with applicable regulations affects the assumptions that were used in calculating the source's base year and forecasted sulfur dioxide emissions; and

(C) the settlement includes or recommends an adjustment to the milestones.

2. Adjustments due to enforcement actions arising from administrative or judicial orders. Adjustments shall be made to the milestones as directed by any final administrative or judicial order, as specified in Sections A3.3(c)3 and A3.3(c)4. Where the final administrative or judicial order does not include a reforecast of the source's baseline, the Department or its designee shall evaluate whether a reforecast of the source's baseline emissions is appropriate.

3. Adjustments for enforcement actions. Based on Sections A3.3(c)3 and A3.3(c)4, the milestone must be decreased by an appropriate amount based on a reforecast of the source's decreased sulfur dioxide emissions. The adjustments to the milestone do not become effective until after the source has reduced its sulfur dioxide emissions as required in the settlement agreement, or administrative or judicial order. All adjustments based upon enforcement actions must be made in the form of an implementation plan revision that complies with the procedural requirements of 40 CFR 51.102 and 40 CFR 51.103.

4. Documentation of adjustments for enforcement actions. In the periodic implementation plan revision required under 40 CFR 51.309(d)(10), the Department shall include the following documentation of any adjustment due to an enforcement action:

(A) Identification of each source under the AQCB's jurisdiction which has reduced sulfur dioxide emissions pursuant to a settlement agreement, or an administrative or judicial order;

(B) For each source identified, a statement indicating whether the milestones were adjusted in response to the enforcement action;

(C) Discussion of the rationale for the Department's decision to adjust or not to adjust the milestones; and

(D) If extra SO_2 emissions reductions (over and above those reductions needed for compliance with the applicable regulations) were part of an agreement to settle an action, a statement indicating whether such reductions resulted in any adjustment to the milestones or allowance allocations, and a discussion of the rationale for the Department's decision on any such adjustment.

[A3.4 ~~The annual SO_2 milestone and emissions report for Bernalillo County shall document any adjustments that should be made to the milestone for the previous year as described in (a) below.~~

~~**(a) This provision applies only to Arizona and Utah**. Comparison of actual emissions from all smelters in Arizona and Utah to the baseline emissions level for that smelter are listed in Table 5. If actual emissions and sulfur input are greater than the baseline levels~~

~~in Table 5, the State of New Mexico in coordination with the Department and the WRAP, shall determine the milestone adjustment by determining the increase in the milestone based on the proportional increase in sulfur input over baseline levels. For each smelter, the adjustment shall not exceed the smelter-specific set-aside listed in Table 5.~~]

The following example is for illustrative purposes:

Asarco's baseline SO_2 emissions are 23,000 tons
Asarco's baseline sulfur input is 235,000 tons

For example, in 2005:
Asarco's $S0_2$ emissions were 25,000 tons
Asarco's sulfur input was 250,000 tons.

Because Asarco's 2005 emissions and sulfur input exceeded it's baseline emissions and sulfur input: need to calculate the percent increase in sulfur input in the year 2005
= [(2005 sulfur input) - (baseline sulfur input)] ÷ [baseline sulfur input]
= [250,000 - 235,000] ÷ [235,000]
= [15,000] ÷ [235,000]
= 0.0638
= 6.38%

The adjustment to the milestone based on Asarco's increase in production is to increase the milestone by 1,467.4 tons of SO_2 (which is ok, since it is less than the maximum of 3,000 tons in Table 5 for Asarco).
adjustment = 6.38% x baseline emissions
adjustment = 6.38% x 23,000
adjustment = 1,467.4 tons

A3.5 Compilation of Reports.

(a) All participating states and tribes shall submit annual emissions reports, to the WRAP who will then compile these into a draft regional emission report for SO_2. The WRAP will follow additional quality assurance procedures developed by states and tribes to identify possible errors in the emissions data, including screening for missing or added sources, name changes, and significant changes in reported emissions. Any questions or anomalies regarding the Department's report shall be referred back to the Department for resolution prior to the submission of the draft regional emission report.

(b) By December 31 of each year, the WRAP shall submit the draft regional emission and milestone report to the Department and shall post the draft report on the WRAP website for public review. The report shall include the following information:

1. ***Actual*** regional sulfur dioxide emissions (tons/year).
2. Adjustments to account for:
   ~~[(i) Changes in flow rate measurement methods (2003-2007 reports only),]~~
   ~~[(ii)]~~ (i) Changes in emission monitoring or calculation methods, or
   ~~[(iii)]~~ (ii) Enforcement actions or settlement agreements as a result of enforcement actions.
3. Average adjusted emissions for the last three years (if applicable) for comparison to the regional milestone.

~~[4. Regional milestone adjustments to account for the smelter specific set-aside]~~

A3.6

The Department shall evaluate the draft regional emissions report and shall propose a draft determination that the SO_2 milestone has either been met in the region, or has been exceeded. In the event that the WRAP has not submitted to the Department a draft regional emissions and milestone report by the December 31 deadline for any year the Department shall prepare its own report for that year based upon the annual emissions reports submitted by all participating states and tribes pursuant to Section A3.5 for that year. The Department shall modify the data in these annual emissions reports, or use data where such report(s) have not been submitted, based upon direction received from the EPA.

A3.7 Public Notice:

The Department shall publish a notice of availability of the draft report in a newspaper of general circulation. When appropriate, the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) shall provide for the discussion of the report and accept public comment during a public meeting. The Department shall submit the draft determination to EPA for review and comment.

A3.8 Comments:

The Department shall review any comments received during the comment period and shall submit a copy of all comments to the WRAP and to all participating states and tribes along with any responses to address the comments.

A3.9 Draft WRAP Regional Emissions Report:

The WRAP shall compile the comments and any responses from all participating states and tribes and prepare a draft final regional emissions report. The report shall be submitted to the states and tribes that are participating in the program and, if necessary, the report shall propose a common Program Trigger Date.

A3.10 Final Regional Emissions Report:

The Albuquerque-Bernalillo County Air Quality Control Board (AQCB) shall review and approve the final regional emissions report. The Department shall then submit this report to the EPA along with a final determination that the milestone has either been met in the region, or that the milestone has been exceeded and the WEB Trading Program has been triggered in Bernalillo County. This final determination shall be submitted to the EPA by the end of March, 15 months following the milestone year.

The first final determination was due March 31, 2005 for the 2003 milestone. If the milestone had been exceeded, the common trigger date proposed in the regional report would have become the Program Trigger Date for purposes of implementing the WEB Trading Program. In the event that the Program Trigger Date must be established by the AQCB in the absence of a regional emissions and milestone report prepared by the WRAP the date shall be March 31 of the applicable year.

A3.11

The Department shall notify the public of the final determination by publishing a notice in a newspaper of general circulation. This notice shall include the final calculation of the milestone and the final annual regional emissions. If the milestone has been exceeded, the notice shall include the program trigger date and the first year that WEB sources must be in compliance with the WEB Trading Program provisions outlined in Subsection D of 20.11.46 NMAC. When appropriate, the AQCB will provide for the discussion of the report and accept public comment during a public meeting. The Department shall submit the draft determination to EPA for review and comment.

A4 Year 2013 Assessment.

A4.1 Initial Assessment in 2013 Periodic SIP Review.

(a) The Department shall work cooperatively with the WRAP and other participating states and tribes to develop a projected emission inventory for SO_2 through the year 2018, using the 2010 regional inventory as a baseline. This projected inventory shall be included in the 2010 annual emission and milestone report that shall be completed in March 2012 as outlined in Section D(6) of this Implementation plan.

(b) The Department shall evaluate the projected inventory, and based upon this information, make an assessment of the likelihood of meeting the regional milestone for the year 2018. The Department shall include this assessment as part of Bernalillo County's progress report that must be submitted by December 31, 2013, as required by 40 CFR 51.309 (d)(10).

A4.2 Regional Emissions Report for 2012.

(a) The Department shall prepare an SO_2 emission report for the year 2012 by September 30, 2013 as described in Section A3.1 of this Implementation plan. The Department shall include a list of all known projects in Bernalillo County that are anticipated to affect SO_2 emissions in 2018. This may include permitted projects, projects that are still in the planning stage, or projections from the affected sources of anticipated emissions in 2018. The status of these projects shall be described to provide a better understanding of the degree of certainty that individual projects will be completed by 2018.

(b) The WRAP shall compile the information from all participating states and tribes, prepare draft SO_2 inventory projections for the year 2018, and estimate the effect of known future projects on SO_2 emissions. Projected 2018 emissions will be compared to the 2018 milestone. This information shall be included in the draft regional emissions report that shall be submitted to the AQCB by December 31, 2013, as part of the report for the year 2012, as outlined in Section A3.5 of this Implementation plan.

A4.3 Consensus Decision.

The Department commits to meet with the participating states and tribes in March 2014 to discuss any comments received on the 2018 emission projections in the draft report. The participating states and tribes shall decide, through a consensus process, whether an early

trigger of the WEB Trading Program is necessary to meet the SO_2 emission reduction goals in 2018.

A4.4 Official Trigger.

If the participating states and tribes decide under Section A4.3 that an early trigger of the backstop trading program is necessary, the Department shall trigger the WEB Trading Program and the timing of various program elements shall be adjusted as follows to ensure that the WEB Trading Program is in place in 2018. The date of the consensus decision by the participating states and tribes to voluntarily trigger the WEB trading program shall become the Program Trigger Date.

(a) Allowances shall be distributed to WEB sources by January 1, 2015.

(b) The first control period shall be the year 2018. WEB sources will need to demonstrate at the end of the first control period that they have enough allowances to cover their SO_2 emissions in 2018.

A4.5 Public Notification.

The Department shall provide notice to the public of the consensus decision. The notice of availability of the consensus decision to trigger the WEB Trading Program, and the date when the program will become effective, shall be published in a newspaper of general circulation. If applicable, the notification shall include a statement that the WEB Trading Program is in effect and a notification of the official program trigger date.

A5 Special Penalty Provisions for the 2018 Milestone.

(a) If the WEB Trading Program is triggered, as outlined in Subsection A.3 of this Implementation Plan, and the first control period will not occur until after the year 2018, a special penalty shall be assessed for the exceedance of the 2018 milestone.

Details on the penalty provisions for violation of the 2018 milestone can be found in Section 20.11.46.20 NMAC. In general, the penalty involves an assessment of the minimum $5000 per ton of SO_2 emissions in excess of the WEB source's allowance limitation. The source can resolve its excess emissions violation by agreeing to a streamlined settlement approach outlined in Subparagraph (a) of Paragraph (5) of Subsection A of 20.11.46.20 NMAC.

The amount of the *minimum monetary* penalty in Section 20.11.46.20 NMAC, shall be evaluated at each five-year SIP review, and adjusted to ensure that penalties per ton substantially exceeds the expected cost of allowances to ensure that this remains a stringent penalty.

The 2018 special penalty provisions shall continue to be applied each year after 2018 until the 2018 milestone has been achieved.

PART B Pre-Trigger Emission Tracking Requirements.

B1. SO_2 Emission Inventory (Per 20.11.46.9 NMAC, *Emission Tracking Requirements For Sulfur Dioxide Emission Inventories*).

(a) Applicability. Beginning with the 2003 emission inventory all stationary sources with ***actual*** emissions of 100 tons per year or more of SO_2 in the year 2000, or in any subsequent year, shall submit an annual inventory of SO_2 emissions. A source that meets these criteria and then emits less than 100 tons/year in a later year must still submit an SO_2 inventory for tracking compliance with the regional SO_2 milestones until the Western Backstop Sulfur Dioxide Trading Program has been fully implemented, and emission tracking has commenced under 20.11.46.9 NMAC.

(b) The inventory rule, 20.11.46 NMAC, *Sulfur Dioxide Emissions Inventory Requirements; Western Backstop Sulfur Dioxide Trading Program*, includes federally enforceable provisions that require stationary sources subject to this rule to:

(1) Submit an annual inventory of SO_2 emissions

(2) Document the emissions monitoring/estimation methodology used, and demonstrate that the selected methodology is acceptable under the inventory program;

(3) Include emissions from start up, shut down, and upset conditions in the annual total inventory;

(4) Use 40 CFR Part 75 methodologies for reporting emissions for all sources subject to the federal acid rain program;

(5) Smelters must submit an annual report of sulfur input, in tons/year;

(6) Maintain all records used in the calculation of the emissions, including but not limited to the following:
- **(i)** Amount of fuel consumed;
- **(ii)** Percent sulfur content of fuel and how the content was determined;
- **(iii)** Quantity of product produced;
- **(iv)** Emissions monitoring data;
- **(v)** Operating data; and
- **(vi)** How the emissions are calculated.

(7) Maintain records of any physical changes to facility operations or equipment, or any other changes that may affect the emissions projections;

(8) Retain records for a minimum of 10 years from the date of establishment, or if the record was the basis for an adjustment to the milestone, five years after the date of an implementation plan revision, whichever is longer.

(c) The Department shall retain 2006 emission inventory records, including the emissions monitoring methodology, for non-utilities until the year 2018 to ensure that changes in emissions monitoring techniques can be tracked.

B2. Development of Emission Tracking System:

The Department shall work cooperatively with the states and tribes that are participating in the WEB Trading Program to ensure that an emission tracking system for the regional SO_2 inventory is developed and maintained.

B3. Periodic Audit of Pre-Trigger Emission Tracking Database.

During the pre-trigger phase when the Department is tracking compliance with the regional SO_2 milestones, the Department shall work cooperatively with the participating states and tribes to ensure that an independent audit of the tracking database is conducted to ensure that the WRAP is accurately compiling the regional emissions report. The first audit shall occur during the year 2006 and shall review data collected during the first two years of the program. Subsequent audits shall occur in 2011 (which shall cover emissions years 2005-2009) and 2016 (which shall cover emissions years 2010-2014).

The primary focus of the audit will be the process that is used to compile the regional inventory from the data provided by each state and tribe, and the tracking of accumulated changes during the period between SIP revisions. The audit shall also review the accuracy and integrity of the regional reports that the Department uses to determine compliance with the milestones.

The audit is not intended to be a full review of the process for compiling and reporting SO_2 emissions, but shall include a broad review of the Department's inventory management and quality assurance systems (i.e. presence and exercise of systems to assure data quality and integrity).

The audit shall discuss the uncertainty of emissions calculations, and whether this uncertainty is likely to affect the annual determination of whether the milestone is exceeded. The audit shall identify any recommended changes to emissions monitoring or calculation methods or data quality assurance systems. The audit shall also review and recommend any changes to improve the administrative process of collecting the annual emissions data at the state and tribal level, compiling a regional emission inventory, and making the annual determination of whether the WEB Trading Program has been triggered.

Changes to the WEB trading program, including any changes to the milestones due to the results of these periodic audits, shall be submitted to EPA as a SIP revision as part of the five-year SIP review required by 40 CFR 51.309(d)(10).

The Department shall publish a notice of availability of the draft audit report in a newspaper of general circulation. When appropriate, the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) will provide for the discussion of the report and accept public comment during a public meeting. The Department shall submit the final audit report to the EPA regional office.

PART C WEB Trading Program Requirements:

C1. Allowance Allocations

C1.1 Initial Allocation of SO_2 Allowances.

(a) Draft Allocation Report.
Within six months of the program trigger date, as outlined in Paragraph A3.11 of this Implementation plan, the Department shall submit a draft allocation report to all participating states and tribes and to the TSA. This report shall contain the following information:

1. A list of all WEB sources in Bernalillo County as defined in 20.11.46.11 NMAC. The list shall group the sources into two categories:

(i) Category 1: WEB sources that commenced operation prior to January 1, 2008. These sources shall receive a floor allocation and shall be eligible for the reducible portion of the allocation.

(ii) Category 2: WEB sources that commenced operation on January 1, 2008 or a later date. These sources shall receive a floor allocation, but shall not be eligible for the reducible allocation. The floor allocation for Category 2 sources shall be deducted from the new source set-aside.

WEB sources that have received a retired source exemption under Subsection D of 20.11.46.11 NMAC will be included in the allocation process in the same manner as WEB sources that are currently operating. However, sources that were permanently shut down prior to the program trigger date are not considered WEB sources under Subsection A of 20.11.46.11 NMAC and would therefore not be included in the allocation process.

2. Floor allocation for all WEB sources in Albuquerque and Bernalillo County.

(i) For **non-utility** category 1 WEB sources, the floor allocation shall be as established in the E.H. Pechan Report, "Market Trading Forum Non-Utility Sector Allocation Final Report from the Allocations Working Group" (November 2002) (see Appendix 2007-B). If any additional category 1 sources are identified, the Department shall calculate a floor allocation using the methodology outlined in the E.H. Pechan Report.

(ii) For **utility** category 1 WEB sources, the floor will be calculated by first assigning a "clean unit" emission rate to each unit. The clean unit emission rate will then be multiplied by an annual heat input (MMBtu) that represents a realistic upper bound for the unit.

(Note: The floor level approach described above is designed to address equity issues regarding the allocation process for utilities. The Department is participating in ongoing discussions with the other participating states, tribes and regional stakeholders to ensure that all equity issues have been addressed. The Department will work with the other participating states and tribes to ensure that the floor allocation is calculated in a consistent manner for all participants. As outlined further in this allocation methodology, the floor for both utilities and non-utilities is limited by the utility/non-utility split in Table 7C. The floor allocation methodology will ensure that credits are available for early [~~reductions and renewable energy~~] reduction allocations. In addition, the regional number of allowances allocated for each year cannot exceed the milestone for that year under any circumstances.)

Principles

- Each unit will have enough allowances to operate as a clean source and at an operating rate (capacity factor) that is a realistic upper bound for the unit.

- There will not be significant winners and losers in this process.

- The focus is on a fair approach that is applied equally to all sources rather than on state and tribal budgets.

- The allocation process will use data that reflect current conditions, including current monitoring methodologies.

Equity Issues

- Sources that are currently burning very low sulfur coal may see changes in their supply in the future. Historic actual emissions may not reflect future operations.

- Sources that are currently operating at a low utilization may not reach full capacity in the future. Assumptions about growth that are realistic on the regional level may provide a windfall to some sources, and not provide adequate allowances for other sources.

- There are some utility units in the region that are not BART-eligible and are operating at a low level of control for SO_2. The relative responsibility of BART-eligible vs. non-BART-eligible is a consideration in the process.

- Sources that are operating at a high level of control are already bearing the cost of control and this affects their ability to compete in the market.

- Sources that have no SO_2 controls are facing a large expense that could affect their ability to continue to operate.

- Emission rate disparities exist throughout the region.

(iii) For Category 2 WEB sources the floor allocation shall be the lower of the permitted SO_2 annual emissions for the WEB source or SO_2 annual emissions calculated based on a level of control equivalent to BACT and assuming 100% utilization of the WEB source.

3. A list of certified early reductions, expressed as tons of SO_2. Early reductions shall be calculated and certified as follows:

(i) Any WEB source that installs control technology and accepts new permit emissions limits that are, for a non-utility source, below its floor as established in this section, or, for a utility source, below BACT, may apply for an early reduction credit as outlined in 20.11.46.14 NMAC. The credit will be available for reductions that occur between 2008 and the program trigger year. The application must show that the floor

was calculated in a manner that is consistent with the monitoring requirements of Subsection A and C of 20.11.46.16 NMAC and the new permit must contain monitoring requirements that are consistent with Subsection A and C of 20.11.46.16 NMAC. Emission units that are monitored using the less stringent monitoring requirements of Subsection B of 20.11.46.16 NMAC are not eligible for early reduction credits. The credits accumulate from the time the new controls come on line until the program trigger date and will be allocated to the WEB source over a 10 year period. The use of early reduction credits in any control period is limited to no more than five percent, system wide, of the existing available allowances, as provided in paragraph C1.1(b)(5) of this plan.

(ii) The Department shall review the application and shall certify early reductions for each full year between 2008 and the program trigger year that meet the requirements of Subsection E of 20.11.46.14 NMAC and this Implementation Plan element.

(iii) A source's' certified early reductions shall be summed for all years to obtain the total certified early reductions for that source.

~~**[4.** A list of all renewable energy plants and sources in Bernalillo County that began operation after January 1, 2008, and the MW of installed nameplate capacity for each of these resources. Renewable energy credits will be granted at a rate of 2.5 tons per MW, and will accumulate from the beginning of the facility's operation. Their use in any control period is limited to no more than five percent, system wide, of the existing available allowances, as provided in Paragraph C1.1(b)(6) of this plan.]~~

[~~5.~~] **4.** Historical SO_2 emissions data for all Category 1 sources for the purposes of calculating the reducible allocation.

(i) For utilities, the annual SO_2 emissions for the year 2006. Another time period may be used for individual emission units, if needed, to be representative of normal operating conditions

(ii) For non-utilities, the annual SO_2 emissions for the year 2006.

[~~6.~~] **5.** **Changes due to enforcement actions or settlement agreements as a result of enforcement actions.** The adjustment shall be determined in accordance with Paragraph A3.3(c) of this Implementation Plan. The difference between the WEB source's allocations prior to enforcement and after the enforcement action shall be removed from the allocation pool.

Table 7a: RESERVED

Table 7b. RESERVED

(b) Compiled Allocation Report

The Tracking System Administrator shall compile the information provided by all participating states and tribes into a draft regional allocation report, and shall submit this draft regional report to the Department and all participating states and tribes for review and comment 30 days after receiving the preliminary allocation reports. The draft regional allocation report shall include a proposed budget for each state and tribe and the proposed allocation for each WEB source in Bernalillo County

The Department will work closely with the other participating states and tribes to ensure that the regional allocation is distributed consistently and fairly and to address any change in status that may affect this process.

The following methodology distributes the allowances available under the milestone in the following order: tribal set-aside, new source set-aside, floor, early reduction credit, [~~renewable energy credit,~~] reducible allocation. The allocation process is limited by the number of allowances available under the milestone. It is not possible under this methodology to distribute more allowances than are available under the milestone. The Department expects that there will be allowances available for all of the categories listed above. However, if at any time in the process there are not enough allowances available to fully cover a particular category, then the sources eligible for that category will receive a pro-rated allowance, and the process will stop. For example, if the [~~renewable energy~~] early reduction credit allocation is greater than the remaining available allowances under the milestone, then each of the [~~renewable energy~~] early reduction sources would receive a reduced [~~renewable energy~~] early reduction credit allocation, and there would be no reducible allocation.

(1) Table 7C shows the major categories that will be used to allocate allowances under the milestone. The methodology to calculate the available allocation for existing sources is described below. The milestone for the [~~four-state~~] three-state region is the starting point.

~~[NOTE: If the milestone for a particular year is adjusted due to the smelter-specific set-aside provisions in Paragraph A1.2 of this Plan, then the milestone adjustment calculated in Paragraph A1.2 of this Plan will be allocated to that smelter, and will be in addition to the allocations determined from the base milestone as outlined in this subsection. References to the non-utility allocation throughout the remainder of this plan will not include the potential allocation due to the smelter-specific set-aside.]~~

Table 7C. Utility/Non-utility Split

Year	Milestone from Table 1	Tribal Set-Aside	New Source Set-aside	Remaining Allocation	Utility Portion	Non-utility portion
2008	[~~378,398~~] 269,083	[~~8,500~~] 2,500	[~~17,000~~] 6,143	[~~352,898~~] 260,440	[~~276,263~~] 210,480	[~~76,635~~] 49,961
2009	[~~336,160~~] 234,903	[~~8,500~~] 2,500	[~~17,000~~] 6,143	[~~310,660~~] 226,260	[~~234,025~~] 176,299	[~~76,635~~] 49,961
2010	[~~293,921~~] 200,722	[~~8,500~~] 2,500	[~~17,000~~] 6,143	[~~268,421~~] 192,079	[~~191,786~~] 142,119	[~~76,635~~] 49,961
2011	[~~293,921~~] 200,722	[~~8,500~~] 2,500	[~~17,000~~] 6,143	[~~268,421~~] 192,079	[~~191,786~~] 142,119	[~~76,635~~] 49,961
2012	[~~293,921~~] 200,722	[~~8,500~~] 2,500	[~~17,000~~] 6,143	[~~268,421~~] 192,079	[~~191,786~~] 142,119	[~~76,635~~] 49,961
2013	[~~278,985~~] 185,795	[~~8,500~~] 2,500	[~~34,000~~] 12,286	[~~236,485~~] 171,009	[~~159,850~~] 121,048	[~~76,635~~] 49,961
2014	[~~264,050~~] 170,868	[~~8,500~~] 2,500	[~~34,000~~] 12,286	[~~221,550~~] 156,082	[~~144,915~~] 106,121	[~~76,635~~] 49,961
2015	[~~249,114~~] 155,940	[~~8,500~~] 2,500	[~~34,000~~] 12,286	[~~206,614~~] 141,154	[~~129,979~~] 91,194	[~~76,635~~] 49,961
2016	[~~249,114~~] 155,940	[~~8,500~~] 2,500	[~~34,000~~] 12,286	[~~206,614~~] 141,154	[~~129,979~~] 91,194	[~~76,635~~] 49,961
2017	[~~249,114~~] 155,940	[~~8,500~~] 2,500	[~~34,000~~] 12,286	[~~206,614~~] 141,154	[~~129,979~~] 91,194	[~~76,635~~] 49,961
2018	[~~234,624~~] 141,849	[~~8,500~~] 2,500	[~~34,000~~] 12,286	[~~192,124~~] 127,063	[~~116,189~~] 80,402	[~~76,635~~] 49,661

(2) Subtract the floor allocation for all WEB sources in the region that were identified as Category 2 from the new source set-aside to determine the available allocation for new sources that begin operation after the program trigger date.

This allocation methodology treats all Category 2 sources as existing sources because these sources will be operating on the program trigger date. However, the allowances for all Category 2 sources are actually drawn from the new source set-aside. If new source growth exceeds the projections used to develop this plan, it is possible that the above calculation will result in a negative number. Therefore, to address this problem, Category 2 sources will be ranked based on the date the permit is issued for each source. Sources will then be removed from the list of Category 2 sources, starting with the most recent permit, until the new source set-aside is no longer depleted. The last source on the list will receive a partial allocation. The sources that were removed from the list will be considered new sources as described in Section C1.3 of this plan. These sources will need to purchase allowances to cover their emissions because the new source set-aside for sources that begin operation after the program trigger date would be calculated as zero until it is replenished in the next 5-year period. The allocation process for these new sources is described in Section C1.3 of this Plan.

Table 8: RESERVED

(3) The remaining allocation shown in Table 7C is available for distribution to category 1 sources. The final two columns in Table 7C split this remaining allocation into a utility allocation and a non-utility allocation.

(4) Subtract the floor allocations for all category 1 utility and non-utility sources in the region from the utility allocation or the non-utility allocation. In the unlikely event that the total floor allocation for either utility or non-utility sources submitted by the participating states and tribes exceeds the total allocation available for that category, the TSA will notify the participating states and tribes of the discrepancy. The Department commits to work with the participating states and tribes through a consensus process to ensure that the floor allocation has been calculated in a consistent manner for all participants and to ensure that the floor allocation does not exceed the total allocation available for that category. The total number of allowances distributed cannot exceed the milestone for any given year.

(5) Calculate the early reduction allocation.

(i) Divide the number of certified early reduction credits for all WEB sources in the region by 10.

(ii) Add the utility allocation for 2018 to the non-utility allocation for 2018 and then multiply this total by 0.05.

(iii) If the product of Paragraph (i) is no more than the product of Paragraph (ii), the product of Paragraph (i) is the early reduction allocation, and each source is allocated 10 percent of its early reduction credits.

(iv) If the product of Paragraph (i) is more than the product of Paragraph (ii), the early reduction allocation for the region is the product of Paragraph (ii). To determine a source's allocation, divide the product of Paragraph (ii) by 0.10 times the total number of early reduction credits and apply that ratio to the early reduction credits claimed by the source.

(v) Split the regional early reduction allocation based on the ratio of utility to non-utility allocations in 2018 and subtract the early reduction allocation from the utility and non-utility allocation totals.

(vi) The early reduction allocation will be calculated in a similar manner for the second five-year allocation period under this program, and will then be discontinued for any future allocation periods.

[~~(6) Calculate the regional renewable energy allocation.~~

~~**(i)** Add together the reported MW of installed nameplate capacity for renewable energy facilities reported by the participating states and tribes, and then multiply this number by 2.5.~~

~~(ii) Add the utility allocation for 2018 to the non-utility allocation for 2018 and then multiply this total by 0.05.~~

~~(iii) If the product of Paragraph (i) is no more than the product of Paragraph (ii), the product of Paragraph (i) is the renewable energy allocation.~~

~~(iv) If the product of Paragraph (i) is greater than or equal to the product of Paragraph (ii), the renewable energy allocation for the region is the product of Paragraph (ii). To determine a source's allocation, divide the product of Paragraph (ii) by the total number of renewable energy credits and apply that ratio to the early reduction credits claimed by the source.~~

~~(v) Split the regional renewable energy allocation based on the ratio of utility to non-utility allocations in 2018 and subtract the renewable energy allocation from the utility and non-utility allocation totals.~~]

[~~(7)~~](6) Any remaining allowances in the utility allocation or the non-utility allocation after subtraction of the early reduction allocation [~~and the renewable energy allocation~~] is considered the reducible allocation and shall be assigned to Category 1 sources.

(i) For non-utility sources, add together the historic SO_2 emissions in accordance with Paragraph C1.1(a)(5) of this implementation plan for all Category 1 non-utility sources in the region to determine an historic emission total.

Determine a percent contribution of SO_2 emissions for each WEB source to the historic emission total.

Multiply the non-utility reducible allocation by the percent contribution for each WEB source to determine a reducible allocation for each WEB source.

(ii) For utility sources, the reducible allocation will be distributed to sources that emitted above their floor in the baseline period (2006) based on their percentage of total floor emissions for sources emitting above the floor times the number of reducible allowances available for the first five years of the WEB Trading Program. The number of allowances for any source receiving a reducible allocation will not exceed a recent historic emission rate times a heat input that represents a realistic upper bound for the unit.

[Note: The approach for distributing the reducible utility allocation described above is designed to address equity issues regarding the allocation process for utilities. The Department is participating in ongoing discussions with the other participating states, tribes and regional stakeholders to ensure that all equity issues have been addressed. The principles and equity issues that are under discussion are listed in Paragraph C1.1 (a)(2)(ii) of this plan.]

[~~(8)~~](7) Add together the floor allocation, early reduction allocation, [~~renewable energy resource allocation,~~] and reducible allocation for each WEB source [~~and each renewable energy resource~~] to determine the proposed allocation for the first five years of the WEB Trading Program.

[~~(9)~~](8) Add together the proposed allocation for all of the WEB sources in the jurisdiction of each participating state and tribe to determine a draft SO_2 allowance budget for each state and tribe.

Sample Calculation of the New Source Set-Aside.
The example uses the following assumptions (refer to the table that follows):
Emissions exceed the milestones based on an average of the years 2004-2006.
The program trigger date is March 31, 2008.
The first five years of the program are 2012-2015.
New sources that commenced operation between January 1, 2008 and the program trigger date have a total floor allocation of 600.

YEAR	2012	2013	2014	2015	2016
New Source Set-Aside	[~~17,000~~] 6,143	[~~34,000~~] 12,286	[~~34,000~~] 12,286	[~~34,000~~] 12,286	[~~34,000~~] 12,286
Floor for Category 2 Sources	- 600	- 600	- 600	- 600	- 600
Remaining New Source Set-aside	[~~16,400~~] 5,543	[~~33,400~~] 11,686	[~~33,400~~] 11,686	[~~33,400~~] 11,686	[~~33,400~~] 11,686

(c) Public Comment Period.

The Department shall publish a notice of availability of the draft regional allocation report in a newspaper of general circulation in Bernalillo County. A 30-day public comment period shall be established, and a hearing will be held during the comment period. The Department shall consider the comments, and shall revise the draft report if the recommended changes are consistent with the allocation process outlined in this plan. The Department shall prepare a written response that explains why each comment has either been accepted or has been determined to be inconsistent with the allocation process outlined in this plan.

(d) Proposed Changes Submitted to Tracking System Administrator (TSA).

The Department shall submit a copy of all comments received the response to those comments and any proposed changes to the budget and source allocations to the TSA within 60 days of receipt of the draft regional allocation report.

(e) Compilation of Changes.

The TSA shall compile the comments, responses and proposed changes to the report and shall submit a final draft regional allocation report that is consistent with the allocation methodology outlined in this plan to the Executive Secretary within 90 days of the receipt of the draft regional allocation report.

(f) Final Regional Allocation Report.

The AQCB shall review the final regional allocation report and shall determine the budget for Bernalillo County and allocations for WEB sources within Bernalillo County in accordance with the allocation methodology outlined in this Implementation plan element within 30 days of receipt of the final draft allocation report. The Department shall submit the budget and allocations for all WEB sources in Bernalillo County to EPA, and shall notify the TSA that the WEB source allocations should be recorded in the allowance tracking system.

(g) Notification.

The Department shall notify all WEB sources within Bernalillo County of the number of allowances that have been recorded in their compliance account. The notice shall include a warning to the WEB sources that reported annual SO_2 emissions may change due to the implementation of new monitoring methodologies as required by 20.11.46.16 NMAC.

Allocations for the first five years of the program shall not be adjusted to account for changes due to the new monitoring methodology. However, allocations during the next five-year distribution shall be adjusted as needed to account for paper changes in emissions due to changes in monitoring methodology.

C1.2 Distribution of Allowances for Future Control Periods.

By December 1 of the year, five years after the initial allocation, the Department shall follow the process outlined in Section C1.1 to distribute allowances for the next five-year period. This process shall continue every five years until allowances have been allocated through the year 2018. Under no circumstances shall allocations be made that would exceed the allocations available.

C1.3 Distribution of the New Source Allocation.

(a) The new source set-aside shall be available for two categories of sources.

1. New WEB sources are eligible to receive an annual floor allocation equal to the lower of the annual permitted SO_2 emissions for the source, or SO_2 annual emissions calculated based on a level of control equivalent to BACT and assuming 100% utilization of the WEB source beginning with the first full calendar year of operation and in accordance with the provisions of Subsection F of 20.11.46.14 NMAC.

2. Existing sources that increase production are eligible to receive allowances from the new source set-aside equal to:
(i) the permitted annual sulfur dioxide emission limit for a new unit; or
(ii) the permitted annual SO_2 emission increase for the WEB source due to the replacement of an existing unit with a new unit or the modification of an existing unit that increased the production capacity of the WEB source.

Permitted emission increases due to fuel switching or other process changes that are not directly related to increased production capacity are not eligible for allocations from the new source set-aside. The allocation from the new source set-aside in the first year of operation shall be adjusted to account for the number of days that the source is operating in that first year.

Example. A new unit with a nameplate capacity of 400 MW is constructed at a power plant with two existing units with nameplate capacities of 400 MW and 300 MW. The two existing units install SO_2 controls and reduce emissions to meet PSD requirements for the construction of the new unit. In this example, the source would continue to receive a floor and a reducible allocation for each of the existing units, and would also be eligible to receive an allocation from the new source set-aside for the new unit. Even though total SO_2 emissions will decrease at this plant due to the construction of the new unit, the allowances allocated to the source will increase to reflect the increase in production capacity of 400 MW of electricity. If the new unit comes on line on July 1 the allocation for the first year shall be reduced by 50 percent because the unit was operational for half of the year.

(b) Allocations from the new source set-aside shall remain constant for the applicable WEB source and shall be made on an annual basis by March 31 of each year for the current control period. Under no circumstances shall allocations be made that would exceed the allocations available. When the next five-year allocation block is distributed as outlined in Section C1.2 of this Implementation plan element, all sources with an allocation under the new source set-aside shall receive a five-year allocation block from the new source set-aside, and shall continue to receive this allocation in future five-year allocation blocks.

(c) Owners or operators of new sources or modified sources that meet the eligibility requirements of C1.3(a) may apply for an allocation from the new source set-aside by submitting a written request to the Department as outlined in Subsection F of 20.11.46.14 NMAC.

(d) The Department shall review the application for an allocation from the new source set-aside for accuracy and completeness, and shall notify the source, of intent to distribute allocations from the regional new source set-aside pending verification that allowances are available in the new source set-aside account. Under no circumstances shall allocations be made that would exceed the allocations available. The Department shall then forward the request to the Tracking System Administrator (TSA).

(e) The TSA shall document the date that the TSA receives the request. Requests for allocation of allowances from the new source set-aside shall be processed in the order received. Under no circumstances shall the TSA make allocations that would exceed the allocations available. The TSA shall deduct the number of allowances requested from the regional new source set-aside that was established by the participating states and tribes in accordance with Section C1.1(b) of this Implementation plan, and shall then record an equal number of allowances in the source's compliance account for each remaining year of the five-year period. The TSA shall then send written notification to the source and to the Department that the allowances have been recorded in the source's compliance account.

(f) If the new source set-aside is depleted, the source shall purchase the allowances required to demonstrate compliance. Any eligible WEB source that does not receive an allocation from the new source set-aside because the set-aside was depleted shall be first in line to receive an allocation when the new source set-aside is increased in the next five-year period as outlined in Section C1.1 (b) of this Implementation Plan element.

(g) A source that has received a retired source exemption and continues to receive an allocation as a retired WEB source shall not be eligible to receive an allocation from the new source set-aside.

C1.4 Regional Tribal Set-aside.

(a) Each year after the program is triggered, for which allowances are allocated, [~~8,500~~] 2,500 allowances will exist as a tribal set-aside.

(b) The tribal caucus of the WRAP has stated its intent to determine the means for distributing the allowances among the tribes by one year after the program trigger date. The AQCB understands that there will be a process that shall meet the tracking and data security requirements of the allowance tracking system by which a tribe shall move its set-aside allowances into the trading program for the purposes of trading.

(c) The AQCB recognizes that the tribal set-aside allowances are bonus allowances for the tribes and as such, are separate and additional to any allowances included in a tribal budget or the new source set-aside as outlined in the allocation report in Section C1.1(b)(9).

C1.5 Opt-In Sources.

The WRAP Market Trading Forum has recommended provisions be included in this Implementation plan element that would allow smaller sources to opt-in to the program. Opt-in sources may provide a more cost-effective way to reduce overall regional SO_2 emissions, and therefore may strengthen the market incentives of this program. While the benefits of allowing sources to opt-in to the program are important, the program must also provide safeguards to ensure that the integrity of the program is not affected. For example, it would be counterproductive to allow sources that were already planning to shut down to opt-in to the program and then sell allowances to an existing source. In this example, regional emissions could slowly creep upward in a manner that is not consistent with the goals of the SO_2 milestones.

The Department is deferring inclusion of provisions for opt-in sources until a future SIP revision to allow time to thoroughly consider how to provide the flexibility and potential benefits to the market by expanding the program while also ensuring that the SO_2 emission reductions goals are maintained.

C2. WEB Emissions and Allowance Tracking System (WEB EATS).

The Department shall provide a centralized system for the tracking of allowances and emissions within the framework of the SIP. The centralized system will be referred to as the WEB Emissions and Allowance Tracking System (WEB EATS). The WEB EATS must ensure 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.

The Department shall work cooperatively with other states and tribes participating in the WEB Trading Program to designate this system. The Department shall be responsible for

ensuring that all the EATS provisions are completed as described in this Implementation plan.

The EATS will not exist unless the program is triggered. Prior to the implementation of the WEB Trading Program, a separate emissions tracking database will be employed to track the ongoing emissions of sources emitting SO_2 at amounts equal to or greater than 100 tons per year. The emissions tracking database, used to track and measure SO_2 emissions against the milestones, will still exist once the WEB Trading Program is triggered. If the program is triggered, either the emissions tracking database will be incorporated into the SO_2 Emissions and Allowance Tracking System (EATS), or a similar, parallel one, more suitable for enforcement and program specific purposes will be developed and incorporated into the SO_2 Emissions and Allowance Tracking System. Both the emissions tracking database and the EATS shall be centralized systems with data posted in a format, including an electronic, Web-based program, and available to anyone.

The states and tribes shall contract with a common TSA to service and maintain the WEB EATS. It is envisioned that the EATS will require the use of a contracted consultant or database design engineer to create a secure, efficient and transparent tracking system. Because the EATS shall be utilized by all states and tribes participating in the program, the design will require a uniform approach and level of security that will satisfy regional needs and concerns as well as meet the electronic, Web-based, access needs and security provisions. Due to the dynamic needs of the marketplace, the EATS will require a database that will reflect the current status of allowances and allowance transactions. The EATS shall be operational within one year after the program trigger date.

Specifications of the WEB EATS such as emissions tracking, the recording of allowance transactions, account management, system integrity and transparency are outlined in a report prepared for the WRAP, entitled *Western Emissions Backstop (WEB) Emissions and Allowance Tracking System (EATS) Analysis* (July, 2003). A copy of this report is provided in Appendix K-SIP of this implementation plan. Appendix K-SIP and related sections of 20.11.46 NMAC detail how a WEB source will register for the EATS and how the source will, through an account representative, establish accounts, transfer allowances, and track unused allowances from a previous year.

Neither the AQCB nor the TSA shall adjudicate any dispute concerning the authorization of any Account Representative with regard to any representation, action, inaction, or submission of the Account Representative.

As an example of how the WEB EATS will generally function, once the WEB Trading Program is triggered, a WEB source will have its allowance allocation determined. On a parallel track, the WEB source's account representative will register for the EATS under 20.11.46.13 NMAC, and a compliance account will be established under 20.11.46.15 NMAC. Each allowance will be assigned a serial number. The WEB EATS will use the allowance serial number to track allowance allocations, transfers (20.11.46.17 NMAC), deductions, and account for any unused allowances from a previous year (20.11.46.18 NMAC). The serial number will also be assigned each allowance recorded in a general account, an account for allowances that are not held to meet program compliance requirements. Furthermore, the EATS will track tribal allowance set-asides and new source allowance set-asides not yet assigned to either a compliance or general account.

It is important to note that while an effort has been made in this Implementation plan element to provide a design for and an operational understanding of the EATS, the components of the EATS will need to be examined and possibly altered upon each required SIP revision.

C3. Allowance Transfers.

Allowance transfers are defined as the conveyance from one account to another account (compliance account or general account) of one or more allowances by whatever means, including but not limited to purchase, trade, or gift in accordance with the procedures established in 20.11.46.17 NMAC. This includes transfer of allowances for the purpose of retirement. Once an allowance is retired, it is no longer available for transfer to or from any account. Any party may purchase allowances for the purpose of retirement.

The Tracking System Administrator (TSA) shall have specific recording requirements involving transfers. These required procedures will be detailed in the service contract but are outlined here as well.

C3.1 Recording of Allowance Transfers.

Within five business days of receiving an allowance transfer, except when the transfer does not meet the requirements of this Section, the TSA shall record an allowance transfer by moving each allowance from the transferor account to the transferee account as specified by the request, provided that:

(a) The transfer is correctly submitted; and
(b) The transferor account includes each allowance identified in the transfer.

Any allowance transfer that is submitted for recording following the allowance transfer deadline and that includes any allowances allocated for a control period prior to or the same as the control period to which the allowance transfer deadline applies, shall not be recorded until after completion of the compliance account reconciliation.

Where an allowance transfer submitted for allowance transfer recording fails to meet the requirements of this Section, the TSA shall not record such transfer.

C3.2 Notification of the Recording of Allowance Transfers.

The TSA has specific responsibilities involving the notification of the recording of any transferred allowances, including the failure to record any transfer of allowances. Again, these required procedures will be outlined in the service contract, but will include what is outlined here.

(a) 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.

(b) Within five business days of receipt of an allowance transfer that fails to meet the requirements of 20.11.46.17 NMAC, the TSA shall notify the Account Representatives of both accounts of the decision not to record the transfer, and the reasons for not recording the transfer.

C4. Use of Allowances from a Previous Year.

C4.1 Background

Unused allowances may be kept for use in future years in accordance with 20.11.46.18 NMAC. Allowances kept for use in future years may be used in calendar year 2018 only to the extent that this Implementation Plan element guarantees that such allowances will not interfere with the achievement of the 2018 milestone. Subsection D of 20.11.46.18 NMAC addresses this requirement by prohibiting the use, after the year 2017, of allowances allocated for the years 2003 - 2017. This provision ensures that actual emissions will be less than the 2018 milestone because only allowances allocated for the year 2018 could be used to show compliance in that year. The provision also maintains flexibility by resetting the baseline to the year 2018 and then allowing sources to once again use extra allowances to show compliance in any future year. This flexibility is important for sources that have variable operations because the source may build up a reserve of unused allowances for use in a high production year.

The Annex explains the benefits of allowing the WEB source to tap the previous year's unused allowances, including increased flexibility and early reduction stimulus. The risk in allowing the use of allowances carried from a previous year could be an increase in emissions in later years as the unused allowances are withdrawn for compliance.

Because the regional haze SIP is based on reasonable progress requirements related to the remedying or prevention of any future visibility impairment, it is important to assure the use of these allowances will not interfere with attainment or maintenance of any reasonable progress goals. The safeguard employed here to mitigate this type of risk is termed, "flow control."

C4.2 Flow Control Provisions.

At the end of each control period, WEB sources may transfer allowances in and out of their compliance account for a period of 60 days to ensure that the account will contain enough allowances to cover sulfur dioxide emissions during the previous year. At the end of the 60-day transfer period, allowances shall be deducted from the compliance account of each of the WEB sources in an amount equal to the sulfur dioxide emissions of that source during the control period.

After the deductions have been completed, the Tracking System Administrator (TSA) shall perform the following calculations and prepare a report according to Section C7.1 (b):

(a) Determine the total number of allowances remaining in the allowance tracking system that were allocated for the just completed control period and all previous control periods.

(b) If the number calculated in (a) above exceeds 10 percent of the milestone for the next control period, then the flow control procedures in Subsection C of 20.11.46.18 NMAC shall be triggered for that next control period. These flow control provisions will discourage the excessive use of allowances that were allocated for an earlier control period without establishing an absolute limit on their use. WEB sources will maintain the option to use allowances allocated for an earlier control period, but will be required to use two allowances for each ton of SO_2 emissions. Flow control operates as follows:

(1) The flow control ratio shall be calculated by multiplying one tenth multiplied by the milestone for the next control period divided by the total number of unused allowances remaining in the system.

(2) To calculate the number of prior-year allowances that can be used without restriction by a source for the next control period, the TSA shall multiply them by the flow control ratio. The resulting number of allowances may be used on a one-to-one ratio to show compliance with the source's allowance limitation as outlined in Section 20.11.46.19 NMAC.

(3) The remaining prior-year allowances may be used on a two-to-one ratio to show compliance. Thus, WEB sources will maintain the option to use allowances allocated for an earlier control period, but will be required to use two of those allowances for each ton of SO_2 emissions.

Example:
On March 1, 2010 (the compliance transfer deadline for the 2009 control period) the TSA deducts allowances from the compliance account for each WEB source to cover 2009 SO_2 emissions from that source. After completing these deductions, the TSA reports the following information:

Total number of allowances still in the system for the years 2003 – 2009 = [~~40,000~~] 30,000
2010 milestone = [~~293,921~~] 200,722
Percent of milestone = [~~13.61~~] 14.94 %

Because the number of allowances not used in previous control periods is greater than 10% of the milestone, flow control procedures are triggered. In the annual report required in C7.1(b) the TSA will then calculate the flow control ratio for 2010:

0.1 x 2010 Milestone ÷ prior year allowances=flow control ratio

0.1 x [~~293,921~~] 200,722 ÷ [~~40,000~~] 30,000 = [~~0.73~~] 0.70

On March 1, 2011 (the compliance transfer deadline for the 2010 control period) the TSA will apply the 2010 flow control ratio before deducting allowances from each WEB source's compliance account.

WEB Source A	2010 Allowances	= [~~000~~] 1,000
	Remaining Prior Year Allowances	= 600
	2010 Emissions	= 1580

In this example, the TSA would multiply the prior year allowances (600) by [~~0.73~~] 0.70 to determine the number of prior year allowances that could be used without restriction at a one-to-one ratio. This would equal [~~438~~] 420. The remaining prior year allowances would then be used at a 2:1 ratio [~~284~~] 360 allowances would be needed to cover the remaining [~~142~~] 180 tons of SO_2 emissions. The TSA would therefore deduct a total of [~~1722~~] 1780 allowances (1,000 + [~~284~~] 420 + [~~284~~] 360) to cover 1580 tons of SO_2 emissions.

C5. Monitoring & Recordkeeping:

C5.1 For WEB sources subject to 40 CFR Part 75, the EPA Administrator shall quality assure and finalize the data for submission to the Tracking System Administrator (TSA). For WEB sources subject to Sections 21 and 22 of 20.11.46 NMAC, the Department shall quality assure and finalize the data in accordance with these provisions for submission to the TSA.

C5.2 The EPA Administrator and the Department, as applicable, shall verify and submit data to the emissions tracking database as soon as reasonably feasible after annual emissions are reported by the WEB sources. *Note: these timelines will be modified, as necessary, according to the monitoring protocols*.

C5.3 Special Reserve Compliance Accounts. The WEB Trading Program requires most WEB sources to install continuous emission monitoring systems (CEMS) that meet the monitoring, recordkeeping and reporting requirements of 40 CFR Part 75. However, there

are some emission units that are not physically able to install CEMS and there are also emission units that do not emit enough sulfur dioxide to justify the expense of installing these systems (see Subsection B of 20.11.46 NMAC). The WEB Trading Program allows these emission units to continue to use their pre-trigger monitoring methodology, but does not allow the WEB source to transfer any allowances that were allocated to that unit for use by another WEB source. The restriction on transferring these allowances is needed to ensure that an emission reduction of sulfur dioxide and the corresponding increase in sulfur dioxide from are equal. The allowances associated with emission units that continue to use their pre-trigger monitoring methodology are placed in a special reserve compliance account, while allowances for other emission units are placed in a regular compliance account. Allowances may not be traded out of a special reserve compliance account, even for use by emission units with CEMS at the same WEB source. However, the WEB source may use allowances in the compliance account to demonstrate compliance with the WEB source's allowance limitation.

Subsection B of 20.11.46.16 NMAC allows WEB sources with any of the following emission units to apply to establish a special reserve compliance account:

(a) any smelting operation where all of the emissions from the operation are not ducted to a stack; or

(b) any flare, except to the extent such flares are used as a fuel gas combustion device at a petroleum refinery; or

(c) 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.

The emission units described in (a) and (b) cannot physically be monitored using a CEM. The emission units described in (c) do not typically have add-on controls for sulfur dioxide. These units, addressed in Subsection B of 20.11.46.16 NMAC, are expected to operate within their floor-level allocation and therefore will not be affected by the market, unless they make a process change and wish to sell allowances on the market. Other sources that are meeting the more rigorous monitoring requirements of Subsection A of 20.11.46.16 NMAC, and emit sulfur dioxide above their expected allocation will either need to purchase allowances or install sulfur dioxide controls. Therefore it is important that all emission units that participate in emissions trading, have an accurate monitoring methodology that is comparable to other sources in the program, to insure that a ton of reductions is the same, regardless of where the reductions originate.

The Department shall review the application to monitor under Subsection B of 20.11.46.16 NMAC. If the emission units meet the criteria in Subsection B of 20.11.46.16 NMAC, the Department shall determine the portion of the WEB source's allocation that is associated with the emission units that will be monitored under Subsection B of 20.11.46.16 NMAC and will require the TSA to record that portion of the WEB source's allocation in the special reserve compliance account. The Department shall use the methodology for determining allocations described in Section C1.1 of this Implementation Plan to determine the portion of the allocation that is associated with emission units monitored under Subsection B of 20.11.46.16 NMAC. The Department shall notify the WEB source that the application has either been accepted or rejected, including a notification of the allowances that are to be

recorded in the WEB source's regular compliance account and the special reserve compliance account.

If an emission unit that is monitored under Subsection B of 20.11.46.16 NMAC is permanently retired, the TSA will transfer the portion of allowances that were associated with that emission unit from the WEB source's special reserve compliance account to the source's compliance account. These allowances will then be available for use or sale by the WEB source. The allowances will be transferred after the compliance deduction has taken place for the last control period that the unit was in operation

C6. Compliance and Penalties:

C6.1 Compliance, Excess Emissions & Penalties.

When a WEB source exceeds its allowance limitation stipulated by Section 20.11.46.19 NMAC, the Department shall require the Tracking System Administrator (TSA) to deduct allowances from the following year's allocation in an amount equal to three times the WEB source's emissions of SO_2 in excess of its allowance limitation. This deduction shall be made from the WEB source's compliance account after deductions for compliance under 20.11.46.19 NMAC. If sufficient allowances do not exist in the compliance account for the next control period to cover this amount, the Department shall require the TSA to deduct the required number of allowances, regardless of the control period for which they were allocated, whenever the allowances are recorded in the account.

Under the rule, sources may also be liable for penalties for each day of violations of the program's other requirements.

C7. Periodic Evaluation of the Trading Program.

C7.1 Annual Report.

(a) One year after compliance with the trading program is required; the Department shall obtain from the TSA an annual report that contains the following information:

1. The level of compliance program-wide;
2. A summary of the use and transfer of allowances, both geographically and temporally;
3. A source-by-source accounting of allocations compared to emissions;
4. A report on the use of unused allowances (in order to determine whether these emissions have or have not contributed to emissions in excess of the cap.)
5. The total number of WEB sources participating in the trading program and any changes to eligible sources, such as opt-in or retired sources, or sources that emit more than 100 tons of SO_2 after the program trigger date.

(b) Within 10 months after the allowance transfer deadline for each control period when compliance with the trading program is required, the TSA shall prepare a draft report that lists:

1. The total number of allowances deducted for the control period,

2. The total number of allowances remaining in the Allowance Tracking System allocated for that control period and any earlier control period,
3. Proposed determination that flow control procedures have either been triggered or have not been triggered for the next control period, and
4. If flow control procedures have been triggered, a draft flow control ratio calculated according to C4.2 of this Implementation Plan.

(c) The Department shall evaluate the draft report, and shall propose a determination that flow control procedures have been either been triggered or have not been triggered for the next control period.

(d) The Department shall publish a notice of availability of the draft report in a newspaper of general circulation. When appropriate, the AQCB will provide for the discussion of the report and accept public comment during a public meeting.

(e) The Department shall make a final determination that the flow control procedures have either been triggered or have not been triggered for the next control period.

C7.2 Five-year Evaluation.

(a) States and tribes shall conduct an audit of the WEB Trading Program no later than three years following the first full year of the trading program, and at least every five years thereafter. This evaluation does not supplant the Implementation Plan assessments in 2008, 2013, and 2018 as required by the regional haze regulations. The evaluation should be conducted by an independent third party and include an analysis of:

1. Whether the total actual emissions could exceed the values in Table 3 of this Implementation Plan element of the WEB Trading Program even though sources comply with their allowances;

2. Whether the program achieved the overall emission milestone it was intended to reach;

3. The effectiveness of the compliance, enforcement and penalty provisions;

4. A discussion of whether states and tribes have enough resources to implement the WEB Trading Program;

5. Whether the trading program resulted in any unexpected beneficial effects, or any unintended detrimental effects;

6. Whether the actions taken to reduce sulfur dioxide have led to any unintended increases in other pollutants;

7. Whether there are any changes needed in emissions monitoring and reporting protocols, or in the administrative procedures for program administration and tracking; and,

8. The effectiveness of the provisions for interstate trading, and whether there are any procedural changes needed to make the interstate nature of the program more effective.

9. The integrity of the emissions and allowance tracking system, including whether the procedures for recording transactions are adequate, whether the procedures are being followed and in a timely manner, whether the information on sources' emissions is accurately recorded, whether the emissions and allowance tracking system has procedures in place to ensure that the transactions are valid, whether back-up systems are in place to account for problems with loss of data.

(b) The public shall have an opportunity to participate in this trading program evaluation.

(c) In the event that any audit results in recommendations for program revisions, the AQCB, in consultation with the WRAP, will make appropriate modifications to this Implementation plan. The AQCB will revise this Implementation plan if the program is not meeting its emission reduction goals.

(d) The Department shall submit a copy of the report to the EPA regional office.

C8. Retired Source Exemption:

Subsection D of 20.11.46.11 NMAC outlines the procedure that a WEB source must follow to receive a retired source exemption. The exemption would allow the source to continue to receive an allocation, but would exempt the source from monitoring and record keeping requirements that would serve no useful function for a source that has ceased operations. The Department shall notify the source of its obligation to apply for a retired source exemption upon the cancellation or relinquishment of a permit.

In order to receive a retired source exemption, the source must submit a request for the exemption to the Department. The Department shall review this request, and within 60 days of receipt of the request shall notify the source that the retired source exemption has been granted or has been rejected. If the exemption has been rejected, the notification shall contain an explanation of the reasons for rejecting the request.

The Tracking System Administrator (TSA) shall record an allocation to a WEB source that has received a retired source exemption. However, the allowances shall be recorded in a general account rather than a compliance account for the source. The TSA will transfer any existing allowances in the retired source's compliance account or special reserve compliance account into the general account for the retired source, and will close the compliance accounts.

A WEB source that is permanently retired and that does not request a retired source exemption shall forfeit all abandoned allowances in that source's compliance account, as outlined in Section 20.11.46.17 NMAC. The forfeited allowances shall not be redistributed to other sources, and shall be permanently retired from the Allowance Tracking System, as outlined in Subsection E of 20.11.46.11 NMAC. During the next five-year allowance distribution period the retired source shall not receive an allocation, and the allowances that would have been distributed to that source shall be added to the new source set-aside

C9. Integration into Federally Enforceable Permits

It is expected that all WEB sources will at least initially be required to obtain a permit under the Department's Title V delegated permitting program. Under 20.11.42 NMAC, the Department's delegated Title V permitting program, the pre- and post- trigger requirements of the market trading program fall under the definition of "applicable requirements", and will be incorporated into each source's Title V permit. 20.11.46 NMAC requires that any source that for any reason and at any time, is not required to have a permit under 20.11.42 NMAC must obtain a New Source Review permit pursuant to 20.11.40 NMAC, 20.11.60 NMAC, or 20.11.61 NMAC, that incorporates the same requirements, and that the source must at all times possess a permit containing the program's requirements. Additionally, in order for a source permitted under Title V to become a synthetic minor source, and thus not need a Title V permit, a source must first obtain federally enforceable permit limits through a New Source Review permit, and thus there will be no gap between the effective Title V permit and the new NSR permit which contains the same market trading program requirements. Both types of permits are enforceable both federally and by citizens pursuant to this Implementation Plan.

PART D - 2013 SIP Revision; Backstop for Beginning of Second Planning Period:

D1. Requirements of 2013 SIP Revision.

In addition to the requirements of 40 CFR 51.309(d)(10), the 2013 SIP shall contain:

1. Source specific allocations for all WEB sources under the jurisdiction of the Albuquerque - Bernalillo County Air Quality Control Board (AQCB) for the year 2018; and

2. 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/TIP revision containing the provisions of such a program no later than December 31, 2016. The program will ensure that, the requirements of 40 CFR 51.309 for the first planning period are achieved, including requirements that cannot be measured until after 2018, such as the determination of compliance with the 2018 milestone.

D2. Adjustments in Allocation Calculations.

This 2013 SIP revision will provide certainty to sources regarding their potential liability under the special penalty provisions for the year 2018 outlined in Section A5 of this Implementation plan. The calculation of these allocations is delayed until 2013 to provide certainty about the number of sources that would qualify as WEB sources at that time; the allocations needed for new sources in the region; [~~and the magnitude of renewable energy development~~] and early reductions that would need to be included in the allocation process. It is difficult to estimate the impact of these factors today because many things will change during the next 10 years.

If the 2018 milestone is not met, the starting point for the next planning period shall be the 2018 milestones, not actual emissions in 2018.

Achievement of 13 Percent SO2 Emission Reduction.

Pursuant to 40 CFR 51.309(d)(4)(ii), the Department has determined that a 13 percent reduction in actual stationary source SO_2 emissions occurred between 1990 and 2000. Table 9 below provides a state-by-state comparison of these emissions, and shows that there has been a 25 percent reduction from 1990 to 2000 for all states (from 828,775 tons to 621,838 tons). Further information on the emission inventories used for this calculation is described in Appendix K-SIP of this implementation plan.

Table 9: State-by-State Comparison of SO_2 Emission Reductions, 1990-2000 (In tons per year)

States	1990	2000
Arizona	185,398	99,133
California	52,832	38,501
Colorado	95,534	99,161
Idaho	24,652	27,763
Nevada	52,775	53,943
New Mexico	**177,994**	**117,344**
Oregon	17,705	23,362
Utah	85,567	38,521
Wyoming	136,318	124,110
Totals	**828,775**	**621,838**

D3. Provisions for Stationary Source NOx and PM.

Pursuant to 40 CFR 51.309(d)(4)(v), the Department has included in this SIP, a report which assesses emissions control strategies for stationary source NOx and PM, and the degree of visibility improvement that would result from implementation of the identified strategies. The report, *Stationary Source NOx and PM Emissions in the WRAP Region: An Initial Assessment of Emissions, Controls, and Air Quality Impacts*, was prepared by the WRAP and is included in Appendix H-O. This report represents the initial assessment of stationary source NOx and PM strategies for regional haze, and as such, should be considered a starting point for a more extensive process and analysis aimed at supporting the commitment by the Department to a SIP revision by 2013. This report concludes the following:

> "Analysis of current and future emissions, ambient monitoring data, and very limited modeling results does not show stationary source NOx and PM emissions to be a major contributor to regional haze (typically about two percent on average) in the vast majority of western Class I areas. These findings may change as emission projections are updated and as ambient monitoring data from new sites is collected and analyzed, and especially as modeling capabilities are improved and as modeled and monitored data become available for the best and worst visibility days instead of seasonal and annual averages. Furthermore, when considering NOx and PM milestones, attention should be given to the reasonable progress goals in the regional haze rule, which generally entail steady and continuing emission reductions and no degradation on the best visibility days. Finally, the remedy embodied in reasonably attributable visibility impairment requirements under the regional haze rule is still available where BART-eligible sources of NOx and PM are found to have direct impact on specific mandatory federal Class I areas. Where stationary source NOx emission reductions are appropriate, substantial reduction may be feasible with commercially-available technologies for about $300 to $1,200 per ton."

Additional findings from this report are described in Appendix H-O of this implementation plan.

The Department commits to a SIP revision containing any necessary long-term strategies and BART requirements (if applicable), for stationary source NOx and PM (including enforceable limitations, compliance schedules, and other measures) by no later than December 31, 2013.

SECTION D. MOBILE SOURCES

1. Regulatory History and Requirements

In its June 1996 Report, the GCVTC recommended EPA move forward on new national vehicle emission and fuel standards to reduce emissions from mobile sources. The GCVTC also recommended other regional and local strategies be considered to manage mobile source emissions. One of the local strategies was to establish emission budgets for those pollutants in urban areas shown to significantly contribute to visibility impairment in any of the 16 GCVTC Class I areas. The budget caps were to be set at the 2005 emission levels.

When EPA finalized the Regional Haze Rule in July 1999, the rule acknowledged that the GCVTC recommendations related to national vehicle emission and fuel standards. EPA included a status of planned actions on those recommendations as of July 1999 (Preamble to the Regional Haze Rule, 64 FR 35753). EPA noted these new measures were over and above those included in the Regional Haze Rule for mobile sources that simply required a cap on emissions in significantly contributing urban areas at the 2005 level. EPA also indicated that emission reductions resulting from new standards adopted after the Regional Haze Rule was approved would be creditable toward reasonable progress. EPA also committed to work with the states if new national standards impacted the efficacy of regional or local strategies.

After the Regional Haze Rule was finalized, EPA established new standards for on-road vehicle emission and fuel standards (65 FR 6698) as well as standards for diesel vehicles and diesel fuel (66 FR 5002). As a result, current mobile source emission projections developed by WRAP for the GCVTC Transport Region indicate overall mobile source emissions will decline continuously from 2003 through the end of the SIP planning period in 2018, which is more than the level of emission reductions that EPA approved to meet reasonable progress by holding mobile source emissions constant from their 2005 level. In addition, new standards for off-road vehicles were proposed by EPA on April 15, 2003, and are expected to be finalized, which will further reduce overall mobile source emissions.

At the April 2003 WRAP Board meeting, the WRAP approved a recommendation for EPA to modify the Regional Haze Rule eliminating the current requirements related to mobile source emission significance determination and budgets for urban areas (40 CFR 309(d)(5)), and replacing those requirements with a new requirement focused on tracking mobile source emission reductions resulting from national standards to assure reasonable progress. This action was based on the finding that emissions of all pollutants from on-road and off-road mobile sources are expected to decline significantly through 2018 except for sulfur dioxide from non-road sources. If EPA adopts new low-sulfur standards for off-road mobile sources then off-road mobile source sulfur dioxide emissions will also decline continuously through 2018. The WRAP Board deliberations did not define criteria for mobile source significance, leaving the determination of significance under the current rule (40 CFR 51.309(d)(5)(ii)) to the states and tribes.

On July 3, 2003, EPA proposed a direct final rule (68 FR 39842) to amend the mobile sources provision of the Regional Haze Rule consistent with the recommendations of the WRAP. The rule was promulgated on December 22, 2003 (68 FR 71009). The revisions amended 40 CFR 51.309(d)(5)(i) and eliminated the requirements under 40 CFR 51.309(d)(5)(ii) and (iii) for setting mobile sources emissions budgets using the lowest projected level as a planning objective and performance indicator for each area. Instead, the new Section 51.309(d)(5)(i) requires statewide inventories to demonstrate a continuous decline in emissions of each pollutant of concern over the planning period. Should mobile source emission not decline as expected, the Department will review control options for mobile sources and determine if additional controls are needed, consistent with the criteria for reasonable progress. If the Department determines that additional controls are needed, the Department will prepare a revision to the implementation plan.

In addition to the revisions to Section 51.309(d)(5)(i) and the elimination of Sections 51.309(d)(5)(ii) and (iii), a backstop provision as outlined by the WRAP was added. The new Section 51.309(d)(5)(i)(B) requires the Department to assess the need for any long-term strategies to address SO_2 from non-road mobile sources by no later than December 31, 2013. States may determine if a SIP revision is necessary to address SO_2 from mobile sources by considering whether the emission reductions anticipated or achieved by any Federal standards in place addressing fuel sulfur content for non-road engines are sufficient to meet reasonable progress. The direct final rule also renumbered the requirement to review other GCVTC mobile source strategies from (d)(5)(iv) to (d)(5)(ii).

(a) Actual and Projected Statewide Inventory for Mobile Source Emissions.

Pursuant to requirements in 40 CFR 51.309(d)(5)(i), a statewide inventory of baseline and future year mobile source emissions has been compiled for the years 2003 to 2018, with assistance from the WRAP. Tables 10, 10.1, 10.2 & 10.3 below summarize these emissions as well as estimates for the Albuquerque Urban Area, and indicate that the year mobile source emissions are projected to be at their lowest level within the state and within the City of Albuquerque, will be at the end of the SIP planning period in 2018, instead of 2005 as anticipated by the GCVTC. The substantial reduction of projected mobile source emissions from 2003 to 2018 is primarily due to the adoption of new on-road vehicle emission and fuel standards by the EPA.

Table 10: On-Road and Non-Road Mobile Source Emission Inventories for New Mexico: 1996 Baseline and 2018 (emissions in tons per YEAR)

Year	VOC	NOx	SO_2	PM 2.5*
1996	194	208	5.7	6.6
2003	137	179	7.6	6.7
2008	95	132	**0.8**	6.3
2013	70	87	0.9	4.3
2018	**59**	**60**	1.0	**3.3**
Lowest Year	**2018**	**2018**	**2008**	**2018**

*PM2.5 includes Elemental Carbon (EC) and Organic Carbon (OC).

Table 10.1. On-Road Mobile Source Emission Inventories for Albuquerque Urban Area: 1996 Baseline and 2018 {emissions in tons per DAY} (Environ, 2004, p. 8, Appendix 2007-C)

Year	VOC	NOx	SO_2	PM 10
1996	68	64	2	2
2003	49	55	2	2
2008	34	41	0	2
2013	24	27	0	2
2018	20	18	0	2
Lowest Year	**2018**	**2018**	**2018**	**2018**

Table 10.2. Off-Road Mobile Source Emission Inventories for Albuquerque Urban Area: 1996 Baseline and 2018 {emissions in tons per DAY} (Environ, 2004, p. 9, Appendix 2007-C)

Year	VOC	NOx	SO_2	PM 10
1996	15	20	5	3
2003	11	17	5	2
2008	8	14	6	2
2013	7	13	6	2
2018	**7**	**12**	**6**	**2**
Lowest Year	**2018**	**2018**	**2018**	**2018**

Table 10.3. TOTAL On-road and Non-road Mobile Source Emission Inventories for Albuquerque Urban Area: 1996 Baseline and 2018 {emissions in tons per DAY} (Environ, 2004, p. 7, Appendix 2007-C)

Year	VOC	NOx	SO_2	PM 10
1996	83	84	7	5
2003	60	72	8	5
2008	42	55	6	4
2013	31	40	6	4
2018	**27**	**31**	**6**	**4**
Lowest Year	**2018**	**2018**	**2018**	**2018**

(b) Program to assure continuous decline in mobile source emissions.

Pursuant to 40 CFR 51.309(d)(5)(i)(A), the Department commits to monitoring the emissions from mobile sources to assure a continuous decline in emissions as defined in 40 CFR 51.309(b)(6). If the Department determines that a continuous decline in emissions is not being achieved, additional control measures will be reviewed to determine if they are needed to make reasonable progress. If the Department determines such measures are needed, it will submit an implementation plan revision to address the identified control measures.

(c) Backstop provision to address potential increase in non-road emissions in the event Federal standards are not finalized.

Pursuant to 40 CFR 51.309(d)(5)(i)(B), the Department commits to provide for a SIP revision no later than December 31, 2008 2013, containing long-term strategies necessary to reduce emission of SO2 from non-road mobile sources consistent with the goal of reasonable progress. The need for a SIP revision will be determined by a consideration of the emission reductions achieved or anticipated to be achieved by Federal standards should those standards addressing fuel sulfur content for non-raid engines not be in place.

2. Other GCVTC Strategies for Mobile Sources

Pursuant to 40 CFR 51.309(d)(5)(ii), the Department has reviewed the other mobile source recommendations contained in the GCVTC report. Based on the evaluation made by the Department, no additional measures have been identified as being practicable or necessary to demonstrate reasonable progress. However, there is already an Inspection & Maintenance program in place in Bernalillo County that is an effective local emission reduction strategy for mobile sources.

3. 2007 Interim Progress Report:

In the 1996 Grand Canyon Visibility Transport Commission (GCVTC) report there is a discussion of recommended regional and local emissions reductions strategies for mobile sources.

The regional strategies are to:

- Establish Clean Fuel Demonstration Zones
- Analyze Pricing and Incentive Approaches
- Explore an Inspection Program for Heavy-Duty Vehicles, and
- Promote Vehicle Maintenance.

The local strategies are to:

- Promote Incentives for Innovative and Effective Approaches
- Encourage Better Integration of Transportation, Land Use and Air Quality Planning
- Establish Mobile Source Emissions Budgets for Selected Major Urban Areas
- Suggest Retiring High-Emitting Vehicles (see below).

The Department has implemented a Vehicle Inspection & Maintenance Program ("I & M"), in Bernalillo County, pursuant to 20.11.100 NMAC. The most recent strategies to reduce emissions that are included in this testing program became effective on May 1, 2004, and

include: phase-in of BAR 97 OBDII analyzers certified to meet program specifications with all testing to be done using said analyzers by July 1, 2004; the incorporation of a pressurized gas cap test to reduce hydrocarbon emissions; the reduction of cutpoints (maximum allowable levels of hydrocarbon emissions); diesel vehicles are required to be tested at change of ownership; vehicles defined as "gross polluters" are required to be repaired to reduce emissions below that threshold prior to being granted a waiver or time extension; time extension for repair has been limited to one year and one time per vehicle; vehicles in model years with inspection failure rates exceeding 25% (i.e. 1975-1985) are required to be tested annually or at each registration renewal; requirement that vehicles defined as "marginal passes" be issued a certificate valid only for a one-year registration. Testing heavy-duty vehicles and retiring high-emitting vehicles has also been considered. Therefore, progress has been made in that some of the GCVTC mobile source recommendations have been implemented.

SECTION E. PROGRAMS RELATED TO FIRE

Page 35753 in the Preamble to the Regional Haze Rule (RHR) discusses the requirements for fire sources. The States are required to: 1) document that the smoke management program and any other programs for prescribed fire have a mechanism in place for evaluating and addressing the degree of visibility impairment in the 16 Class I Areas, 2) adopt a statewide process for gathering the essential post-burn activity information to support emissions inventory and tracking systems for the five major pollutant types emitted from all fire sources, 3) adopt a process for identifying feasibly removable administrative barriers to the use of non-burning alternatives, 4) adopt an Enhanced Smoke Management Program (ESMP) for all fire sources in the State, and 5) adopt a process to establish annual emission goals for all fire sources except wildfire.

Regarding administrative barriers to the use of non-burning alternatives, States may elect to establish a long-term collaborative process with key public and private entities, such as state departments of agriculture and forestry, and farming and forestry associations. One way to establish such a process would be for a state to sign a voluntary letter of agreement between these entities. If administrative barriers are found, the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) will collaborate with the necessary entities to address them.

(a) Definitions:

Note: The definitions in this section apply only to this Implementation plan and correspond to the regulation 20.11.21 NMAC, *Open Burning*.

"Agricultural Burning" means the burning of crop residues for field preparation or that is otherwise used for the production of a crop.

"Alternative to Burning" means a treatment employing manual, mechanical, chemical, or biological methods to manage vegetation and/or fuel loads, or land management practices that treat vegetation (fuel) without using fire. A treatment or practice may only be considered an alternative if it has successfully been used to take the place of fire for at least three consecutive years. Suggested alternatives to burning are listed in Section 20.11.21.18 NMAC

“Environmentally Non-Essential Burning” means the open burning of any unwanted combustible material which could otherwise reasonably be altered, destroyed, reduced or removed to a suitable disposal site without the potential to cause environmental harm or damage.

“Environmentally Poor Burning Substances” include but are not limited to: refuse, paper, rubbish, books, magazines, fiberboard, packaging, rags, fabrics, animal waste, waste oil, liquid or gelatinous hydrocarbons, tar, paints and solvents, chemically treated wood, plastic or rubber, office records, sensitive or classified wastes, hazardous or toxic substances, interiors of wrecked vehicle bodies or other materials which are difficult to burn without producing significant amounts of noxious and/or toxic fumes or dense smoke.

“Fire” means “wildfire, wildland fire (including prescribed natural fire), prescribed fire, and agricultural burning conducted and occurring on Federal, State, and private wildlands and farmlands” [40 CFR 51.309(b)(4)]. Prescribed natural fire has been functionally replaced by wildland fire managed for resource benefit or “Wildland Fire Use” (WFU) under the National Fire Plan. Except where “prescribed fire” is noted, the term “fire” shall apply to the sources identified herein.

“No-burn Period” means a period of time, declared by the Director, during which no person with authority or power to control the operation of a solid fuel heating device shall allow the operation of a solid fuel heating device to continue, following a burn down period, within the wood smoke impacted area, unless the device is a wood heater that has been emission certified by the EPA. Exemptions may be granted by the Director per 20.11.22.2 NMAC. No-burn periods may be declared any time from October 1 through February 28. The Director shall declare a no-burn period after reviewing available meteorological data, air pollution monitoring data, and other relevant information and determining that expected atmospheric conditions will not adequately disperse wood smoke.

“Open Burning” means the combustion of any substance which is not confined in a device having controllable fuel/air mixture capable of achieving nearly complete combustion, and from which combustion products are discharged into the open air without passing through a stack, duct, chimney, or vent.

“PB-I” or “Level I Prescribed Burn” means a smoke management burn project that emits less than one ton of PM10 emissions per day or burns less than 5,000 cubic feet pile volume of vegetative material per day.

“PB-II” or “Level II Prescribed Burn” means a smoke management burn project that emits one ton or more of PM_{10} emissions per day or burns 5,000 cubic feet or more pile volume of vegetative material per day.

"Prescribed Fire" Or “Prescribed Burn” or “PB” means any fire ignited by any person to meet specific land management objectives. For the purposes of 20.11.21 NMAC, wildland fire use is considered a prescribed fire.

“Ventilation Index” means a technical rating used to establish the potential for smoke or other pollutants to ventilate away from its source.

"Ventilation Index Category" means a category in the ventilation index that is determined as provided in Section 20.11.21.17 NMAC and is rated as excellent, very good, good, fair, or poor.

"Wildfire" means an unplanned and/or unwanted fire that burns vegetative material in a natural or modified state.

"Wildland" means an area in which there is minimal development, except for roads, railroads, power lines, and similar utilities and transportation facilities. Structures, if any, are widely scattered.

"Wildland Fire Use" means the management of wildfire within a wildland that is ignited by natural forces, such as by lightning or volcanic eruption, following a decision to allow the wildfire to burn to accomplish specific pre-stated resource objectives in predefined geographic areas, also known as fire use, wildfire use, prescribed natural fire, and fire for resource benefit.

"Winter pollution Advisory Season" Or "No-Burn Season" means the period from October 1st through February 28th each year when no-burn calls are made. The no-burn call is a control strategy designed to protect the air quality in Bernalillo County. This strategy helps mitigate particulate matter and carbon monoxide buildup during the colder months of the year when temperature inversions trap pollutants closer to ground level.

"Wood Smoke Impacted Area" means that portion of Bernalillo County that is the most adversely affected by the burning of wood during atmospheric conditions that the Director concludes may not adequately disperse wood smoke. The wood smoke impacted area is bounded on the north and south by the Bernalillo county line, on the west by the universal transverse meridian (UTM) line 337000mE and on the east by the UTM line 367000mE, Zone 13.

(b) Prescribed Fire Program Evaluation:

Pursuant to 40 CFR 51.309(d)(6)(i), the Department has evaluated its smoke management program and all Federal, State, and private prescribed fire smoke management programs in Bernalillo County based on the potential to contribute to visibility impairment in the 16 Class I Areas of the Colorado Plateau, and how visibility protection from smoke is addressed in planning and operation.

The Department has also evaluated 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. Tables 11 and 12 describe the results of these evaluations in detail.

Table 11: Prescribed Fire Programs that Impact Bernalillo County

Types of Prescribed Fire Programs			
Federal	*State*	*Local (Bernalillo County)*	*Private*
U.S. Forest Service-Cibola National Forest	State of New Mexico Open Burning Rule, 20.2.60 NMAC & Smoke Mgmt. Rule, 20.2.65 NMAC	Albuquerque-Bernalillo County *Open Burning* Regulation, 20.11.21 NMAC	None known at this time.

The regulation, *Open Burning*, 20.11.21 NMAC, is the foundation of the Open Burning Program, which the Department administers and enforces. Per 20.11.21.12 NMAC, unless otherwise exempted, open burning by any person is prohibited in Bernalillo County. The goal of this regulation is to eliminate environmentally non-essential burning.

20.11.21.13 NMAC conditionally allows open burning for certain activities with a permit. Permits are issued for either a single event or multiple events. Most of the multiple event open burning permits are for detonations for research and development purposes. For timber and forest management, a single event open burning permit is required for burns of ¼ acre or more. In recent years, the U.S.D.A. Forest Service has obtained a multiple-event open burning permit for the Cibola National Forest. For each burn, the permittee must specify where the burn will occur and provide a 48-hour notice to the Department. The permittee must also verify that a No-Burn Alert has not been called by the Department, prior to engaging in any burning activities.

Table 12: Comparison of the AQCB Regulation, *Open Burning,* 20.11.21 NMAC, before and after incorporating the Regional Haze Rule (RHR) Requirements

RHR Requirement / ESMP Recommendation	Previous *Open Burning* Regulation, 20.11.21 NMAC, (Before 2003 Regional Haze amendments)	Amended *Open Burning* Regulation (Effective 12/31/03)
Actions to minimize emissions	Restrictions on what can be burned and when	For burns over 1 ton PM-10 emissions per day, requires use of at least one ERT*
Evaluation of smoke dispersion	None.	**"PBII":** For burns exceeding 1 ton PM_{10} emissions per day, requires visual monitoring; The Department may decide to conduct instrument monitoring. Burns can only be conducted if ventilation category is "Good" or better. **"PBI":** For burns less than 1-ton PM_{10} emissions per day, requires 300-foot setback from occupied structure or place where people congregate and burn only during certain hours; or burner may choose to follow visual monitoring and ventilation category requirements under 'PBII'.
Alternatives to fire	Permit requires burner to state: "What alternatives to burning have been considered and why they were not chosen instead of burning" {20.11.21.13.B(3)(d) NMAC}.	For burns exceeding 1 ton PM_{10} emissions per day, requires documentation of alternatives analysis.
Public notification	None	"PBI" & "PBII". Requires notification of Bernalillo County Fire Department along with local fire authority; as well as public notification.
Air quality monitoring	None	"PBII". For burns exceeding 1 ton PM_{10} emissions per day, requires visual monitoring; The Department may decide to conduct instrument monitoring on burns close to populations.
Surveillance and enforcement	Regulatory requirements, if not met, are subject to enforcement	All prescribed burning is subject to inspection. The Department may revoke permits and take any other enforcement action authorized under state or federal statutes, rules and regulations
Program evaluation	None	Annual program evaluation and meeting with burners and other stakeholders.

RHR Requirement / ESMP Recommendation	Previous *Open Burning* Regulation, 20.11.21 NMAC, (Before 2003 Regional Haze amendments)	Amended *Open Burning* Regulation (Effective 12/31/03)
Regional coordination	None	The Department will use notifications to predict air shed capacity; The Department will work with the WRAP and the State of New Mexico on inter-jurisdictional coordination.
Tracking/emission inventory	Filed permits	All burners are required to submit tracking forms; The Department will use this information to calculate emissions.
Burn authorization	Permits issued by the Department to federal or state burners.	"Permit-by-rule" – burners are required to register in advance of burns, submit notification one day in advance for burns greater than 1-ton PM_{10} emission per day; The Department determines air shed capacity and may require burners to modify or postpone burns.

The AQCB made changes to elements of the smoke management program (as listed above) to bring the previous *Open Burning* regulation, 20.11.21 NMAC, into alignment with the Regional Haze Rule. These changes are reflected as amendments to the *Open Burning* regulation. These amendments were adopted by the AQCB on 11/12/03 and became effective within Bernalillo County on 12/31/03.

(c) Emissions Inventory and Tracking System.

Pursuant to 40 CFR 51.309(d)(6)(ii), a system has been established to develop a tracking system and an emissions inventory for the following pollutants: VOC, NOx, elemental carbon (EC), organic carbon (OC) and $PM_{2.5}$ (fine particulate) for fire sources within Bernalillo County. The Department will implement an emissions tracking system that follows the WRAP Fire Tracking System Policy (see Appendix K-O), which identifies a process for gathering the essential post-burn activity information necessary to consistently calculate emissions and uniformly assess fire impact on regional haze on an annual basis. The fire tracking system described in this policy consists of seven components: (1) date of burn, (2) burn location, (3) area of burn, (4) fuel type, (5) pre-burn fuel loading, (6) type of burn, and (7) “anthropogenic” or “natural” classification or information to support this classification. This policy serves as the basis for creating a fire emissions inventory within Bernalillo County.

Appendix K-SIP of this implementation plan contains information on the emissions inventory and tracking system that the WRAP developed for fire emissions. Note that existing emissions inventories prepared by the Fire Emissions Joint Forum (FEJF) satisfy the requirement for a statewide inventory and emissions tracking system for VOC, NOx, elemental carbon (EC), organic carbon (OC) and $PM_{2.5}$.

All sources of fire in Bernalillo County are required to submit tracking information following completion of burns. Burners are required to submit information on acreage or

pile-volume of burns and emission reduction techniques utilized. This tracking information will be used to develop an emissions inventory for emissions from all sources of fire in Bernalillo County. Emission factors will be applied to each burn to develop emissions estimates. The New Mexico Environment Department (NMED) is expected to follow this same procedure. See Appendix L-O for guidance on how to calculate emissions using emission factors and how to estimate fuel loading.

The following processes will be used by the AQCB and the Department for tracking emissions from fire sources:

- For "PBI" and "PBII" prescribed burns, including those involving timber or agricultural lands, the Burner will notify the Department of its plan to conduct a burn prior to initiating the burn. Initial estimates are made by the Burner on the quantity of material or acres to be burned.

- 20.11.21.15 NMAC requires the Burner to submit to the Department quantitative information regarding the fuel types, fuel consumption, and type of burn once the prescribed burn has been completed.

- The Department shall use the quantitative information submitted by the Burner to calculate the emissions estimates for VOCs, NOX, EC, OC, and $PM_{2.5}$ for each regulated burn. Each year the Department will complete an emissions inventory for these pollutants and submit a report to the AQCB, the State of New Mexico Environment Department, and any participating tribes in New Mexico. The AQCB may solicit public comment regarding the annual report. The report will discuss the overall level of fire emissions in Bernalillo County and compare these results to the annual emissions goals for Bernalillo County. In addition, the Department will submit emissions inventory reports to the WRAP upon completion.

- The Department shall maintain all records pertaining to prescribed burns regulated pursuant to 20.11.21 NMAC. In addition, the Department shall archive all emission inventory reports. All prescribed burn records and the completed annual emissions inventory reports will be made available to the public, upon request. It is also expected that the WRAP summaries of fire emissions for the Western states will be available to the public on the WRAP website.

- The Department shall work collaboratively with the New Mexico Environment Department and participating tribes to compile statewide emission inventories and track the emissions in a temporal and spatial manner. Statewide inventories and tracking information will be made available to the public upon request.

(d) Strategy for Use of Non-Burning Alternatives.

The Department shall develop a process to coordinate with key public and private entities, (such as the state departments of agriculture and forestry, farming and forestry associations), to identify and remove administrative barriers to the use of non-burning alternatives to prescribed fire on federal, state, and private lands in a manner consistent with 40 CFR 51.309(d)(6)(iii). The process will be collaborative and provide for continuing identification and removal of administrative barriers, and will consider economic, safety, technical and environmental feasibility criteria and land management objectives. In developing this process, the Department will rely on two documents: (1)

Non-burning Alternatives for Vegetation and Fuel Management, and (2) *Burning Management Alternatives on Agricultural Lands in the Western United States*, prepared by the WRAP, that describe a variety of non-burning alternatives and methods of assessing their potential applicability (see Appendix 2007-E). The WRAP Fire Emissions Forum recommends that these documents be used as reference guides in state and land manager decision-making processes for evaluating non-burning alternatives. The Forum also recommends that states identify in their 309 SIPs the administrative barriers they know to exist in their state, and the steps or process they will follow to remove them where it is feasible to do so.

During the development of the required smoke management revisions to the regulation, *Open Burning,* 20.11.21 NMAC, the Department identified administrative barriers to the use of a Non-Burning alternative, namely the use of air curtain incinerators (ACI). Subsection B of 20.11.68.200 NMAC of the AQCB regulation *Incinerators and Crematories*, is entitled, *Construction/Operation*, and states that: "The construction, use or operation of an incinerator, even if an 'affected facility' pursuant to 40 CFR 60, Subpart Ea as amended, on any property is prohibited, except for certain crematories as allowed by this part". In addition, it is possible that 20.11.41 NMAC, *Authority to Construct*, may become an impediment to the use of air curtain incinerators if a permit is required. There have not been any requests for a variance from the requirements of 20.11.68 NMAC submitted to the Department by burners in order to operate an ACI. Therefore no amendments have been proposed. If in the future, the Department receives a request for a variance to allow the operation of an ACI, then, the AQCB may direct the Department to take actions necessary to propose revisions to the regulation(s) and hold the necessary public hearings to modify the regulation(s) in order to remove the barriers.

The Department's ongoing efforts to identify administrative barriers shall include the periodic review of registration forms and permits submitted by burners. In the registration form required for burns conducted under Prescribed Burn II (PBII), or under a permit, burners are required to identify why alternatives to burning have not been used. The Department shall collect this data and analyze it to determine whether administrative barriers to the use of alternatives exist. Should it determine that a specific administrative barrier exists, the Department shall meet with the appropriate agency(ies) to discuss how any barriers might be removed and will work collaboratively with the agency(ies) and the burners to remove the barrier.

(e) Enhanced Smoke Management Program (ESMP).

Pursuant to CFR 51.309(d)(6)(iv), all smoke management programs that operate within Bernalillo County shall be consistent with the WRAP's *Enhanced Smoke Management Programs for Visibility* Policy (see Appendix M-O). 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 WRAP policy report lists the previously identified elements under 40 CFR 51.309(d)(6)(i) as well as adding "burn authorization" and "regional coordination" elements to ensure visibility protection and meet the designation of "enhanced".

Table 12 contains a more detailed assessment of specific elements of the AQCB's current smoke management program which are embodied in the previous (September 2003) *Open Burning* regulation and compares this previous regulation to the amended regulation. Table 12 demonstrates that the amended regulation meets the Enhanced

Smoke Management Program (ESMP) policy and the Regional Haze Rule (RHR) requirements. The amended regulation was adopted by the AQCB on 11/12/03, and, became effective on 12/31/03.

The amended *Open Burning* regulation, 20.11.21 NMAC, which became effective on December 31, 2003, specifically addresses sources of fire over 10 acres in size or greater than 1,000 cubic feet in pile-volume. The amended *Open Burning* regulation requires the use of at least one emission reduction technique for all burns with emissions of PM_{10} greater than one ton per day. These burns must also only be conducted under dispersion conditions rated 'good' or better. All burners with burns greater than 10 acres per day or 1000 cubic feet pile-volume per day are required to register the burn project prior to burn and follow up after the burn with tracking, including documentation of the use of emission reduction techniques. For burns with emissions of greater than one ton of PM_{10} emissions per day, burners are required to provide an explanation on the registration form why they did not utilize alternatives to burning.

(f) Annual Emission Goals (AEGs)

Pursuant to 40 CFR 51.309(d)(6)(v), efforts will be made within Bernalillo County to minimize emission increases from fire, excluding wildfire, to the maximum extent feasible, through the establishment of annual emission goals, in accordance with the WRAP's *Annual Emission Goals for Fire Policy* (see Appendix N-O). This policy recognizes that Emission Reduction Techniques (ERTs) can be used to minimize emissions from fire. The Department will establish a collaborative mechanism for setting annual emission goals and developing a process for tracking their attainment on a yearly basis.

The projection and tracking of ERT use is a minimum element of the quantifiable annual emission goal. The AEG should utilize the projection of total emissions inventory for prescribed fire and agricultural burning such that the effect of projected ERTs or percent-use of ERTs are shown in relation to projected total emissions. Should projected annual emissions not be available, the Department must develop such an inventory and submit a timeline for developing the inventory. This timeline will coincide with the capacity of the WRAP's Emissions Data Management System (EDMS) and/or WRAP's Fire Emissions Tracking System (FETS), to provide such an inventory, or prior to the first SIP revision period. Where ERT's or other emission reduction methods cannot be quantified with confidence due to the current state of the science, such as for agricultural burning, states should say so and support efforts toward further refinements in emission reduction (or emissions averted) calculation methodologies.

The Department intends to use this policy and quantify the ERTs that are being used within Bernalillo County on a project-specific basis to reduce the total amount of emissions being generated from areas where prescribed fire is being used. The use of ERTs to meet this rule requirement is subject to economic, safety, technical and environmental feasibility, and land management objectives.

The AQCB and the Department shall work to establish AEGs in a cooperative process with stakeholders, who shall include the State of New Mexico Environment Department, participating tribes, affected federal land management agencies including a representative from the Cibola National Forest and affected private entities. In developing the AEGs, the Department shall review the registration data provided by burners for the upcoming burn year, the tracking data submitted by burners for the

previous year, and evaluate the use of emission reduction techniques (both those tracked for the previous year and those planned for the upcoming year). These data will permit the evaluation of the potential (for the upcoming year) and actual (from the previous year) emissions from fire in the absence of the use of ERTs and to determine the amount of emissions that were averted by the use of ERTs. The amended Open Burning regulation requires the use of at least one ERT for all prescribed fires with emissions exceeding one ton of PM_{10} per day.

The Department shall review the gathered data with stakeholders on an annual basis. This data shall be used to establish the AEGs for the upcoming year. After the Department has completed the technical evaluations regarding the establishment of the AEGs, the Department shall submit the proposed AEGs to the AQCB. The first set of AEGs shall be established by the AQCB by resolution no later than April 30, 2009 and the public will be given an opportunity to review the proposed AEGs and submit comments to the AQCB. The AEGs shall be reviewed annually and updated as appropriate following the same process. The AEGs shall be made available to the public upon request. The AQCB shall also review the emissions inventory data and other information related to fire emissions to evaluate whether the AEGs have been met or exceeded.

SECTION F. PAVED & UNPAVED ROAD DUST

The Regional Haze Rule (RHR) required states to assess the impact of dust emissions on regional haze in the 16 Class I Areas on the Colorado Plateau in the first implementation plan submitted in December of 2003, and was to include a projection of visibility conditions through 2018 for the least and most impaired days. Page 35753 of the Preamble to the RHR discusses the requirements for paved and unpaved road dust.

If dust emissions were determined to be a significant contributor to visibility impairment, the state would have been required to implement emissions management strategies to address their impact. The road dust assessment was limited to the 16 Class I Areas on the Colorado Plateau.

(a) Impact of Paved and Unpaved Road Dust Emissions:

Pursuant to 40 CFR 51.309(d)(7), the Western Regional Air Partnership (WRAP) assessed the impact of dust emissions from paved and unpaved roads from transport region states on the 16 Class I Areas of the Colorado Plateau.

(b) Contribution to Visibility Impairment Finding:

Pursuant to 40 CFR 51.309(d)(7), the results of the aforementioned assessment of the impact of dust emissions from paved and unpaved roads from transport region states on the 16 Class I Areas of the Colorado Plateau performed by the WRAP (described below) the Department has determined that regional scale dust emissions for the purpose of the RHR are not a significant contributor to visibility impairment within the 16 Colorado Plateau Class I Areas. Based on these findings, no specific emission management strategies have been identified for inclusion in this SIP submittal.

The Department will continue to work with EPA and other entities to research the effects of road dust on visibility impairment, and will re-evaluate whether or not additional dust control strategies should be developed to address regional haze.

WRAP Modeling Results.

Road dust emission inventories were developed for WRAP states and the significance of road dust was then tested using the regional air quality model. Across WRAP states, paved road dust emissions are predicted to increase by about 3% per year from 1996 to 2018, concurrent with the forecasted increase in vehicle miles traveled. Unpaved road dust emissions are projected to decrease between 1996 and 2018, by about 0.75 % per year, because of reductions in unpaved road mileage over time as more roads are paved. As a result, unpaved road dust emissions are about 80% of road dust PM_{10} emissions in 1996, and are estimated to be about 65% of road dust PM_{10} emissions in 2018. Overall, projected road dust PM_{10} emissions increase by about 6% from 1996 to 2018.

The modeled regional impact of road dust emissions at the 16 Colorado Plateau Class I Areas ranged from 0.31 deciviews (3.1% of natural conditions to be reached by 2064) at the Black Canyon of the Gunnison National Park to 0.08 deciviews (0.8% of natural conditions to be reached by 2064) at the Weminuche Wilderness. From these preliminary results, the WRAP has determined that the regional impacts of road dust emissions are not significant at the 16 Colorado Plateau Class I Areas at this time. However, based upon the WRAP's most recent analysis and a recognition that the modeling will improve, the Department has determined that further research will be needed. Unpaved road dust will be reevaluated as part of the SIP revision due in 2013.

(c) Tracking of Road Dust Emissions:

The Department shall track road dust emissions with the assistance of the WRAP, consistent with provisions of the RHR and other relevant EPA and WRAP guidance. The Department shall 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. These updates shall include a re-evaluation 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).

Current Efforts to Control Paved and Unpaved Road Dust Emissions

The AQCB has taken a proactive approach towards reducing PM_{10} emissions to keep Bernalillo County in attainment status and protect the health of the community. On January 14, 2004, the AQCB repealed the regulation, Airborne Particulate Matter, and replaced it with a more rigorous regulation, *Fugitive Dust Control*, 20.11.20 NMAC, which became effective on 3/1/04 (see Appendix 2007-G). The intent of the regulation is to control fugitive dust generated by human impact on the environment. Reducing fugitive dust reduces the adverse health effects of PM10 and PM2.5 and it improves the quality of life for all residents. Preventing fugitive dust is also important for safety and general welfare of the community.

The new regulation requires that persons must use reasonably available control measures (RACMs) to reduce fugitive dust and keep dust on the site where it is

generated. Active operations are prohibited from causing fugitive dust that adversely affects health, public welfare, and safety, impairs visibility or the reasonable use of property. Also, visible fugitive dust caused by active operations cannot cross a property line for more than 15 minutes in one hour. Inactive disturbed areas must be stabilized to prevent fugitive dust.

With some exceptions, a person who plans to disturb ¾ of an acre or more is required to obtain a permit and pay fees. A new form of permit called a Programmatic Permit is issued to public agencies on an annual basis for routine maintenance activities. The new regulation places restrictions on the construction of new unpaved roadways longer than ¼ mile in length, unpaved short-cuts, and unpaved parking areas. New unpaved areas will need to be stabilized to limit fugitive dust.

For the first time, the fugitive dust regulation includes a wide range of reasonably available control measures in the regulation itself. (i.e. Silt fencing around construction sites, re-vegetation of a new roadway project, seed specifications, access control to unpaved roadways, early construction of walls around housing projects, use of water trucks, installation of paving and curbing, use of millings on shoulders, an access controlled maintenance road, and a swale with revegetation, etc.).

SECTION G. POLLUTION PREVENTION (P2)

The Regional Haze Rule (RHR) requires a detailed assessment of Pollution Prevention (P2) programs and activities in each state, and an estimate of emission reductions and visibility improvements that could result from these programs and activities. This requirement is for an assessment only; a state does not have to adopt any specific energy-related strategies or regulations. Page 35754 in the Preamble to the RHR discusses the P2 requirements for regional haze.

A state's 309 SIP must include the following: 1) a summary of all P2 programs currently in place, 2) total energy generation capacity and production in the state and the percentage that is renewable, 3) any incentive programs that reward efforts that go beyond compliance, 4) any programs that preserve and expand energy conservation efforts, 5) any specific areas where there is the potential for renewable energy to supply power in a cost-effective manner, 6) projections of the short and long-term emissions reductions, visibility improvements, cost savings and secondary benefits associated with renewable energy goals and energy efficiency and pollution prevention activities, and 7) the state's anticipated contribution toward the renewable energy goals for 2005 and 2015.

(a) Summary of P2 Programs in the State.

Pursuant to 40 CFR 51.309(d)(8)(i), Tables 13 through 17 below summarize all P2 programs in place in New Mexico (as of 2003) that could affect Bernalillo County. Table 18 summarizes all renewable energy generation capacity and production in use or planned as of 2002 in Bernalillo County. The renewable energy generation capacity and production in use or planned for the State of New Mexico as of 2002 is presented in Appendix O-O for comparison. Table 19 summarizes the total energy generation capacity and production in Bernalillo County, and the percent of the total that is renewable. Total energy generation capacity and production in the State of New Mexico,

and the percent of the total that is renewable, is presented in Appendix O-O for comparison.

Table 13: Policy Mechanisms to Promote Renewable Energy

Program Title	Program Description
Renewable Portfolio Standard	Eligible Technologies: Solar, Thermal, Electric, Photovoltaic, Landfill Gas, Wind, Biomass, Hydro, Geothermal Electric, Fuel Cells Standard: 5% in 2006, rising to 10% in 2011 Technology Minimum: No Credit Trading: Yes Date Enacted: 12/17/02 Effective Date: 7/1/2003 Website: http://www.nmprc.state.nm.us/utility.htm Authority 1: NM PRC Case No. 3619 Authority 2: 17.9.572 NMAC Summary: This rule requires public utility companies to produce 5% of all energy they generate for New Mexico customers from solar, wind, hydropower, biomass, or geothermal sources by 2006. Generation from renewables must increase by at least 1% per year until the portfolio standard (RPS) of 10% is attained in the year 2011. Utilities document compliance with the RPS with Renewable Energy Certificates (REC), which represent kilowatt hours (kWH) of renewable energy produced. One kWH of electricity generated by wind or hydroelectric technologies is worth one kWH toward compliance with the RPS; One kWH of biomass, geothermal, landfill gas, or fuel cell power is worth two kWH REC; and One kWH of solar power is worth three kWH REC Investor owned utilities and electric cooperatives are required to offer a voluntary renewable energy tariff (green pricing program) for those customers who want the option to purchase additional renewable energy. El Paso Electric has filed an appeal with the state Supreme Court, taking issue with the rule. That case is currently pending with the court. John Curl NM Public Regulation Commission 224 East Palace Ave., Marian Hall Santa Fe, NM 87501 Phone: (505) 827-6960 E-Mail: john.curl@state.nm.us Web site: http://www.nmprc.state.nm.us/

Program Title	Program Description
Mandatory Utility Green Power Option	Incentive Type: Mandatory Utility Green Power Option Eligible Technologies: Photovoltaic, Landfill Gas, Wind, Biomass, Hydro, Geothermal Electric, Fuel Cells Applicable Sectors: Utilities Date Enacted: 12/17/02 Authority 1: 17.9.572.10D NMAC Authority 2: NMPRC Case No. 3619 Summary: The New Mexico Public Regulation Commission (NMPRC) has approved a renewable energy rule that requires investor owned utilities and electric cooperatives to offer a voluntary renewable energy tariff (green pricing program) for those customers who want the option to purchase additional renewable energy. These utilities must also develop an educational program on its voluntary renewable energy program. The renewable energy tariffs must be filed with the NMPRC by the end of September 1, 2003. The rule also requires public utility companies to produce 5% of all energy they generate for New Mexico customers from solar, wind, hydropower, biomass, or geothermal sources by 2006. Generation from renewables must increase by at least 1% per year until the renewable portfolio standard (RPS) of 10% is attained in the year 2011. Contact: John Curl New Mexico Public Regulation Commission 224 East Palace Ave. Marian Hall Santa Fe, NM 87501 Phone: (505) 827-6960 E-Mail: john.curl@state.nm.us Web site: http://www.nmprc.state.nm.us/

Program Title	Program Description
Net Metering	Incentive Type: Net Metering Rules Applicable Sectors: Commercial, Industrial, Residential Limit on System Size: 10 kW Limit on Overall Enrollment: None Treatment of Net Excess: Avoided cost or credited to the following month Utilities Involved: All utilities Interconnection Stds. for Net Metering? Yes Date Enacted: 1998, amended 1999 Effective Date: 12/31/98 Expiration Date: none Authority 1: 17 NMAC 10.571 Authority 2: 1998 NM PUC Order 2847 Summary: The New Mexico Public Regulation Commission (PRC) has issued a rule requiring all utilities regulated by the PRC to offer net metering for cogeneration facilities and small power producers with systems of 10 kW or less. Municipal utilities are exempt because they are not regulated by the PRC. There is no statewide cap on the number of systems eligible for net metering. Net excess electricity generated by a qualifying system must be credited to the customer on the next bill by either (1) crediting or paying the customer for the net energy supplied to the utility at the utility's "energy rate"; or (2) crediting the customer for the net kilowatt-hours of energy supplied to the utility. Unused credits shall be carried forward from month to month. In this case, if a customer leaves the system, utilities must pay the customer for any unused credits at the utility's "energy rate". This rule amended New Mexico's November 30, 1998, net metering ruling, PSC Final Order Case #2847. Under this rule, net excess generation was credited to the customer's next monthly bill with any unused credited granted to the utility at the end of the year. Contact: John Curl New Mexico Public Regulation Commission 224 East Palace Ave. / Marian Hall Santa Fe, NM 87501 Phone: (505) 827-6960 E-Mail: john.curl@state.nm.us Web site: http://www.nmprc.state.nm.us/

Program Title	Program Description
System Benefits Charge	The *Electric Utility Industry Re-structuring Act of 1999* [Sections62-3A-1 to -23, NMSA 1978] Under this Act, retail competition for electricity supplies was scheduled to begin in New Mexico on January 1, 2002. A "System Benefits Charge" of three-hundredths of one cent ($0.0003) per kilowatt-hour (kWh) of electricity sold is imposed by the Act. The charge rises to six-hundredths of a cent ($0.0006) per kWh beginning in 2007. Money resulting from this charge on all customers' electric bills will be deposited in a newly established "System Benefits Fund." Currently, this collection began on January 1, 2002. The New Mexico Environment Department (NMED) is to disburse money from the Fund for PRC public education programs ($500,000 annually); low-income energy assistance (no less than $500,000 annually); renewable energy for cities, counties and school districts (no more than $4 million annually); and for renewable energy and transmission lines in low-income areas with little or no electrical service (no more than $4 million annually). The money in this fund will be used in New Mexico for several "public benefit" purposes: 1. Consumer education 2. Weatherization projects 3. Initiation, development, & evaluation of renewable energy projects 4. Electric service to unserved and underserved areas www.emnrd.state.nm.us/Mining/resrpt/00/5Second.pdf

Program Title	Program Description
Line Extension	Incentive Type: Line Extension Analysis Eligible Technologies: Photovoltaic Applicable Sectors: Commercial, Residential, Utilities Availability: none Requirements: none Service: Information provided by utility Expiration Date: none Authority 1: NMPUC Case Number 2476 Summary: Due to New Mexico Public Utility Commission Case Number 2476, electric utilities in the state are required to provide information on alternative energy systems to remote customers with less than a 25-kW load who request line extensions. This requirement applies when the cost of the requested line extension is greater than 15 times the estimated annual revenue from the line extension. In such cases, utilities must provide customers with information on suppliers of alternative energy systems. Contact: John Curl New Mexico Public Regulation Commission 224 East Palace Ave. Marian Hall Santa Fe, NM 87501 Phone: (505) 827-6960 E-Mail: john.curl@state.nm.us Web site: http://www.nmprc.state.nm.us/

Table 14: Financial Incentives to Promote Renewable Energy

Program Title	Program Description
New Mexico Renewable Energy Production Tax Credit	Incentive Type: Corporate Tax Credit Eligible Technologies: Solar; Thermal, Electric, Photovoltaic, Wind, Biomass Applicable Sectors: Commercial, Industrial Amount: 1 cent/kWh Max. Limit: First 400,000 MWh Terms: Eligible for 10 consecutive years Date Enacted: 3/4/02 Effective Date: 7/1/02 Website: http://www.state.nm.us/tax/forms/year02/rpd41227.pdf Authority 1: New Mexico Statutes Annotated, Section 7-2A-19. Authority 2: 3.13.19 NMAC Summary: This tax incentive was enacted into law during the 2002 New Mexico Legislative Session. It originally provided a tax incentive in the amount of one cent ($0.01) per kilowatt-hour for each kilowatt-hour of electricity generated from solar or wind energy resources. The credit is applied against a company's state income tax liability. Qualifying facilities had to be at least 20 megawatts in size, with the credit available up to a maximum of 400,000 megawatt-hours per year per company or 800,000 megawatt-hours per year in the aggregate for all companies. The statute was amended in 2003 to include biomass as a qualifying form of source material. Other amendments included lowering the minimum megawatt limit for qualifying projects from 20MW to 10MW to allow smaller wind, solar and biomass projects to qualify; and increasing the total amount of the credit available each year from 800,000 megawatt-hours to 2,000,000 megawatt-hours. Contact: Harold Trujillo NM Energy, Minerals & Natural Resources Dept Energy Conservation and Management Division P.O. Box 1948 / 1220 South Saint Francis Drive Santa Fe, NM 87504 Phone: (505) 827-7804 Fax: (505) 827-3903 E-Mail: hjtrujillo@state.nm.us Web site: http://www.emnrd.state.nm.us/ecmd

Industrial Revenue Bond (IRB) Financing	Statutory/Regulatory Citation: New Mexico Statutes Annotated: NM Industrial Revenue Bond Act (Section 3-32-1 *et seq*.); and County Industrial Revenue Bond Act (Section 4-59-1 *et seq*.) [http://www.legis.state.nm.us]	Description: The cited laws provide that any county or municipality may issue Industrial Revenue Bonds (IRBs) for the purpose of financing electric generating plants, including those fueled by renewable resources. The significance of IRB financing is the associated tax advantages.
Gross Receipts Tax Exemption for Wind Equipment	Statutory/Regulatory Citation: New Mexico Statutes Annotated, Section 7-9-54.3 [http://www.legis.state.nm.us];	Description: This law provides wind developers an exemption from the gross receipts tax for certain wind equipment, including nacelles and rotors, *provided* the project is financed with Industrial Revenue Bonds (Section 7-9-54.3 NMSA 1978).

Table 15: Programs to Promote Renewable Energy

Policy Program Title	Program Description
State Energy Program	**State Energy Program** The State Energy Office administers the U.S. DOE State Energy Program grant and implements program goals to encourage energy efficiency and renewable-energy usage, provide energy education and community outreach, offer policy advise to the Executive and Legislative branches, and help New Mexico citizens reduce their utility bills and improve their comfort and safety. The Energy Office is funded through a combination of federal funds and Petroleum Violation Escrow funds. Director: Chris Wentz (505) 476-3312 http://www.emnrd.state.nm.us Special Projects The State Energy Office administers the State Energy Program – Special Project Grants. Each year states submit proposals in response to a DOE solicitation identifying how specific technologies could be implemented in their region of the country. DOE then selects the projects that best meet national energy goals. The Energy Office publicizes grant availability, helps prepare grant applications, selects partners for project implementation and administers grants.

Policy Program Title	Program Description
Solar Development and Use	**New Mexico Million Solar Roofs Partnership** Incentive Type: Outreach Program Eligible Technologies: Solar Water Heat, Active Solar Space Heat, Photovoltaic, Solar Pool Heating Systems Applicable Sectors: Commercial, Industrial, Residential, General Public, Nonprofit, Schools, Local Government, Utilities, State Government, Tribal Government Goal: Install 600 solar systems in New Mexico, and one million nationwide by the year 2010 Date Enacted: 1997 Website: http://www.emnrd.state.nm.us/ecmd/html/solar.htm Summary: The Energy Conservation and Management Division of the New Mexico Energy, Minerals and Natural Resources Department lead the New Mexico Million Solar Roofs Initiative (MSRI). The U.S. DOE, through its Regional Offices, focuses its efforts on national, state and local partnerships. These partnerships are made up of the building industry, other federal agencies, local and state governments, utilities, energy service providers, the solar energy industry, financial institutions, and non-governmental organizations. The goal is to remove market barriers to solar energy use, develop, and strengthen local demand for solar energy products and applications. Contact: Michael McDiarmid, P.E. NM Energy, Minerals & Natural Resources Dept Energy Conservation and Management Division 1220 South Saint Francis Drive Santa Fe, NM 87505 Phone: (505) 476-3319 Fax: (505) 476-3322 E-Mail: mmcdiarmid@state.nm.us **Schools with Sol Solar Demonstration** The Schools with Sol program is managed by ECMD to implement one of Governor Richardson's conservation agenda goals, which is to provide solar power to 10 schools each year. Solar energy systems will be installed at New Mexico schools, competitively selected, to be used as demonstrations in renewable energy education for K-12 students, as well as reduce energy consumption. Both photovoltaic and solar domestic water heating systems will

Policy Program Title	Program Description
	be used. A teacher at each participating school will "champion" their system through educational activities in renewable energy. System installers will be selected from statewide price agreements. ECMD is using $100,000 in federal funds to implement the current FY2004 cycle of 10 school installations, with an additional $18,000 provided by Public Service Company of New Mexico and in-kind contributions provided by participating schools. **Solar Rights Act of 1978** Incentive Type: Solar Access Law/Guideline Eligible Technologies: Passive Solar Space Heat, Solar Water Heat, Active Solar Space Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics Applicable Sectors: Commercial, Industrial, Residential Easement: Yes Covenant: No Zoning/Development: Yes Date Enacted: 1/1/78 Expiration Date: none Authority 1: New Mexico Code 47-3-1 -- [~~47-3-11~~] 47-3-5 Summary: New Mexico's Solar Rights Act of 1978 allows property owners to create solar easements for the purpose of protecting and maintaining proper access to sunlight. The New Mexico Energy Conservation and Management Division reports that three to five solar easements are granted each year. The Solar Rights Act also includes provisions allowing local governments to create their own ordinances or zoning rules pertaining to the protection of solar rights. Contact: Harold Trujillo New Mexico Energy, Minerals and Natural Resources Department Energy Conservation and Management Division P.O. Box 1948 1220 South Saint Francis Drive Santa Fe, NM 87504 Phone: (505) 827-7804 Fax: (505) 827-3903 E-Mail: hjtrujillo@state.nm.us Web site: http://www.emnrd.state.nm.us/ecmd

Policy Program Title	Program Description
	Solar Recordation Act Authority 1: New Mexico Code [~~47-3-6 to -12~~] 47-3-9 [http://www.legis.state.nm.us] Description: The Solar Recordation Act declares that solar energy is a viable energy source in New Mexico and, as such, its development should be encouraged. The purpose of the Act is to accomplish such encouragement through the protection of solar rights necessary for small-scale installations. A solar right is considered an "easement appurtenant" and may be claimed by an owner of real property upon which a solar collector has been placed. The solar right is claimed and recorded by filing a declaration with the county clerk of the applicable county where the property is located; a sample declaration is included in the statute as are provisions for notification of affected property owners. The statute also provides for the transfer of solar rights when a property changes ownership. **Solar Energy Development Act** Authority 1: New Mexico Code 71-6-1 to -3 [http://www.legis.state.nm.us] Description: The purpose of Solar Energy Development Act is to promote development and use of solar energy in New Mexico, by both industry and government, for the benefit of New Mexico and United States citizens. It is proposed to accomplish this purpose through active measures to encourage the location within New Mexico of research to discover practical and feasible methods to harness solar energy, as well as development of a vigorous and productive solar energy industrial complex. The New Mexico Economic Development Department is charged with various responsibilities under the Act, including establishment and operation of a program to encourage investment in the research and application of solar energy within New Mexico; development of necessary promotional material to be used in the process of attracting new investment capital within the solar energy field; employing sufficient staff to carry out the purpose of this law; and cooperation with private firms and all agencies of the state and federal government in furthering research and investment in solar energy use in New Mexico. **Solar Collector Standards Act** Authority 1: New Mexico Code 71-6-4 to -10 [http://www.legis.state.nm.us] Description: The purpose of the Solar Collector Standards Act is To develop and implement a program to promote solar industry and stimulate a demand for high quality solar components and systems. The New Mexico Energy, Minerals and Natural Resources (EMNRD) is charged with the responsibility under the Act to promulgate regulations to define minimum standards for the durability and

Policy Program Title	Program Description
	reliability of solar collectors; and to establish criteria for testing the durability, reliability and thermal efficiency of solar collectors. The Department is also authorized to develop and implement a solar collector certification program. EMNRD promulgated appropriate regulations and implemented the specified certification program in the mid-1980s until the expiration of federal and state solar tax credits.

Program Title	Program Description
Biomass Development and Use Program	**Western Regional Biomass Program** Biomass Industry Development Working Group The Energy, Minerals and Natural Resources Department is serving as the convener of a Biomass Industry Development Work Group in New Mexico. The purpose of this group is to develop a coordination process to encourage and assist in the development of a viable biomass industry in New Mexico, resulting in improved forest health and increased use of domestic biomass resources to stimulate economic development. This process will include assessing opportunities, current projects, end products (biofuels, biopower and bioproducts), supply, technologies, incentives, barriers, funding and economics.
Wind Development and Use Program	**Wind Powering America Program** NM Wind Energy Working Group The New Mexico Wind Energy Working Group was established in December 2000. It is an informal organization of representatives from both the public and private sectors, including wind developers, related businesses, federal/state/tribal/local governments, national laboratories, electric utilities, universities, and renewable energy advocates. Approximately 80 individuals are now included on the NM Wind Working Group e-mail address list. The Energy Conservation and Management Division of the New Mexico Energy, Minerals and Natural Resources Department coordinates the group, with assistance from Sandia National Laboratories-Albuquerque and the U.S. DOE's *Wind Powering America* program. A primary role of the Working Group is to function as a stakeholder organization that can act and speak collectively on behalf of geothermal interests operating in New Mexico. Key tasks and activities of the NM Wind Energy Working Group are: serve as a forum for networking, communications and coordination among wind stakeholders; acquisition and dissemination of information about existing wind resources, their development and use in electric generation; identification and delineation of the issues that impede expansion of wind applications; and removal of barriers to geothermal advancement. **New Mexico Wind Energy Center** PNM and FPL Energy in October 2002 announced an agreement to develop the New Mexico Wind Energy Center, to be built in eastern New Mexico. Power produced at the energy center in eastern New Mexico will flow onto the PNM-owned electric grid. PNM has introduced a "green tariff," subject to approval by state regulators which would allow customers to sign up for and support energy from this renewable project through payment of a small monthly premium. To the extent customers subscribe to the program, PNM will direct that amount of energy toward meeting local

	(jurisdictional) needs. PNM will seek to sell the remainder of the power on the wholesale market, either within or outside of New Mexico. PNM's involvement with the New Mexico Wind Energy Center represents the largest private-sector investment in renewable energy in New Mexico history. PNM hopes to use residential and business participation in the voluntary green tariff program as a way to gauge support for these kinds of projects. PNM will use this information to guide any renewable projects it may undertake in the future. Three factors — improvements in wind technology, the scale of this project and the existence of both federal and state tax credits — make power from the New Mexico Wind Energy Center more cost-effective than power from other renewable energy sources currently available. The addition of energy from the New Mexico Wind Energy Center will change PNM's generation portfolio. Wind will comprise 8 % of PNM's overall generation capacity, which is the portfolio's peak potential output. However, because of the intermittent nature of wind, the facility is expected to comprise about 4 % of the energy actually produced by or for PNM over the course of a given year. (From "New Mexico Wind Energy Center" prepared by Public Service Company of New Mexico http://www.pnm.com/systems/nmwec.htm) **ConservationSmart from Xcel EnergySM - Windsource®** Incentive Type: Green Pricing Program Eligible Technologies: Wind Applicable Sectors: Commercial, Industrial, Residential, Xcel Energy electric customers Premium: $3.00 per block per month, 1 block = 100 kWh Commitment: 1 year residential; 3 years commercial Effective Date: 1999 Website: http://www.xcelenergy.com/XLWEB/CDA/0,2795,1-1-2_735_777-221-2_68_132-0,00.html Summary: Conservation Smart from Xcel EnergySM supports the Windsource® program in Colorado, Minnesota and New Mexico. All residential, commercial and industrial electric customers are invited to participate in this program, which supports grid-connected wind turbines. Residential customers can sign up for one year periods and buy wind energy at $3.00/month for 100 kWh blocks; commercial customers can sign up for three year periods and either choose the "Leader" plan, buying all their energy from renewable resources, or the "Supporter" plan, buying in blocks similar to residential customers. Xcel Energy has used bill inserts and media events to market Windsource® and is working with environmental

	groups to further promote the program. To sign up for Windsource®, call 1-800-824-1688 or download, print and mail in the sign-up form from the Windsource® website. Contact: Andy Sulkko Xcel Energy -Marketing Division 1225 17th Street, Suite 1100 Denver, CO 80202-5533 Phone: (303) 294-2554 E-Mail: andy.sulkko@xcelenergy.com Web site: http://www.xcelenergy.com/XLWEB/CDA/
Hydrogen Development and Use Program	**Hydrogen Technology Partnership (HyTep)** The Energy Conservation and Management Division is administering the U.S. DOE Industries of the Future (IOF) program in New Mexico. The Industries of the Future program seeks to bring together industry, academia, and state agencies to address industrial energy efficiency and pollution prevention. These public-private coalitions facilitate industry solutions locally and enhance economic development. New Mexico is currently focusing on the mining and forest products industry because of their high energy use, opportunities for pollution prevention and important role in New Mexico's economic development

Table 16: Policy Mechanisms to Promote Energy Efficiency/Energy Conservation

Policy Program Title	Program Description
Governor's Executive Order: Resource Efficiency in State Government	Since 1992 New Mexico State Government has been directed through Executive orders to reduce energy consumption and costs in state buildings. To accomplish the directive the State Energy Office has provided technical assistance, financial assistance grants, and worked with state agencies to develop and implement energy plans. New Executive Order currently being developed.
Public Facility Energy Efficiency and Water Conservation Act	New Mexico Statutes Annotated, Sections 6-23-1 to-10 [http://www.legis.state.nm.us] This legislation allows state agencies, school districts, and universities to enter into 'Performance contracts' whereby private sector energy service companies provide the up-front costs of energy saving measures (such as installation of more efficient lighting, motors, and heating systems) and guarantee energy savings to recoup their investment through the utility cost savings over the period of up to 10 years. By statute, the State Energy Office is responsible for review of the proposed contracts to ensure that savings estimates are accurate and reasonable prior to agencies entering into performance contracts.
Green Purchasing: Energy Star Partnership	New Mexico is working with the U.S. DOE and the Environmental Protection Agency to become a partner in the Energy Star Program to promote the benefits of energy efficient homes, buildings, and products. According to E*nergy Star* Program if all available opportunities for energy efficiency improvements were taken advantage of more than $229 million would be saved annually and 2.5 billion pounds of CO2, 6 million pounds of NOx, and 5.7 million pounds of SO2 would be prevented each year in New Mexico.

Table 17: Programs to Promote Energy Efficiency/Energy Conservation

Policy Program Title	Program Description
State Government Energy Management Program	**Electric/Gas Utility Database** Professional engineering staff with the State Energy Office maintains a utility database that tracks utility usage by state agencies. 30 utility companies provide the data across the state. The database is the sole centralized repository for information on the State's $13 million building energy expenditures. Energy Performance Contracting
Public Schools Energy Efficiency Program	**Construction Plan Review** Professional energy engineers within the State Energy office continue to work with school districts throughout New Mexico in an effort to improve their facilities' energy efficiency. Under an agreement with the State Department of Education the construction plans are reviewed to ensure compliance with applicable building energy codes. Energy Performance Contracting New Mexico school districts utilize "performance contracts" to implement energy efficiency projects in school buildings that are paid from guaranteed energy savings. Private-sector energy service companies provide the up-front investment and installation of the energy efficient measures
Public Schools Energy Efficiency Program	**Construction Plan Review** Professional energy engineers within the State Energy office continue to work with school districts throughout New Mexico in an effort to improve their facilities' energy efficiency. Under an agreement with the State Department of Education the construction plans are reviewed to ensure compliance with applicable building energy codes. Energy Performance Contracting New Mexico school districts utilize "performance contracts" to implement energy efficiency projects in school buildings that are paid from guaranteed energy savings. Private-sector energy service companies provide the up-front investment and installation of the energy efficient measures
Commercial and Industrial Sector Energy Efficiency Program	**Building America Program** Building Energy Codes/Standards The State Energy office has participated in several code technical advisory group meetings, provided graphical comparisons between old and new code requirements, and has been working with the Construction Industries Commission (CIC) to upgrade New Mexico's residential and commercial building energy codes. Currently Energy Office efforts on codes are being concentrated in the areas of 1) codes adoption, and 2) training provided to the building industry designed to help insure that structures designed to code will be more energy efficient Current Residential Energy Code: 1992 MEC with state amendments, mandatory statewide. Current Commercial Energy Code: ASHRAE 90A-1980 and 90B-1975, mandatory statewide; ASHRAE/IESNA 90.1-1989 mandatory for state-

Policy Program Title	Program Description
	funded buildings. Code Change: Most recent code update effective 10/1/1994. (http://www.bcap-energy.org/backissues.html) **Green Zia Environmental Excellence Program** The Green Zia Environmental Excellence program is a voluntary program designed to support and assist all New Mexico businesses to achieve environmental excellence through continuous improvement and effective energy management. The program encourages integration of environmental excellence into business operations and management practices through establishment of a prevention-based environmental management system. The Governor of New Mexico recognizes and presents awards annually to organizations that successfully participate in the program. **Rebuild America/Rebuild NM Program** Lead Organization: Rebuild New Mexico/NM Energy, Minerals and Natural Resources Department (NM EMNRD) The City of Albuquerque joined Rebuild America in 1998. By 1999, this partnership had morphed into the larger Rebuild Central New Mexico. IRS designated Rebuild Central N.M. with 501(c)3 status in 2002. Rebuild NM supports reducing energy costs, water consumption and pollution to save energy, boost the economy and support national security. Partners include businesses, local governments, schools, and community and professional organizations Rebuild Central New Mexico received two DOE grants for FY 2002: 1. Promote updated Codes and Standards to the construction industry, including architectural surety and energy efficiency; 2. Provide broad educational programs, partner development and workshops on energy efficiency. Administration's energy goals include: generation of 10% of the State's energy from renewables, becoming one of the top three wind producing states by the end of 2006, expanding net metering, achieving increased energy savings in state buildings and putting clean, fuel efficient vehicles on the roads. Albuquerque Public Schools–saved 489,617 KWh and $36,971 compared to the 2000-01 school year due to behavior changes in the use of energy by students, teachers and staff. In the 1st quarter of 2002-2003, 31 participating schools have saved 1,096,126 KWh and $82,594 compared to 2000-2001. The City of Albuquerque's recently enacted 1% of the Capital Program for Energy Conservation Projects, and is a national milestone. Albuquerque Housing Authority is implementing Performance Contracting as a financing option to save energy and costs long term. Rebuild NM received Rebuild America's Energy Champion Award for Commercial Buildings in 2002 for its audit work. Efforts are currently underway to follow up these audits with implementation plans and strategies, which will provide more insight regarding retrofit and cost savings.

Policy Program Title	Program Description
	(http://www.rebuild.org/news/newsdetail.asp?NewsID=1583) Julie Stephens, Coordinator Partnership Main Contact Rebuild Central New Mexico 1801 Fourth Street NW - Bldg. B Albuquerque, NM 87102 Phone: (505) 768-5346 Fax: 505 768-5317 E-Mail: info@rebuildnewmexico.org; rebuildnmjulie@aol.com http://www.rebuild.org/sectors/communitylocal_state.asp?OrganizationID=83 **Industries of the Future Program** The US DOE Program seeks to broaden the impact of investments in advanced industrial technologies and practices for energy efficiency and waste reduction through implementation of nationally developed IOF vision and technology roadmaps. New Mexico is currently conducting inventories of energy use and pollution prevention within the mining and forest industries in the state and will be working on a sustainability plan.
Residential Sector Energy Efficiency Program	**Weatherization Assistance Program** The New Mexico Mortgage Finance Authority through an Agreement with the State of New Mexico administers New Mexico's Weatherization Assistance Program (federal and private funds), low-income, weatherization program The primary mission of this program is to reduce the energy required for space heating and cooling for income eligible households applying for assistance through the process sub-grantees, statewide. This program receives its primary funding from the U.S. DOE and the U.S. Department of Health and Human Services. The program also leverages additional funds through partnership with utilities, and other federal and state housing programs. Many aspects of the Residential Training and Technical Assistance Programs are now incorporated into the training of Weatherization sub-grantees, which assures that savings are maximized. **Low-Income Home Energy Assistance Program (LIHEAP *)*** LIHEAP is a Federally-funded program that helps low-income households with their home energy bills. LIHEAP assists low-income households in meeting the costs of heating and cooling their homes. States, Tribes and Insular areas, which assist low-income households with high-energy burdens and vulnerable members may apply for LIHEAP block grant funds. LIHEAP benefits include heating or cooling assistance; energy crisis interventions to cope with weather-related and supply-shortage home energy emergencies; low-cost residential weatherization and other energy-related home repairs to assist in safely increasing the efficiency of home energy consumption. The Office of Community Services administers this program. Hub activities are limited to referral services and

Policy Program Title	Program Description
	general information dissemination activities regarding grant opportunities and announcements Lori Williams, LIHEAP Program Mgmr Income Support Division Community Development & Commodities Bureau New Mexico Human Services Department 5301 Central NE, Suite 1520 Albuquerque, New Mexico 87108 TEL: (505) 841-6535 (Albuquerque area) or 1-800-283-4465 (statewide) FAX: (505) 841-6522 E-MAIL: Loretta.Williams@state.nm.us www.state.nm.us/hsd/isd.html **Paisano-Weatherization Program** 6729 4th St. NW Albuquerque, NM Phone (505) 344-7211 Weatherization program for low-income residents of Bernalillo, Sandoval, Torrance and Valencia Counties. **High-Efficiency Washing Machine Program** Sponsor: City of Albuquerque Energy Star Platform: No Service Territory: 480,000 residents of Albuquerque and Bernalillo County, New Mexico Goals & Objectives: To encourage utility customers to buy high-efficiency machines and to help bring down the cost of the machines by increasing the volume of sales. The program goal for 2002 is to provide 1,100 credits. Program Description: The City of Albuquerque provides a credit on the water bills of customers who purchase a CEE-qualified washer. Incentives: Clothes Washers: $100 credit on water bills for CEE-qualified clothes washers. Field Support: City of Albuquerque provides rebate information and forms to participating retailers. Marketing: bill inserts, and newspaper articles. Budget: FY2002 $110,000 Further Information: Jean Witherspoon 505-768-3633 jasw@cabq.gov www.cee1.org/resid/seha/02seha-progsum.pdf

Table 18: Summary of Renewable Energy Generation Capacity and Production in Use or Planned as of 2002 in Bernalillo County

Categories	Year 2002 (kW)	Existing & Planned as of 2002 (kW)	Total kWh in 2002
Solar	6.6	6.6	6.6
BioGas	2200	2200	2200
TOTAL	2206.6	2206.6	2206.6

(From *Custom Report: Plant Name, Utility, City, Year Operational, Operational Status, Unit Number, and Capacity (kW) by State, Technology, and Fuel,* prepared by Renewable Electric Plant Information System (REPiS), Office of Energy Efficiency & Renewable Energy, U.S. Department of Energy. http://analysis.nrel.gov/ repis/online_reports.asp and *Operating Facilities by Technology in the State of New Mexico*, prepared by the Energy Efficiency and Renewable Energy program of DOE http://www.eere.energy.gov/state_energy/opfacbytech.cfm?state=NM)

Table 19: Total Energy Generation Capacity and Production in Bernalillo County.

Operator	Plant Name	Fuel	MW	Percent Of Total That Is Renewable
PNM	Reeves Station	Natural gas	154	0
Delta Power LLC	Delta-Person Generating Station	Natural gas	132	0
TOTAL			286 MW	0

After "Power Plants" prepared by Public Service Company of New Mexico (PNM). http://www.pnm.com/systems/plants.htm

(b) Summary of the Anticipated Contribution Toward the Renewable Energy Goals for 2005 and 2015.

Pursuant to 40 CFR 51.309(d)(8)(i), Appendix O-O summarizes the State's anticipated contribution toward meeting the GCVTC renewable energy goals for 2005 and 2015. See also Section H of this chapter. Bernalillo County's anticipated contribution toward meeting the GCVTC renewable energy goals for 2005 and 2015 is negligible.

(c) Incentive Programs:

Pursuant to 40 CFR 51.309(d)(8)(ii), Table 19 identifies incentive programs in the State of New Mexico that reward efforts to go beyond compliance and/or achieve early compliance with air pollution related requirements and subsequently affect Albuquerque/ Bernalillo County.

Table 20: Summary of New Mexico's Incentive Programs that Affect Bernalillo County

Program Title	Program Description
Green Zia Environmental Excellence Program	The Green Zia Environmental Excellence Program is a voluntary program designed to support and assist all New Mexico businesses to achieve environmental excellence through continuous improvement and effective energy management. The program encourages integration of environmental excellence into business operations and management practices through the establishment of a prevention-based environmental management system. The Governor of New Mexico makes recognitions and awards annually to organizations that successfully participate in the program. The Six Core Values of the Green Zia Environmental Excellence Program are: •Leadership Commitment •Efficient Product, Service and Process Design •Continuous Improvement and Organizational and Personal Learning •Valuing Employees and Partners •Management by Fact •Sustainability New Mexico Environment Department Office of the Secretary Dave Wunker PO Box 26110 1190 St. Francis Drive Santa Fe, NM 87502 (505) 827-0677 (505) 827-2836 davewunker@nmenv.state.nm.us

Program Title	Program Description
Industry and Government Partnership Pollution Prevention (P^2) Awards	In 1997, the Albuquerque Environmental Health Department's Air Quality Division and New Mexico Facility Managers' Network (NMFMN) initiated the Industry and Government Partnership Pollution Prevention (P^2) Awards to recognize industrial pollution prevention efforts. The goals of this partnership are to promote P^2, encourage the exchange of technical and managerial methods, and to facilitate innovative solutions to environmental impacts to air, water and land pollution. Joint Industry and Government Pollution Prevention Award Year 2001 Innovative Air P^2 Awarded to: Coronado Center-Randy Sanchez. Coronado Center supports local efforts to minimize air pollution in the community by providing park and ride programs for the New Mexico State Fair, International Balloon Fiesta and other events to significantly reduce the amount of pollution from motor vehicles. During the winter holiday season, Coronado Center initiates the "Carpool Corral" by

	reserving 40 parking spaces for multi- occupant vehicles. The seasonal pollution reduction for the six week winter holiday season in calendar year 2000 was approximately 1.14 tons of carbon monoxide. These initiatives help to sustain air quality during the Winter Pollution Advisory Season, conserve energy and support the local economy. Joint Industry and Government Pollution Prevention Award Year 2001 Large Business Air Quality P^2 Award presented to: DOE Sandia National Laboratories / NM Michael duMond In 1997, The DOE / Sandia National Laboratories (SNL) initiated a study to improve operation of the Steam Plant that provides steam to energy services for Technical Area One and East Kirtland Air Force Base. The goal of the project was three-fold: maximize combustion efficiency, and reduce fuel usage and nitrogen oxides (NOx) emissions. The 2001 construction phase involved, retrofit of flue gas recirculation on boilers to complete the Steam Plant Optimization and Emission Reduction Project. The direct result of the initiatives is an increase in 1.5 percent efficiency and a total NOx reduction of 2.3 tons per year, with an additional 39.8 tons per year NOx reduction from the flue gas recirculation. The program also sustains a cost savings for natural gas consumption of over $46,000 per year. Joint Industry and Government Pollution Prevention Award Year 200l Small-Medium Business Air P^2 Award presented to: Rust Tractor T.J. Carr Rust Tractor is a local supplier of heavy equipment, including gas and diesel powered generators and boilers. Air Quality Division staff nominated Rust Tractor because of their long-term commitment to Bernalillo County air quality. In 1994, Rust Tractor's engineering staff initiated a policy to provide air quality registration documentation with all applicable equipment. This policy may not directly reduce carbon monoxide emissions, but educates their customers on the appropriate operation of generators or boilers. The service provides a streamlined purchase and registration process, saving time and money for the customer and assisting local air quality representatives in efficient permit processing http://www.nmfmn.com/Pages/Prc/Awards/2001_awards.htm#Top
Supplemental Environmental Project (SEP) Authority	The Albuquerque Bernalillo County Air Quality Control Board through the Department can utilize supplemental environmental projects in enforcement cases for pollution prevention projects.

(d) Programs that Preserve and Expand Energy Conservation Efforts:

Pursuant to 40 CFR 51.309(d)(8)(iii), Tables 13 through 17 identify programs in New Mexico that preserve and expand energy conservation efforts which have a direct effect on Bernalillo County.

(e) Potential for Renewable Energy:

Pursuant to 40 CFR 51.309(d)(8)(iv), the State of New Mexico has made an assessment of areas where there is the potential for renewable energy to supply power in a cost-effective manner. This assessment is described in Appendix O-O.

(f) Projections of Renewable Energy Goals, Energy Efficiency and Pollution Prevention Activities:

Pursuant to 40 CFR 51.309(d)(8)(v), the WRAP has made regional projections 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 is provided in Appendix O-O of this Implementation Plan. Projections of visibility improvements for the 16 Class I Areas on the Colorado Plateau are provided in Table 2a and Table 2b.

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 reductions described above for air pollution prevention programs.

(g) Demonstration of Progress in Achieving the GCVTC Renewable Energy Goal:

Pursuant to 40 CFR 51.309(d)(8)(vi), Appendix O-O and Tables 13 through 17 of this Implementation plan list the programs relied upon by the State of New Mexico to demonstrate progress in achieving the renewable energy goal of the GCVTC—that renewable energy comprise 10 percent of the regional power needs by 2005 and 20 percent by 2015. Appendix O-O provides additional information on how these programs are meeting the 10/20 goals, and a discussion of a regional modeling analysis showing progress in meeting these goals. Appendix O-O includes documentation of the potential for renewable energy resources, the percentage of renewable energy associated with new power generation projects implemented or planned, and the renewable energy generation capacity and production in use and planned in the state. Note that Bernalillo County is included in this documentation.

(h) Future Progress Reports:

Pursuant to 40 CFR 51.309(d)(8)(vi), the Department shall submit progress reports in 2013, and 2018, describing Bernalillo County's share of New Mexico's contribution toward meeting the GCVTC renewable energy goals. This description shall be consistent with Section (g) above. To the extent that it is not feasible for Bernalillo County to meet its contribution to these goals, the Department shall identify what measures were

implemented to achieve its contribution, and explain why meeting Bernalillo County's contribution was not feasible.

SECTION H. IMPLEMENTATION OF ADDITIONAL RECOMMENDATIONS

Section 51.309(d)(9) of the Regional Haze Rule (RHR) requires states to evaluate the additional Grand Canyon Visibility Transport Commission (GCVTC) recommendations, and determine if any of these recommendations, which were not originally included in Section 309, are practical in their particular states and therefore should still be addressed. Page 35755 of the Preamble to the Regional Haze Rule (RHR) discusses the requirements for implementation of additional recommendations. The RHR does not require adoption of any control measures unless the state determines they are appropriate. Any measures adopted would need to be enforceable like the other Section 309 required measures.

Note that neither the RHR regulatory language nor the RHR Preamble identifies these additional recommendations. Therefore, states will need to review the GCVTC's report *Recommendations for Improving Western Vistas* (June 10, 1996). States must identify those recommendations not incorporated into Section 309 as the "additional" recommendations. By not specifically identifying these recommendations in the final RHR, EPA has left it up to each state to decide which additional recommendations it needs to address in its SIP.

(a) Evaluation of Additional Grand Canyon Visibility Transport Commission (GCVTC) Recommendations

Pursuant to 40 CFR 51.309(d)(9), the Department has evaluated the GCVTC's "additional" recommendations to determine if any of these recommendations can be practicably included in this Implementation plan. At this time, the AQCB has elected not to adopt any of the report's additional recommendations, which is permissible under the 309 SIP option.

To make this determination, the Department has reviewed the GCVTC Commission's 1996 report *Recommendations for Improving Western Vistas* to identify those recommendations that were not incorporated into Section 309 of the Regional Haze Rule. The Department identified several recommendations in this report that were not incorporated into Section 309 of the RHR. The results of this evaluation are presented in detail below.

Listed by report section, the following GCVTC recommendations are not included in the final RHR:

(1) Pollution Prevention

- Encourage zero and near-zero emitting technologies
- Consider charging emission fees
- Promote education and public outreach efforts on preventing pollution
- Introduce product labeling
- Promote the use of clean fuels

(2) Stationary Sources

- Implement existing Clean Air Act (CAA) requirements through the year 2000

- The ultimate SO2 emissions target, for the year 2040, locks in the 50-70% reduction in SO2 emissions
- By 1997, facility owners and operators should notify states of pollution control or prevention measures
- Progress in complying with emissions target(s) will be assessed in the year 2000 and at 5-year intervals thereafter.
- The GCVTC encourages EPA to complete the study at the Mohave Power Project.

(3) Mobile Sources

- Establish a regional emissions budget

- The GCVTC promotes the following strategies on a *national* level:

-adopt LEV standards (49 states)
-support development of heavy-duty vehicle standards
-adopt off-road vehicle standards
-promote broader application of cleaner fuels
-pursue control strategies for diesel locomotives, boats, airplanes and federal vehicles
-support improved control of evaporative emissions

- The GCVTC promotes the following strategies on a *regional* level:

-establish clean fuel demonstration zones
-analyze pricing and incentive approaches
-explore an inspection program for heavy-duty vehicles
-promote vehicle maintenance

- The GCVTC promotes the following initiatives on a *local* level:

-promote incentives for innovative and effective approaches
-encourage better integration of transportation, land use and air quality planning
-establish mobile source emissions budgets for selected major urban areas
-suggest retiring high-emitting vehicles

(4) Area Sources-Dust from Paved & Unpaved Roads

Take voluntary measures to control dust emissions

(5) Fire Emissions

- Improve integrated assessment of emissions
- Develop cooperative funding mechanisms
- Promote public education programs

(6) Clean Air Corridors

(All recommendations are incorporated into the final RHR)

(7) Emissions within and near Class 1 Areas

Although the final RHR does not have a section dedicated to emissions within and near Class 1 Areas, the GCVTC goals to: a) Implement park and wilderness planning processes, b) Develop strategies for nearby communities and activities, c) Apply existing regulatory requirements, and d) Utilize other planning processes, are addressed at various places in the final RHR.

(8) Transboundary Emissions from Mexico

- Develop community mechanisms for cooperative transboundary planning
- Finance air pollution control projects
- Provide incentives for transboundary investment in pollution control

(b) Implementation of Additional Recommendations:

Based on the Department's evaluation of the GCVTC recommendations, and the fact that the WRAP has not modeled nor recommended any additional GCVTC recommendations, it is impracticable for the Department to include any additional recommendations in this implementation plan. Though it will address all of the requirements as delineated in the final RHR, the Department opts not to include any of the GCVTC's additional recommendations at this time.

(c) Future Progress Reports:

Pursuant to 40 CFR 51.309(d)(9), the Department shall prepare a progress report in 2013, and 2018 that contains an evaluation in accordance with Sections (a) and (b) above. The copy of this report shall be provided to EPA and made available to the general public.

SECTION I. PERIODIC SIP REVISIONS

The 1999 Regional Haze Rule (RHR) required states to submit progress reports in the form of State Implementation Plan (SIP) revisions in 2008, 2013 and 2018. The SIP revisions must comply with the procedural requirements of 40 CFR 51.102 for public hearings and 51.103 for submission of plans. Page 35755 of the Preamble to the RHR discusses the requirements for periodic SIP revisions.

Unless a state chose to address "other" Class I Areas (those within their own state) in their 2003 SIP, it would have needed to do so in 2008, in accordance with 51.309(g). The SIP revisions required under 309(d)(10) must therefore include assessments for Class I Areas located within the state and for the Class I Areas outside the state that are affected by emissions from the state. Note that EPA views these SIP revisions as a periodic check on progress, rather than a thorough revision of regional strategies.
However, because the time-clock for the State's first SIP revision was based on a December 31, 2003 submittal deadline, and these submittals have been unavoidably delayed for four years by litigation, the first "periodic" revision to the 2007 SIP is not anticipated until 2013.

(a) Periodic Progress Reports for Demonstrating Reasonable Progress:

Pursuant to 40 CFR 51.309(d)(10)(i), the Department shall submit to EPA, as a SIP revision, periodic progress reports for the years 2013, and 2018 for the purpose of demonstrating reasonable progress in Class I Areas within Bernalillo County, and Class I Areas outside Bernalillo County, that are affected by emissions from Bernalillo County. This demonstration may be conducted by the WRAP, with assistance from the Department, and shall address the elements listed under 40 CFR 51.309(d)(10)(i)(A) through (G), as summarized in (1) through (7) below:

(1) Implementation status of 2003 SIP measures;
(2) Summary of emissions reductions;
(3) Assessment of most/least impaired days;
(4) Analysis of emission reductions by pollutant;
(5) Significant changes in anthropogenic emissions;
(6) Assessment of 2003 SIP sufficiency; and
(7) Assessment of visibility monitoring strategy.

(b) Actions to be Taken Concurrent with Periodic Progress Reports.

Pursuant to 40 CFR 51.309(d)(10)(ii), the Department shall take one of the following actions based upon information contained in each periodic progress report:

(1) Provide a negative declaration statement to EPA saying that no implementation plan revision is needed if reasonable progress is being made, in accordance with Section (a) above;

(2) If the Department finds that the implementation plan is inadequate to ensure reasonable progress due to emissions from outside Bernalillo County, the Department shall notify EPA and the other contributing state(s), and initiate efforts through a regional planning process to address the emissions in question. The Department shall identify in the next progress report the outcome of this regional planning effort, including any additional strategies that were developed to address the implementation plan's deficiencies;

(3) If the Department finds that the implementation plan is inadequate to ensure reasonable progress due to emissions from another country, the Department shall notify EPA and provide information on the impairment being caused by these emissions; or

(4) If the Department finds that the implementation plan is inadequate to ensure reasonable progress due to emissions from within Bernalillo County, the Department shall develop additional strategies to address the implementation plan deficiencies and revise the implementation plan no later than one year from the date that the progress report was due.

SECTION J. STATE PLANNING AND INTERSTATE COORDINATION

The requirements for state planning and interstate coordination, and tribal implementation are discussed on Pages 35755-35756 of the Regional Haze Rule (RHR) Preamble. Both Sections 51.309(d)(11) & (12), allow states and tribes to use the work of regional planning bodies like the Western Regional Air Partnership (WRAP) in their individual SIPs/TIPs.

Section 51.309(d)(11) allows states to participate in regional planning efforts, such as the WRAP, in developing their 309 SIPs. The interstate strategies that are developed need to document each state's contribution to visibility impairment in the 16 Class I Areas, how coordination between state implementation plans will be accomplished, and how compliance will be determined. It also allows states to develop their own programs without relying on a regional entity such as the WRAP.

Section 51.309(d)(12) clarifies that all tribes within transport region have the option to implement Section 309, not just those who were originally members of the GCVTC. The Tribal Authority Rule (40 CFR Part 49) gives tribes in the transport region the option of implementing 51.308 or 51.309.

(a) Participation in Regional Planning and Coordination:
Pursuant to 40 CFR 51.309(d)(11), the Department has participated in regional planning and coordination with other states in developing its emission reduction strategies under 40 CFR 51.309, related to protecting the 16 Class I Areas of the Colorado Plateau. This participation was through the WRAP and with the State of New Mexico. The Department has not participated in any regional planning outside of its participation with the WRAP. The Department has worked with the WRAP to obtain guidance regarding technical information and county-level data as necessary. In addition, the Department has participated in interstate coordination efforts with the State of New Mexico.

(b) Tribal Implementation.

Pursuant to 40 CFR 51.309(d)(12), and in accordance with the Tribal Authority Rule, any [~~no~~] Tribes whose lands extend into, or are surrounded by, Bernalillo County, have the option to develop a regional haze TIP for their lands to assure reasonable progress in the 16 Class I areas of the Colorado Plateau. To date, no neighboring tribes have elected to develop a regional haze TIP [~~at this time to assure reasonable progress in the 16 Class I Areas of the Colorado Plateau~~].

(c) Federal Implementation:

Pursuant to 40 CFR 49.11(a), the Administrator under Sections 301(a) and 301(d)(4) shall promulgate without unreasonable delay such federal implementation provisions as are necessary or appropriate to protect air quality, consistent with the provisions of 304(a) and 301(d)(4), if a Tribe does not submit a TIP, meeting the completeness criteria of 40 CFR part 51, Appendix V, or does not receive EPA approval of a submitted TIP.

SECTION K. GEOGRAPHIC ENHANCEMENT

The requirements for geographic enhancement are discussed on page 35757 in the Preamble to the Regional Haze Rule (RHR). These requirements are related to Section 51.309(f)(1), which describes requirements for the Annex. The Annex allows states to submit a SIP, or tribes a TIP, which adopts an alternative measure to regional haze Best Available Retrofit Technology (BART).

Geographic enhancement is a voluntary approach that can be included in the Annex for addressing Reasonably Attributable Visibility Impairment (RAVI) for stationary sources, under the provisions of Section 51.302(c). RAVI is different from regional haze in that it addresses "hot spots" or situations where visibility impairment in a Class I Area is reasonably attributable to a single source or small group of sources in relatively close proximity to the Class I Area. The geographic enhancement approach would allow states or tribes to use the efficiencies and reduced cost provided by the market trading program in the Annex to accommodate situations where RAVI needs to be addressed.

(a) Procedure for addressing Reasonably Attributable Visibility Impairment (RAVI)

under the Regional Haze Rule:

Pursuant to 40 CFR 51.309(f)(4), the Department shall use the following process to address reasonably attributable visibility impairment (RAVI) in any Class I Area, and the potential need for BART, as specified in 40 CFR § 302(c):

(1) The Department and applicable Federal Land Managers (FLMs) have agreed upon the principles that will be followed for addressing RAVI within the context of regional SO_2 milestones and a backstop emission trading program that have been developed to address regional haze. These principles are outlined in a draft template Memorandum of Agreement (MOA) that the WRAP Market Trading Forum (MTF) produced. The use of this template MOA is optional.

The FLMs have an obligation to protect the National Parks and Wilderness Areas that have been designated as mandatory federal Class I Areas. The MOA does not restrict their authority to fulfill this obligation. In the course of certifying impairment, the FLMs may make recommendations to the Department regarding a source or sources to which impairment may be reasonably attributable. Within the context of established regional milestones for SO_2 and a backstop trading program, the FLMs agree to use the following screening process in making these recommendations as part of the certification process:

(i) The applicable Federal Land Management Agency determines that sulfate concentrations are not decreasing since the year 2000, based on ambient monitoring, and

(ii) There are BART-eligible sources of SO_2 within 100 miles of the mandatory Federal Class I Area, and

(iii) The BART-eligible sources have not installed control technology to reduce SO_2emissions at a rate equivalent to capture of 85% of potential annual emissions.

(2) ~~Sometime during the 2009 to 2010 timeframe, but no later than December 2010,~~ The AQCB shall conduct a public meeting to facilitate the exchange of information regarding current visibility monitoring data at Class I Areas in New Mexico or in nearby states within 100 miles of any BART-eligible sources located in Bernalillo County, as applicable. The purpose of the meeting will be to provide as much information as possible to all interested parties about the potential for a certification of visibility impairment to occur, based on the screening criteria in the MOA. The information will include visibility trends, as well as the type of impairment that is occurring at individual areas (haze, episodic impairment, etc.). The goal of this meeting is to provide information to sources and to the market so that potential problems could be addressed in the most cost-effective manner. For example, a large utility company with multiple units may use this information in decisions about where to apply limited resources when developing plans to install new control technology on some of its plants.

(3) If a Federal Land Manager (FLM) certifies (visibility) impairment, the Department will fulfill its obligation to determine attribution and if necessary determine BART for the applicable source or group of sources.

(i) The WESTAR report entitled *Recommendations for Making Attribution Determinations in the Context of Reasonably Attributable BART* (May 2003), supplemented by new techniques and information available at the time of review, will be used to provide a toolbox of appropriate technical criteria and methods for determining attribution. The WESTAR report is included in Appendix P-O of this implementation plan.

(ii) If attribution is determined, then the following alternative remedy solutions will be considered when determining BART for the applicable source:

(A) BART-level controls could be installed on the attributed source or group of sources;

(B) SO_2 emission reductions that may be more cost-effective or have other air quality benefits could be required at nearby sources in lieu of, or in combination with, controlling the attributed source to achieve greater visibility improvements than the application of BART.

SECTION L. REASONABLE PROGRESS FOR ADDITIONAL CLASS I AREAS

The requirements for reasonable progress for additional Class I Areas are discussed on page 35758 in the Preamble to the Regional Haze Rule (RHR). Section 309 of the final RHR required that the first SIP, due by December 2003, address the 16 Class I Areas of the Colorado Plateau. The Albuquerque-Bernalillo County Air Quality Control Board (AQCB) has met this requirement by addressing the 16 Class I Areas of the Colorado Plateau in Chapter IV Section A, "Projection of Visibility Improvement", of this Implementation plan.

The term "Other Class I Areas" refers to federal Class I Areas that are NOT located in the Colorado Plateau region. For the first SIP submittal, Other Class I Areas within the nine transport region states were not required to be addressed until the first SIP revision, originally scheduled for 2008, but now deferred until 2013 due to litigation. The only requirement in Section 51.309(g) for states that followed this original timetable was under (g)(1), which required a declaration in the first Implementation plan indicating if the other Class I Areas in the state were going to be addressed under Section 308 or 309.

The rest of Section 51.309(g) describes the requirements for addressing other Class I Areas in the "2008 SIP", for states that followed Section 309. This necessitates a modeling demonstration including an analysis sufficient to meet the requirements defined in 51.308(d)(1). The state may elect to use the control package adopted for the 16 Class I Areas on the Colorado Plateau if it can demonstrate that BART or better reductions will be met through 2018. The state may elect to select alternative controls to complete the 309 package and adopt that package. Also, states had the option to address both the 16 Class I Areas on the Colorado Plateau and the other Class I Areas in 2003 and combine them both into one SIP. However, in the interim between the 2003 SIP submittal and today, EPA has amended the RHR so that now all 309 states are required to comply with 51.309(g), [see below].

(a) Declaration for Other Class I Areas – Albuquerque / Bernalillo County:

Pursuant to the amended Regional Haze Rule, the Department declares that it will follow Section 309(g)(2) in supplementing this Regional Haze SIP, for the eight Class I Areas not on the Colorado Plateau within the State of New Mexico.

A total of nine federal Class I Areas are located in the State of New Mexico. The San Pedro Parks Wilderness Area, is defined in 40 CFR 51.309(b)(1) as one of the 16 Federal Class I Areas on the Colorado Plateau (see Chapter IV Section A of this Implementation plan). San Pedro Parks and the eight other federal Class I Areas in New Mexico are located in counties other than Bernalillo (see Table 21 on the following page). Therefore, since the AQCB's jurisdiction for air quality planning purposes is limited to Bernalillo County only, the AQCB does not have jurisdiction over any of these federal Class I Areas in New Mexico for air quality planning purposes. Such jurisdiction corresponds to the State of New Mexico Environment Department.

Table 21: All Federal Class I Areas in New Mexico

Name	Location
Bandelier Wilderness	Sandoval County
Bosque del Apache Wilderness	Socorro County
Carlsbad Caverns National Park	Eddy County
Gila Wilderness	Catron County
Pecos Wilderness	Mora County
Salt Creek Wilderness	Chaves County
Wheeler Peak Wilderness	Taos County
White Mountain Wilderness	Lincoln County
San Pedro Parks Wilderness Area*	Rio Arriba County

*The San Pedro Parks Wilderness Area is one of the 16 federal Class I Areas on the Colorado Plateau. The other areas are not thus classified.

(b) Other Class I Areas to be Included in the 2007 SIP Submittal:

The Albuquerque-Bernalillo County Air Quality Control Board (AQCB) did not include any additional federal Class I Areas, located on the Colorado Plateau or outside of it, in its 2003 SIP submittal. The AQCB opted not to follow 40 CFR 51.309(g)(4), which allowed states to incorporate reasonable progress goals for additional Class I Areas into their SIPs. Consistent with the State of New Mexico's approach, only the 16 Class I Areas on the Colorado Plateau were included in Bernalillo County's 2003 SIP submittal. Pursuant to the newly revised 40 CFR 51.309(g), the Department ~~is including in this~~ included in their 2007 SIP submittal, reasonable progress goals for additional Class I Areas, and a demonstration that these goals will be met for the Other Class I Areas in New Mexico.

The amended rule requirements for 309(g) are as follows:

309(g) Additional Class I areas. Each Transport Region State implementing the provisions of this section as the basis for demonstrating reasonable progress for mandatory Class I Federal areas other than the 16 Class I areas must include the following provisions in its implementation plan. If a Transport Region State submits an implementation plan which is approved by EPA as meeting the requirements of this section, it will be deemed to comply with the requirements for reasonable progress for the period from approval of the plan to 2018.

(1) A demonstration of expected visibility conditions for the most impaired and least impaired days at the additional mandatory Class I Federal area(s) based on emissions projections from the long-term strategies in the implementation plan. This demonstration may be based on assessments conducted by the States and/or a regional planning body.

(2) Provisions establishing reasonable progress goals and implementing any additional measures necessary to demonstrate reasonable progress for the additional mandatory Federal Class I areas. These provisions must comply with the provisions of §51.308(d)(1) through (4).

(i) In developing long-term strategies pursuant to §51.308(d)(3), the State may build upon the strategies implemented under paragraph (d) of this section, and take full credit for the visibility improvement achieved through these strategies.

(ii) The requirement under §51.308(e) related to Best Available Retrofit Technology for regional haze is deemed to be satisfied for pollutants addressed by the milestones and backstop trading program if, in establishing the emission reductions milestones under paragraph (d)(4) of this section, it is shown that greater reasonable progress will be achieved for these additional Class I areas than would be achieved through the application of source-specific BART emission limitations under §51.308(e)(1).

(iii) The Transport Region State may consider whether any strategies necessary to achieve the reasonable progress goals required by paragraph (g)(2) of this section are incompatible with the strategies implemented under paragraph (d) of this section to the extent the State adequately demonstrates that the incompatibility is related to the costs of the compliance, the time necessary for compliance, the energy and no air quality environmental impacts of compliance, or the remaining useful life of any existing source subject to such requirements.

VISIBILITY IMPAIRMENT FOR OTHER CLASS I AREAS

The Western Regional Air Partnership (WRAP) has modeled the impacts of emissions on Class I areas in the west as part of their assistance in development of the Regional Haze SIPs for 309 and 308 states. However, the WRAP has not yet analyzed the effects on Class I Areas from emissions at the individual county scale. This puts Bernalillo County, which acts as a 'state', in a predicament. Without county-level modeling, the required analysis of the effects upon Class I Areas caused by Bernalillo County's emissions, will be qualitative and not quantitative. It is anticipated that the WRAP will complete the modeling of Bernalillo County's effects on visibility at Class I Areas within New Mexico, at its' earliest convenience, and this data will be incorporated into a SIP revision in the future. Therefore, the qualitative analysis will consist of the following:

1. Emissions inventory data showing emissions by New Mexico, Counties within New Mexico including Bernalillo County. This data provides a rough estimate of the percentage of the State's overall emissions that are generated by Bernalillo County, as well as the percentage of Bernalillo County's share of the emissions inventory as it relates to the impact on visibility each pollutant has at each individual Class I Area. The pollutants included in this analysis include: Sulfur Oxide (SOx), Nitrogen Oxide (NOx), Organic Carbon (OC), Elemental Carbon (EC), Fine Particulate Matter (PMf), Coarse Particulate Matter (PMc), Ammonia, Volatile Organic Compounds (VOCs), and Carbon Monoxide (CO).

2. Bar graphs of the potential effects of New Mexico's emissions on Class I Areas on 20% worst visibility days. These graphs give an estimate of which pollutant is the most significant in the impairment of visibility at that Class I Area. The pollutants included in this analysis include OC, EC, PMf, and PMc for each Class I Area in New Mexico.

3. Mapping of the normalized weighted emission potential (WEP) for each pollutant using 2000-04 baseline data and 2018 predicted emissions. WEP values are a function of emissions multiplied by residence time divided by distance from source. These maps will give a rough estimate as to the proximity of elevated WEP% values to Bernalillo County. The pollutants included in this analysis included OC, EC, PMf, and PMf, for each Class I Area in New Mexico.

The results of this analysis are summarized below. The full analysis can be found at Appendix 2007-H. Additional analysis of nitrate/NOx and Sulfate/SOx were conducted, and are shown in the Addendum to Appendix 2007-H.

When the large-scale projections generated by the WRAP were extrapolated down to the level of Bernalillo County, much of the predictive accuracy and value were lost. There are many factors that affect this inaccuracy.
1. The 2002 Baseline is wrong. It is too high for Point and Area sources. (see 2002 NEI data).
2. The growth rate is far too high. (see 2005 and 2008 NEI data.
3. The growth rate for Bernalillo County is disproportionate to the rest of the state. A county with few existing point sources of significance should not be assigned the level of growth used in the WRAP model. 2005 and 2008 NEI data confirms that the projected growth rates shown below are wrong.

NO2 Predicted emission growth:	Point Source	Area Source
New Mexico	(-25.7%)	(34.4%)
Bernalillo County	(+49.9%)	(40.3%)

SO2 predicted emission growth:	Point Source	Area Source
New Mexico	(-13.5%)	(207.6%)
Bernalillo County	(+38.1%)	(308.6%)

4. The 2018 WRAP source apportionment model shows Bernalillo County disproportionately unbalanced with the rest of the state. Bernalillo County is home to a large amount of residential housing. The economy is based on education, medical, government, tourism and small business. It has no oil & gas development, no mining, and no large EGUs. The previously estimated mobile source emissions estimates were disproportionate. It is unfeasible that with 1% of the state area and 31% of the state's population, that Bernalillo County would be responsible for 50% of New Mexico's NO2 Area Source emissions and 76.3% of the Area Source emissions of SO2. (see below)

New Mexico
Area 121,589 square miles
Population 2,059,179 people
Bernalillo County
Area 1,166 square miles
Population 642,527 people

Area Source Emission:	New Mexico	Bernalillo County(%)
NO2	33,768 TPY	16,996 TPY (34.4%)
SO2	15,736 TPY	12,003 TPY (76.3%)

Class I Area	Visibility Impairment Species	OC Source(s) / Visibility Impact?	EC Source(s) / Visibility Impact?	PM Fine Source(s) / Visibility Impact?	PM Coarse Source(s) / Visibility Impact?	Nitrate Source(s) / Visibility Impact?	Sulfate Source(s) / Visibility Impact?	Downwind Effects?
Bandelier [BAND]	Organic Mass Carbon (OMC)	Natural Fire, Area; Improbable	Natural Fire, On-Road, Off-Road; Improbable	Fugitive Dust, Wind Blown (WB) Dust, Area; Improbable	Fugitive Dust, WB Dust, Road Dust; Improbable	Point, Mobile, Area; Improbable	Point; Improbable	No
Bosque del Apache [BOAP]	Coarse Mass (CM), OMC, AmmSO4	Natural Fire, Area; Improbable	Natural Fire, Off-Road, On-Road; Improbable	WB Dust, Fugitive Dust, Area; Improbable	WB Dust, Fugitive Dust, Road Dust; Improbable	Mobile, Point, Area; Improbable	Point; Improbable	Sulfate: AZ, MX, CENWRAP
Gila [GICL]	OMC	Natural Fire; Improbable	Natural Fire, Off-Road, On-Road; Improbable	WB Dust, Fugitive Dust, Area; Improbable	WB Dust, Fugitive Dust, Natural Fire; Improbable	Mobile; Improbable	Point, Area; Improbable	Sulfate, Nitrate: AZ
Carlsbad [GUMO]	CM, AmmSO4	Natural Fire; Improbable	Natural Fire; Improbable	WB Dust, Fugitive Dust; Improbable	WB Dust, Fugitive Dust, Road Dust; Improbable	Point, Mobile, Area; Improbable	Point; Improbable	Yes; Sulfate / Nitrate: CENWRAP (TX), MX
San Pedro [SAPE]	OMC, AmmSO4	Natural Fire, Area; Improbable	Natural Fire, Off-Road, On-Road; Improbable	WB Dust, Fugitive Dust, Area; Improbable	WB Dust, Fugitive Dust, Road Dust; Improbable	Mobile, Point, Area; Improbable	Point; Improbable	Sulfate
Salt Creek [SACR]	CM, AmmSO4, AmmNO3	Point, Natural Fire, Area; Improbable	Off-Road, Natural Fire, On-Road, Area; Improbable	WB Dust, Fugitive Dust, Area; Improbable	WB Dust, Fugitive Dust, Road Dust; Improbable	Point, Area, Mobile; Improbable	Improbable	Yes; Sulfate: CENWRAP (TX), MX
Wheeler Peak [WHPE]	OMC, AmmSO4	Natural Fire; Improbable	Natural Fire; Improbable	WB Dust, Fugitive Dust, Natural Fire, Area; Improbable	WB Dust, Fugitive Dust; Improbable	Nat. Fire, Mobile, Point; Improbable	Nat. Fire, Point; Improbable	Sulfate: AZ, CENWRAP
White Mt. [WHIT]	CM, OMC, AmmSO4	Natural Fire, Area, Point, Anthropogenic Fire; Improbable	Natural Fire, Off-Road, On-Road; Improbable	WB Dust, Fugitive Dust, Area; Improbable	WB Dust, Fugitive Dust, Road Dust; Improbable	Mobile; Improbable	Point; Improbable	Yes; Sulfate / Nitrate: CENWRAP

Until the WRAP has completed their analysis of county-level emissions on Other Class I Areas, it is impracticable to promulgate any further regulations in an attempt to reduce emissions that may or may not affect Other Class I Areas. However, in the interim, there are a number of effective regulations currently on the books. These regulations are outlined below.

Regulation	**Description**	**Pollutant Controlled**
20.11.20 NMAC	Fugitive Dust Control	PM
20.11.46 NMAC	SO2 Emissions Inventory Requirements; Western Backstop Sulfur Dioxide Trading Program	SOx
20.11.21 NMAC	Open Burning	OC, EC, CO, PM
20.11.71 NMAC	Municipal Solid Waste Landfills	NMOC (i.e. CO)
20.11.100 NMAC	Motor Vehicle Inspection – Decentralized	CO, PM, HC
20.11.102 NMAC	Oxygenated Fuels	CO
20.11.65 NMAC	Volatile Organic Compounds	VOCs
20.11.103 NMAC	Motor Vehicle Visible Emissions	PM
20.11.22 NMAC	Woodburning	CO, PM
20.11.66 NMAC	Process Equipment	PM
20.11.67 NMAC	Equipment, Emissions, Limitations	SOx, NOx, PM
20.11.104 NMAC	Emission Standards For New Motor Vehicles	On-Road Mobile

M. BEST AVAILABLE RETROFIT TECHNOLOGY (BART) [~~EVALUATION~~] DETERMINATION

Best Available Retrofit Technology – BART (Excerpted From *Identification of BART-Eligible Sources in the WRAP Region*, Draft Report, for WRAP by ERG, # 30204-84, April 4, 2005- see Appendix 2007-F)

Background:

In July 1999, EPA published a final rule under the authority and requirements of sections 169A and 169 B of the Clean Air Act (CAA). The rule addresses regional haze and requires states to improve visibility in 156 natural areas encompassing federally-protected parks and wilderness; these areas are referred to as "Class I areas".

The particular air pollutants that reduce visibility and contribute to regional haze are fine particulate matter ($PM_{2.5}$), and certain compounds which play a part in $PM_{2.5}$ formation such as nitrogen oxides (NOx), sulfur dioxide (SO_2), and certain volatile organic compounds (VOC). The CAA requires certain existing sources to control these air pollutants in Class I areas by installing best available retrofit technology, also known as BART.

However, on May 24, 2002, the U.S. Court of Appeals for the District of Columbia Circuit issued a ruling vacating the BART provisions to the regional haze rule. Furthermore, prior to the court's decision, EPA had proposed BART guidelines intended to clarify the requirements of the BART provisions, yet these guidelines were remanded during the court's ruling on May 24, 2002. On April 15, 2004, the EPA proposed amendments to its July 1999 regional haze rule, predominantly; these amendments address the BART provisions and clarify previously submitted comments made during the July 1999 proposal by environmental groups, industry, and the public. The BART provisions are located in 40 CFR 51.308. In addition, EPA reproposes the BART guidelines which are contained in a new Appendix Y to 40 CFR 51.

The new BART proposal requires all states to develop regional haze implementation plans known as "SIPs" by December 17, 2007. These plans should contain enforceable measures and strategies for reducing visibility-impairing pollution in Class I areas. The SIP must also include a determination of BART for each BART-eligible source. Accordingly, states must first identify sources that will have to install BART controls. This section is intended to discuss the steps for determining BART-eligible sources; in addition, changes and/or clarifications from the April 15, 2004 proposed amendments are discussed in further detail below.

Identifying BART-eligible Sources:

The regional haze rule, in 40 CFR 51.301, defines a stationary source as a "building, structure, facility, or installation which emits or may emit any air pollutant." The rule further defines "building, structure, or facility" as:

- All of the pollutant-emitting activities which belong to the same industrial grouping (same 2-digit Standard Industrial Classification [SIC] code); and
- Are located on one or more contiguous or adjacent properties; and
- Are under the control of the same person (or persons under common control).

The CAA uses the term “major stationary source” to describe those sources that are the focus of the BART requirement. To avoid confusion with other CAA requirements which also use the term “major stationary source” when referring to a somewhat different population of sources, the RHR uses the term “BART-eligible source”.

Sources that are BART-eligible must meet the following three criteria:

1. The source must be a stationary source of air pollutants that falls within one of 26 listed categories (see Table A-1);

2. The source must have been put into operation between August 7, 1962 and August 7, 1977; and

3. The source must have the potential to emit 250 tons per year of any individual air pollutant

Step 1	Identify the emission units in the BART categories (See Table A-1)
Step 2	Identify the start-up dates of those emission units
Step 3	Compare the potential emissions from units identified in Steps 1 and 2 to the 250 ton per year cutoff
Step 4	Identify the emission units and pollutants that constitute the BART-eligible source

(SO_2, NOx, $PM_{2.5}$, VOC, or NH_3††

Clarification to Each Step:

Step 1 - Identify the emission units in the BART categories

The CAA uses the 26 source category titles, which can be found in Table A-1, to describe the types of stationary sources that are BART-eligible. Most of the source category titles are general descriptors that are inclusive of all the operations at a given plant. However, certain plant sites may have only some emission units meeting one of these 26 descriptions; not every emission unit at a particular site will meet one of the 26 categories. States should identify all emission units at a plant site meeting one or more of the source category descriptions.

†† EPA originally proposed to include ammonia (NH3) on the visibility-impairing pollutant list however based on comments received and the current state of knowledge regarding the role of ammonia in PM2.5 formation and the affects of regional haze that would be expected from reductions in ammonia emissions, EPA no longer believes that ammonia should be included on this list. In the April 15, 2004 proposed amendments, EPA has taken ammonia (NH3) off of the visibility-impairing pollutant list.

Source Category	EPA Clarification
Fossil-fuel fired steam electric plants of more than 250 million British thermal units (BTU) per hour heat input (#1 in Table A-1)	1. The source category interpretation of the word "plants" is best read to aggregate boiler capacities to determine if the 250 million BTU/hr threshold is reached. For this category, states do aggregate all boilers to verify if all site boilers that were put in place within the 1962-1977 time period total up to greater than 250 million BTU/hr. 2. EPA clarifies that the definition of "steam electric plants of more than 250 million BTU/hr heat input" refers only to plants that generate electricity for sale. 3. "Fossil-fuel boilers" refers to boilers burning greater than 50 percent fossil fuels. 4. Enforceable operational limits for a multi-fuel boiler would be relevant to determining whether its "fossil fuel" capacity exceeds 250 million BTU/hr and that it would be reasonable for states to take such limitations into account. An example of this situation would be a boiler that has a rated heat input capacity of 500 million BTU/hr, yet is limited to a heat input of 150 million BTU/hr in the Title V permit. This particular boiler would not be considered (alone) to fall into this category because the boiler is not operating above 250 million BTU/hr due to the enforceable limit. However, the boiler could fall into this category when aggregating to verify if all site boilers (that were put into place within the 1962-1977 time period) total up to greater than 250 million BTU/hr. In such a case, the state would still use the enforceable heat input limit of 150 million BTU/hr when aggregating all boilers.
Phosphate rock and processing plants (#13 in Table A-1)	This source category should be interpreted broadly to include all types of phosphate rock processing facilities, including elemental phosphorous plants as well as fertilizer production plants.
Secondary metal production facilities (#20 in Table A-1)	When identifying unique "secondary metal production facilities" that are not in any other BART category, states may identify those unique facilities based upon SIC code 3341 to determine if the facility falls under the source category "secondary metal production facilities". However, for informational purposes only, this source category "secondary metal production facilities" is actually broader than SIC code 3341. Yet, many "secondary metal production facilities" that do not fall under SIC code 3341 would fall into another source category. For instance, the secondary ferrous metals facilities such as secondary iron and steel facilities are not included under SIC code 3341, but these facilities are included under another source category "iron and steel mill plants".
Chemical process plants (#21 in Table A-1)	This source category should be interpreted to include all facilities within 2-digit SIC code 28. Accordingly, this source category includes pharmaceutical manufacturing facilities.

Source Category	EPA Clarification
Fossil-fuel boilers of more than 250 million BTU/hr heat input (#22 in Table A-1)	1. The source category interpretation is best read to include only those boilers at a power plant individually greater than 250 million BTU/hr. For this category, states do not aggregate all boilers to verify if all site boilers that were put in place within the 1962-1977 time period total up to greater than 250 million BTU/hr. 2. "Fossil-fuel boilers" refers to boilers burning greater than 50 percent fossil fuels. 3. Enforceable operational limits for a multi-fuel boiler would be relevant to determining whether its "fossil fuel" capacity exceeds 250 million BTU/hr and that it would be reasonable for States to take such limitations into account. An example of this situation would be a boiler that has a rated heat input capacity of 500 million BTU/hr, yet it is limited to a heat input of 150 million BTU/hr in the Title V permit. This particular boiler would not be considered under this category because the boiler is not operating above 250 million BTU/hr due to the enforceable limit. However, the boiler could be subject to BART if it was part of a process description at a plant that is in a different source category, for example, the boiler was considered to be part of the source category "chemical process plant" and fell under SIC code 28.
Petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels (#23 in Table A-1)	1. The 300,000 barrel cutoff refers to total, facility-wide tank capacity for tanks that were put in place within the 1962-1977 time period, and includes gasoline and other petroleum-derived liquids. 2. EPA states that there was a comment made about this source category, however EPA does not say what the actual comment was. EPA states that the comment "is largely moot given that these storage and transfer facilities are already subject to maximum achievable control technology (MACT) standards and in many cases stringent SIP regulations related to ozone nonattainment. Regardless of the interpretation [of this source category], we [EPA] believe that it is unlikely that BART emissions limitations will require further controls."
Charcoal production facilities (#26 in Table A-1)	This source category should be interpreted to include charcoal briquette manufacturing and activated carbon production.

Step 2 - Identify the start-up dates of those emission units

States should identify all emission units within the listed categories as determined in Step 1, which meet the following two criteria listed in the table below:

Criteria	**Clarification**
Did the unit begin operation after August 7, 1962?	"In operation" is defined as "engaged in activity related to the primary design function of the source." This means that a source must have begun actual operations by August 7, 1962 to satisfy this test.
Was the unit "in existence" on August 7, 1977?	*On or prior to August 7, 1977:* "the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (1) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (2) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed in a reasonable time." 40 CFR 51.301. As this definition is essentially identical to the definition of "commence construction" as that term is used in the PSD regulations, the two terms mean the same thing. *See* 40 CFR 51.165(a)(1)(xvi) and 40 CFR 52.21(b)(9). Under this definition, an emissions unit could be "in existence" even if it did not begin operating until several years after 1977.

Be aware that a reconstructed source may be BART-eligible. A reconstructed source is an existing source that is completely or substantially rebuilt such that "the fixed capital cost of the new component exceeds 50 percent of the fixed capital cost of a comparable entirely new source." A reconstructed source could actually be a BART-eligible source if it was in operation before August 7, 1962, however it would have to have been reconstructed during the August 1962 to August 7, 1977 time period. {40 CFR 51.301}

An important clarification: under Step 2 for identifying BART-eligible units, and using boilers as the example emission unit, states should identify only those boilers that were put in place (or reconstructed) within the 1962 – 1977 time period. Only these boilers are carried over to Step 3, and only these boilers would be subject to a BART engineering analysis. This is true for any emission unit.

Step 3 - Compare the potential emissions from units identified in Steps 1 and 2 to the 250 ton per year cutoff

The "potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitations on the capacity of the source to emit a pollutant including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processes, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

To be a BART-eligible source, the source must have emission units that meet the category description and time window criteria described in Steps 1 and 2 above, and it must have the potential to emit 250 tons or more of any of the following pollutants: SO_2, NOx, particulate matter, or VOC.

When calculating potential to emit and for the purposes of the regional haze rule, states must group emissions from all emission units put in place between the 1962-1977 time period that are within the same 2-digit SIC code, even if those emission units are in different BART source categories.

However, be aware of "support facilities" when grouping pollutant-emitting activities by 2-digit category according to the SIC manual. Some emission units, for purposes of other air programs, might be considered subject to an air program even if the unit(s) serves as a "support facility". A "support facility" is a facility that conveys, stores, or otherwise assists in the production of the principle product and falls within the same industrial grouping as the primary facility. However, an emission unit, even if it is a "support facility" for purposes of other air programs, would not be considered for BART-eligibility unless the unit fell within one of the 26 listed source categories, and unless it was put in place within the 1962 to 1977 time period.

An important note for PM2.5:

- States may use PM10 as the indicator for particulate matter. Emissions of PM10 included the components of PM2.5 as a subset. There is no need to have separate 250 ton thresholds for PM10 and PM2.5, because 250 tons of PM10 represents at most 250 tons of PM2.5, and at most 250 tons of individual particulate species such as elemental carbon, crustal material, etc.

An important note for VOCs

- Because many industrial sources and most mobile sources of organic gases have been subjected to VOC control requirements that have the effect of reducing emissions of the particular compounds that are PM2.5 precursors, EPA is requesting comment on whether the states should focus greater control requirements on VOC emissions from BART sources located in urban areas. EPA also is requesting comment on the circumstances under which, in rural areas, for sources subject to BART, states may determine that BART would be no control for VOC.

An important note for ammonia:

. Because of the uncertainties in assessing the impact of ammonia emissions reduction on visibility, and because PM2.5 will decrease due to SO2 and NOx controls, EPA proposed not to include ammonia on the pollutant list at this time.

Step 4 - Identify the emission units and pollutants that constitute the BART-eligible source

The final step in the identification of BART-eligible sources would be to use the result from the previous three steps to identify the equipment that is BART-eligible. If the total allowable emissions from the stationary source exceed a potential to emit of 250 tons per year for any individual pollutant listed in Step 3, then that collection of emission units is a BART-eligible source. Once this BART-eligible source is determined, states must determine the appropriate level of BART control for each source subject to BART. The table below provides examples for determining a BART-eligible source:

Example	**Would BART be required?**
A source has two emission units having cumulative emissions exceeding 250 tons for SO_2, but not for NO_x and $PM_{2.5}$.	Yes, BART would be required for all three pollutants.
A source has potential emissions that are less than 250 tons for each individual pollutant, but more than 250 tons from the sum over all pollutants.	No, BART would not be required for any of the pollutants.
A source has potential emissions of 500 tons per year of SO_2, and potential emissions of 1 ton per year of $PM_{2.5}$.	Yes, BART would be required for SO_2, however, BART may or may not be required for $PM_{2.5}$ depending on whether the state has implemented a ***de minimis*** level for $PM_{2.5}$.

*An important clarification for **de minimis** levels:*

Some BART-eligible sources emit individual pollutants listed in Step 3 at levels that would make a very small contribution to regional haze. A 1 ton per year amount from a given BART-eligible source would likely represent a *de minimis* fraction of a total regional inventory. Therefore, EPA is proposing in the April 15, 2004 amendments that states should be allowed the flexibility to identify de minimis levels of pollutants at BART eligible sources. However, any de minimis values adopted by a state, shall not be higher than PSD levels: 40 tons per year of SO2, NOx, and VOC, and 15 tons per year for PM10.

Identifying Which BART-eligible Sources Are Subject to BART:

Once the four steps above are completed, the state should have a list of BART-eligible sources. The state must then determine which of the BART-eligible sources may "emit any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any [Class I] area."

Table A-1. Source Categories Subject to BART Requirements

BART Category ID #	Category (BART)	SCC	SIC
1	Fossil fuel-fired steam electric plants > 250 MM BTU per hour	101xxxxx	4911
2	Coal cleaning plants (thermal dryers)	305010xx	1100, 2999
3	Kraft pulp mills	307001xx	2611, 2621, 2631
4	Portland cement plants	305006xx, 305007xx	3241
5	Primary zinc smelters	30303002	33xx, 3339
6	Iron and steel mill plants	303015xx	3312, 332x
7	Primary aluminum ore reduction plants	303001xx	3334
8	Primary copper smelters	303005xx	3331
9	Municipal incinerators capable of charging > 250 tons of refuse per day	501001xx, 502005xx	4953
10	Hydrofluoric, sulfuric, and nitric acid plants	301070xx	2819, 2899
11	Petroleum refineries	306xxxxx	2911
12	Lime plants	305016xx	3274
13	Phosphate rock processing plants	305019xx	1429, 1475
14	Coke oven batteries	303003xx, 303004xx	3312
15	Sulfur recovery plants	30603301, 31000208	2819
16	Carbon black plants (furnace process)	30100509, 30100503	2895
17	Primary lead smelters	303010xx	3339
18	Fuel conversion plants	n/a	n/a
19	Sintering plants	n/a	n/a
20	Secondary metal production facilities	304xxxxx	3341, 334x
21	Chemical process plants	301xxxxx	2899, 28xx
22	Fossil fuel-fired boilers > 250 MM BTU per hour	102001xx through 102007 103001xx through 103007	n/a
23	Petroleum storage and transfer facilities with a capacity > 300,000 barrels	306xxxxx	5171
24	Taconite ore processing plants	303023xx	1011, 3295
25	Glass fiber processing plants	305012xx	32xx
26	Charcoal production facilities	301006xx	2819, 2861

EXAMPLES OF BART CATEGORIES FOUND IN BERNALILLO COUNTY

'BART 01' – Fossil Fuel-Fired Steam Electric Plants with Total Heat Capacity Greater than 250 million Btu per hour

A fossil fuel-fired steam electric plant often includes a steam turbine and electric generator. Steam is used to drive the steam turbine which in turn drives an electric generator. The steam is created by either boilers and/or through a combined cycle turbine. The U.S. EPA proposed BART guidelines clarify that this source category "fossil fuel-fired steam electric plants" includes both boilers and combined cycle turbines.

A combined cycle turbine consists of a gas turbine and a heat recovery steam generator (HRSG). The gas turbine creates electricity. Hot exhaust gases from the gas turbine are routed through a HRSG to generate steam. The steam created is used to drive a steam turbine which also drives an electric generator. A supplementary gas-fired burner, duct burner, or boiler can be used to increase the steam production by the HRSG.

When examining whether the source meets the 250 million Btu per hour (MMBtu/hr) criteria, the U.S. EPA proposed BART guidelines state that the aggregate of all heat input to the "plant" should be totaled. This would include the heat input of the combined-cycle turbine as well as any boiler or dust burner. In a letter dated September 30, 1987. U.S. EPA addressed the PSD source category "Fossil Fuel-fired Steam Electric Plants." The U.S. EPA states that the term "plant" is inclusive of all heat generating equipment. A restrictive definition was not used in this case but the broad word "plant" was used, and, therefore, it is appropriate to include all heat generating equipment in determining the applicability for the fossil fuel-fired steam electric plants.

If a plant makes electricity only for its own use it should not be considered in this category. A steam electric plant must sell electricity. However, this type of plant may be considered a BART-22 source category if it has boilers greater than 250 MMBtu/hr. Enforceable operational limits should be taken into account when determining whether a boiler's "fossil fuel" capacity exceeds 250 MMBtu/hr. Also to be considered a fossil fuel-fired combustor, a given unit must burn at least 50 percent fossil fuel.

A New Source Performance Standard (NSPS) for fossil-fuel-fired steam generators (40 CFR 60, Subpart D) regulates fossil-fuel-fired steam generating units that commenced construction or modification after August 17, 1971 and has a heat input rate of 250 MMBtu/hr or greater. Fossil-fuel-fired steam generating units of more than 250 MMBtu/hr heat input which commenced construction or modification after September 18, 1978 are subject to 40 CFR 60, Subpart Da. Any unit covered under 40 CFR 60, Subpart Da is not regulated by 40 CFR 60, Subpart D. Additionally, Subpart Da includes provisions for electric utility combined cycle gas turbines that are capable of combusting more than 250 MMBtu/hr heat input of fossil-fuel in the steam generator. However, only emissions resulting from combustion of fuels in the steam generating unit are subject to 40 CFR 60, Subpart Da. Gas turbines that commenced construction, modification, or reconstruction after October 3, 1977, with a heat input at peak load equal to or greater than 10 MMBtu/hr, are subject to Standards of Performance for Stationary Gas Turbines (40 CFR 60, Subpart GG). The combustion turbine portion of any stationary combined cycle steam/electric generating system is regulated by the National Emission Standards for Hazardous Air Pollutants for Stationary Combustion

Turbines (40 CFR 63, Subpart YYYY). These regulations are mentioned for information only and are not pertinent to determining BART-eligibility.

4.0 BART 04 – Portland Cement Plants

Portland cement is a fine powder, gray or white in color, which consists of a mixture of hydraulic cement materials comprising primarily calcium silicates, aluminates and aluminoferrites. More than 30 raw materials are known to be used in the manufacture of Portland cement. These materials are chemically combined through pyroprocessing and subjected to subsequent mechanical processing operations to form gray and white Portland cement. The process can be divided into the following components: raw materials acquisition and handling, kiln feed preparation, pyroprocessing, and finished cement grinding. The heart of the Portland cement manufacturing process is the pyroprocessing system. This system transforms the raw mix into clinkers, which are gray, glass-hard, spherically shaped nodules. The pyroprocessing takes place in kilns.

Portland cement plants which commenced construction or modification after August 17, 1971 are regulated by the New Source Performance Standard (NSPS), Standards of Performance for Portland Cement Plants (40 CFR 60, Subpart F). This regulation is applicable to the kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and uploading systems. Portland cement plants may also be subject to the National Emission Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry (40 CRF 63, Subpart LLL). These regulations are mentioned for information only and are not required to determine BART-eligibility.

BART-ELIGIBLE SOURCES IN BERNALILLO COUNTY

The WRAP identified three potential BART-eligible sources in Bernalillo County. These were: PNM Reeves Generating Station, GCC Rio Grande Inc, and Cobisa Person Power Project. After analysis by the Department, all three sources were determined to be NOT BART-eligible. (See BART determination below)

PNM Reeves

1) How to determine whether a source is BART-eligible:

Step 1: Identify emission units in the BART categories. Does the plant contain emissions units in one or more of the 26 source categories?

No ➜ Stop

Yes ➜ Proceed to Step 2

YES. Units 1, 2, & 3

Step 2: Identify the start-up dates of these emission units. Do any of these emissions units meet the following two tests?

In existence on August 7, 1977 AND
Began operation after August 7, 1962

No ➜ Stop

Yes ➜ Proceed to Step 3

No.

Step 3: Compare the potential emissions from these emission units to the 250 ton/yr cutoff Identify the ‘‘stationary source’’ that includes the emission units you identified in Step 2. Add the current potential emissions from all the emission units identified in Steps 1 and 2 that are included within the ‘‘stationary source’’ boundary. Are the potential emissions from these units 250 tons per year or more for any visibility-impairing pollutant?

No ➜ Stop

Yes ➜ These emissions units comprise the ‘‘BART-eligible source.’’

2) If any of these facilities (even the non-BART eligible ones) have implemented controls since 2004 to the present, please record that as well.

Delta Person Generating Station

1) How to determine whether a source is BART-eligible:

Step 1: Identify emission units in the BART categories. Does the plant contain emissions units in one or more of the 26 source categories?

No ➜ Stop

Yes ➜ Proceed to Step 2

No. Unit 1 does not fit into any of the source categories because it is a simple cycle gas turbine.

Step 2: Identify the start-up dates of these emission units. Do any of these emissions units meet the following two tests?

In existence on August 7, 1977 AND
Began operation after August 7, 1962

No ➜ Stop

Yes ➜ Proceed to Step 3

Step 3: Compare the potential emissions from these emission units to the 250 ton/yr cutoff. Identify the ‘‘stationary source’’ that includes the emission units you identified in Step 2. Add the current potential emissions from all the emission units identified in Steps 1 and 2 that are included within the ‘‘stationary source’’ boundary. Are the potential emissions from these units 250 tons per year or more for any visibility-impairing pollutant?

No ➜ Stop

Yes ➜ These emissions units comprise the ‘‘BART-eligible source.’’

2) If any of these facilities (even the non-BART eligible ones) have implemented controls since 2004 to the present, please record that as well.

GCC Rio Grande

1) How to determine whether a source is BART-eligible:

Step 1: Identify emission units in the BART categories. Does the plant contain emissions units in one or more of the 26 source categories?

No ➜ Stop

Yes ➜ Proceed to Step 2

YES. Unit 1

Step 2: Identify the start-up dates of these emission units. Do any of these emissions units meet the following two tests?

In existence on August 7, 1977 AND
Began operation after August 7, 1962

➜ No ➜ Stop

➜ Yes ➜ Proceed to Step 3

No.

Step 3: Compare the potential emissions from these emission units to the 250 ton/yr cutoff. Identify the ‘‘stationary source’’ that includes the emission units you identified in Step 2. Add the current potential emissions from all the emission units identified in Steps 1 and 2 that are included within the ‘‘stationary source’’ boundary. Are the potential emissions from these units 250 tons per year or more for any visibility-impairing pollutant?

No ➜ Stop

Yes ➜ These emissions units comprise the ‘‘BART-eligible source.’’

2) If any of these facilities (even the non-BART eligible ones) have implemented controls since 2004 to the present, please record that as well.

Remainder of document is all new material

N. Demonstration that the SO_2 Milestones Provide Greater Reasonable Progress than BART

A. Background

In 1996 the Grand Canyon Visibility Transport Commission (GCVTC) submitted recommendations to EPA to improve visibility in the 16 Class I Areas on the Colorado Plateau. The GCVTC concluded that a broad-based approach that addressed multiple pollutants and source categories was necessary to reduce regional haze. The report recommended a series of strategies to address stationary sources, mobile sources, fire, pollution prevention, fugitive dust, and clean air corridors.

On July 1, 1999 the Environmental Protection Agency (EPA) published regulations to address regional haze visibility impairment. The regulations required States to address Best Available Retrofit Technology (BART) requirements for regional haze visibility impairment, and allowed nine western states to develop plans that were based on the GCVTC recommendations for stationary sources in lieu of BART.

In 2000, the Western Regional Air Partnership (WRAP) submitted an Annex to the GCVTC recommendations that provided more details regarding the regional SO_2 milestones and backstop trading program that had been recommended in the GCVTC Report, and included a demonstration that the milestones achieved greater reasonable progress than would have been achieved by the application of BART in the region. The Annex was approved by EPA in 2003, but this approval was later vacated by the DC Circuit Court of Appeals in 2005 due to problems with the methodology that was required in the regional haze rule for demonstrating greater reasonable progress than BART.[‡‡]

On July 6, 2005 EPA revised the regional haze rule in response to the judicial challenges to the BART requirements. On October 13, 2006 EPA published additional revisions to address alternatives to source-specific BART determinations.

Five western states (Arizona, New Mexico, Oregon, Utah, and Wyoming) and the City of Albuquerque had submitted State Implementation Plans (SIPs) in 2003 under 40 CFR §51.309. Three of those states (New Mexico, Utah, and Wyoming) and the City of Albuquerque plan to update their SIPs to include new milestones that are based on more recent emission inventories as well as the revised BART requirements in the regional haze rule. Arizona and Oregon are no longer participating in the program. This demonstration shows that the SO_2 milestones will achieve greater reasonable progress than would have been achieved from the installation and operation of BART at all sources subject to BART in the participating states in accordance with the revised regional haze rule.

B. RH Rule Requirements

40 CFR 51.309(d)(4) states, "The milestones must be shown to provide for greater reasonable progress than would be achieved by application of BART pursuant to §51.308(e)(2)."

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‡‡ *Center for Energy and Economic Development v. EPA*, February 18, 2005; *American Corn Growers Association v. EPA*, May 24, 2002.

40 CFR 51.308(e)
(2) A State may opt to implement or require participation in an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART. Such an emissions trading program or other alternative measure must achieve greater reasonable progress than would be achieved through the installation and operation of BART. For all such emission trading programs or other alternative measures, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:

(i) A demonstration that the emissions trading program or other alternative measure will achieve greater reasonable progress than would have resulted from the installation and operation of BART at all sources subject to BART in the State and covered by the alternative program. This demonstration must be based on the following:

(A) A list of all BART-eligible sources within the State.

(B) A list of all BART-eligible sources and all BART source categories covered by the alternative program. The State is not required to include every BART source category or every BART-eligible source within a BART source category in an alternative program, but each BART-eligible source in the State must be subject to the requirements of the alternative program, have a federally enforceable emission limitation determined by the State and approved by EPA as meeting BART in accordance with section 302(c) or paragraph (e)(1) of this section, or otherwise addressed under paragraphs (e)(1) or (e)(4)of this section.

(C) An analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each source within the State subject to BART and covered by the alternative program. This analysis must be conducted by making a determination of BART for each source subject to BART and covered by the alternative program as provided for in paragraph (e)(1) of this section, unless the emissions trading program or other alternative measure has been designed to meet a requirement other than BART (such as the core requirement to have a long-term strategy to achieve the reasonable progress goals established by States). In this case, the State may determine the best system of continuous emission control technology and associated emission reductions for similar types of sources within a source category based on both source-specific and category-wide information, as appropriate.

(D) An analysis of the projected emissions reductions achievable through the trading program or other alternative measure.

(E) A determination under paragraph (e)(3) of this section or otherwise based on the clear weight of evidence that the trading program or other alternative measure achieves greater reasonable progress than

would be achieved through the installation and operation of BART at the covered sources.

C. Identification of BART-Eligible Sources and Sources Subject to BART.

Establishing BART emission limitations under 40 CFR 51.308(e)(1) is a three step process (70 FR 39106):

- States identify sources which meet the definition of BART eligible
- States determine which BART eligible sources are "subject to BART"
- For each source subject to BART the State identifies the appropriate control technology.

1. BART-Eligible Sources.

Pursuant to 40 CFR 51.308(e)(2)(i), States submitting §309 SIPs are required to list all BART-eligible sources covered by the alternative program. BART-eligible sources are identified as those sources that fall within one of 26 specific source categories, were built between 1962 and 1977, and have potential emissions of at least 250 tons per year of any visibility impairing air pollutant [40 CFR 51.301]. The BART-eligible sources identified by the three §309 States are shown in Table 1.

2. Subject to BART Determination.

Pursuant to 40 CFR 51.308(e)(2)(i)(B) and (e)(1)(ii), States are required to determine which BART-eligible sources are "subject to BART." BART-eligible sources are subject to BART if they emit any air pollutant that may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area. §309 States have conducted individual source modeling to determine if a BART-eligible source causes or contributes to visibility impairment.

Two of the §309 States (New Mexico and Utah) utilized the technical modeling services of the WRAP Regional Modeling Center (RMC). Modeling was performed according to the RMC modeling protocols (CALMET/CALPUFF Protocol for BART Exemption Screening Analysis for Class I Areas in the Western United States). For the WRAP BART exemption screening modeling, the RMC followed the EPA BART Guidelines (EPA, 2005) and the applicable CALMET/CALPUFF modeling guidance (e.g., IWAQM, 1998; FLAG, 2000; EPA, 2003c) including EPA's March 16, 2006 memorandum: "Dispersion Coefficients for Regulatory Air Quality Modeling in CALPUFF" (Atkinson and Fox, 2006).

The basic assumptions of the WRAP BART CALMET/CALPUFF modeling protocols are as follows.

- Three years (2001, 2002 and 2003) were modeled.
- Visibility impacts due to emissions of SO_2, NO_x and primary PM emissions were calculated.
- Visibility was calculated using the original IMPROVE equation and "Annual Average Natural Conditions".
- The effective range of CALPUFF modeling was set at 300km from the sources.

- According to 40 CFR Part 51, Appendix Y (EPA BART Guidelines; EPA, 2005), a BART-eligible source is considered to "contribute" to visibility impairment in a Class I area if the modeled 98th percentile change in deciviews is equal to or greater than the "contribution threshold."
- The threshold for visibility impact, for a single source, was a 0.5 deciview change or more to "contribute" to visibility impairment. This threshold is consistent with the EPA BART Guidelines (EPA 2005) that states, "As 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." This threshold is also consistent with long-standing visibility modeling practices. States have the discretion to set a lower threshold, but the three participating states have not determined that a lower threshold is needed or justified.

The State of Wyoming performed modeling in-house that was also based on EPA BART Guidelines and the applicable CALMET/CALPUFF guidelines. The basic assumptions were the same as used in the RMC modeling with the following exception: meteorological data for 1995, 1996, and 2001 that were prepared for a previous modeling analysis were used for the southwest Wyoming modeling domain. Wyoming's *BART Air Modeling Protocol*, September 2006, is posted at http://deq.state.wy.us/aqd/BART.asp.

Remainder of document is all new material

Table 1. Subject to BART Status for §309 BART-Eligible Sources

State	Plant Name	Unit	BART Eligible	Subject to BART	Modeling Entity	BART Category
NM	Amoco Empire Abo	SRU Only	Y	N	WRAP	15
NM	SWPS Cunningham Station (Xcel Energy)	One Unit	Y	N	WRAP	01
NM	Duke Energy Artesia Gas Plant	SRU Only	Y	N	WRAP	15
NM	Duke Energy Linam Ranch Gas Plant	SRU Only	Y	N	WRAP	15
NM	Dynegy Saunders	SRU Only	Y	N	WRAP	15
NM	Giant Refining San Juan Refinery	Unit #1 FCCP ESP Stack	Y	N	WRAP	11
NM	Giant Refining, Ciniza Refinery	4 B&W CO boiler	Y	N	WRAP	11
NM	SWPS Maddox Station (Xcel Energy)	One Unit	Y	N	WRAP	01
NM	Marathon Indian Basin Gas Plant	SRU Only	Y	N	WRAP	15
NM	PNM, San Juan	Units 1-4	Y	Y	WRAP	01
NM	Rio Grande Station	One Unit	Y	N	WRAP	01
NM	Western Gas Resources San Juan River Gas Plant	SRU Only	Y	N	WRAP	15
UT	PACIFICORP – Hunter Power Plant	Units 1-2	Y	Y	WRAP	01
UT	PACIFICORP – Huntington Power Plant	Units 1-2	Y	Y	WRAP	01
WY	BASIN ELECTRIC POWER COOP – LARAMIE RIVER	Units 1-3	Y	Y	WY DEQ	01
WY	BLACK HILLS POWER & LIGHT = NEIL SIMPSON 1	Unit 1	Y	N	WY DEQ	01
WY	Dyno Nobel (formerly Coastal Chemical)	9 Units	Y	N	WY DEQ	10
WY	FMC CORP – GREEN RIVER SODA ASH PLANT	3 Units	Y	Y	WY DEQ	22
WY	FMC WYOMING CORP – GRANGER SODA ASH PLANT	2 Units	Y	N	WY DEQ	22
WY	GENERAL CHEMICAL – GREEN RIVER SODA ASH PLANT	2 Units	Y	Y	WY DEQ	22
WY	P4 PRODUCTION – ROCK SPRINGS COKING PLANT	1 Unit	Y	N	WY DEQ	22
WY	PACIFICORP – DAVE JOHNSTON	Units 3-4	Y	Y	WY DEQ	01
WY	PACIFICORP – JIM BRIDGER	Units 1-4	Y	Y	WY DEQ	01
WY	PACIFICORP – NAUGHTON	Units 1-3	Y	Y	WY DEQ	01
WY	PACIFICORP –WYODAK	Unit 1 (335 MW)	Y	Y	WY DEQ	01
WY	SINCLAIR OIL CORP-SINCLAIR REFINERY	16 units	Y	N	WY DEQ	11
WY	SINCLAIR REFINERY – CASPER	1 unit	Y	N	WY DEQ	11

D. Baseline Inventory for 2018

The Stationary Sources Joint Forum of the WRAP coordinated the development of a baseline inventory for 2018 that was used to update the SO_2 milestones for the 3-state region. The inventory was estimated as described below.

Remainder of document is all new material

1. Electric Generating Units (EGU's)

The methodology for projecting existing EGU's into the future involves the following steps:

a) the electricity production (MW's) for each individual unit at a plant was determined from the Energy Information Administration [EIA] (data available for 2002-05)
b) the electricity generation design maximum capacity (MW's) was determined for each individual unit from EIA data
c) an operating Capacity Factor was determined by dividing the year specific production by the design maximum capacity of the each individual plant unit
d) all individual units were assumed to be operating at 85% capacity in 2018 (unless they were already operating above this level in 2002)
e) the Growth Ratio necessary to achieve 85% capacity was determined by dividing 0.85 by the Capacity Factor for each individual plant unit (averaged over four years)
f) a Current Year Emission Factor (lb SO_2/MM-Btu) was calculated for the latest year of available EIA data (2006), using the actual reported emissions (tons SO_2) for each individual plant unit divided by the actual reported annual heat generation (MM Btu)
g) the 2018 Emission Factor was assumed to be the same as the current emission factor, except for a few sources that had a new permitted emission rate.
h) the 2018 Emission Rate (tons SO_2) was calculated by multiplying current year emissions by the ratio of the 2018 to current year Emission Factors
i) the Adjusted 2018 Emission Rate (tons SO_2) was "grown" to 85% capacity by multiplying the 2018 Emission Rate by the Growth Ratio from Step 5 (emissions from units already operating at or higher than the 85% capacity in the 2002 data year, were not grown, but accepted at face value).

2. Permitted/Future EGU's

The PRP 18b inventory is documented in the ERG Final Technical Memorandum dated October 16, 2009. The Memorandum projects the need for 61.99 billion kWh of future coal-fired electricity generation between 2002 and 2018. Of this total, 36.37 billion kWh will be met by increased utilization of existing plants, and the addition of new plants that are already under construction. The remaining 25.62 billion kWh will be met by new coal plants in the WRAP region. The §309 States estimate that 25% of that total will be constructed in the 3-state region, with an emission estimate of 2,600 tons SO_2 by 2018.

a) Growth estimates in 2008 SIPs.

The previous SO_2 milestones were finalized by the §309 States in the Spring of 2008 and were adopted into the SIPs for Albuquerque, Utah, and Wyoming later that year. The milestones included a new source growth estimate of 20,000 tons SO_2 for utilities. This new source growth estimate was drawn from the PRP18a inventory that relied on the 2007 EIA projections. As part of the technical demonstration for the SIPs, the §309 States identified projects that were under construction or had been permitted that would have consumed about 10,000 tons of the new source set-aside.

b) Changes in Underlying Assumptions.

During the last two years there have been significant changes in the EIA projections for future growth of coal-fired electricity generation. The PRP18b inventory that is documented in the ERG Final Technical Memorandum dated October 16, 2009 has scaled back the projections of growth of coal-fired utilities. EPA has indicated that this more recent information calls into question the estimates for future growth in coal-fired generation in the current milestones. In addition, the State of Arizona has elected to develop a SIP under Section 308 of the Regional Haze rule, further reducing the new source set-aside.

c) Updated New Source Growth Estimates.

The §309 States have reviewed the new Memorandum and have determined that the new source growth estimate should be reduced from 20,000 tons SO_2 to 6,600 tons SO_2. Of this total, approximately 4,000 tons SO_2 can be attributed to new units in Wyoming that are currently operating, or have commenced construction (Wygen Units II and III, Dry Fork Station, and Two Elk Unit 1). This leaves a remaining estimate of new source growth that has not been attributed to a specific plant of 2,600 tons SO_2.

This estimate is consistent with the 2009 ERG Final Technical Memorandum. As outlined in Table 3 of that Memorandum (summarized below) an additional 61.99 billion kWh of coal-fired electricity generation will be needed between 2002 and 2018.

Future Coal-Fired Electricity Generation (billion kWh)	
258.7	2002 Electricity Generation
320.69	2018 Electricity Generation
61.99	**Needed Generation**

Future Coal-Fired Electricity Generation from existing sources, and those under construction (billion kWh)	
16.6	Unused capacity at existing 2002 Facilities
5.34	Capacity at post-2002 facilities
14.43	Estimated generation capacity of the 6 EGUs under construction
36.37	**Total**
25.62	**New Source Growth needed in WRAP Region (billion kWh)**

As shown above, 36.37 billion kWh can be met by the combination of unused capacity from existing sources plus new sources that are in operation or under construction (including the three plants in Wyoming that are described above). This leaves a remaining 25.62 billion kWh that would be met by new coal plants in the region.

The need for new source growth beyond what is already under construction is supported by estimates of future electricity demand in the region. For example, the Integrated Resource Plan submitted by PacifiCorp to the Utah Public Service Commission in May 2009 estimates a capacity deficit of 3,520 MW by 2018. The IRP meets that deficit through a combination of new natural gas-fired plants,

renewable resources, and demand side management and does not include plans for new coal-fired generation. This is a change from the 2006 IRP (submitted in 2007), that included plans for new coal generation in Utah (340 MW) and Wyoming (527 MW) by 2018. However, the 2008 IRP also increased the estimated front office transactions (power purchased on the open market), from 249 MW in the 2006 IRP to 800 MW in the 2008 IRP for the year 2018. Because future demand exceeds existing capacity as shown in Table 3 of the ERG Final Technical Memorandum, it is reasonable to assume that new plants (including potential merchant plants built by other entities) will be needed to meet this demand for purchased power in 2018.

Table 4 in the Final Technical Memorandum identifies 8,880 MW that are being permitted in the region. The Memorandum states, "However, if 39% of the new coal-fired EGU plant capacity currently in the permitting process is brought on-line, then the 2008 coal-fired EIA projection for 2018 will be met." (see page 7). Therefore, the estimate of future coal-fired EGUs in the 12-state region is 3,463 MW. Approximately 25% of the MWs listed in Table 4 as "being permitted" are located in Utah and Wyoming, therefore it is reasonable to estimate that 900 MWs (conservative emission estimate of 2,600 tons SO_2) of future coal-fired EGUs be attributed to the §309 States.

3. Non-EGU's

The Methodology for projecting emissions from "Other Industrial Sources" is described in E.H. Pechan's October 2006 Report, *2018 SO_2 Emissions Evaluation for Non-Utility Sources-Final*. The report is posted online at http://www.wrapair.org/forums/ssjf/documents/eictts/projections.html.

a) The SO_2 emissions for 19 Natural Gas Processing Plants were updated by Environ in April 2007, with additional research into future O&G Operations. The September 2007 Final report with results of that update is posted at http://www.wrapair.org/forums/ssjf/documents/eictts/oilgas.html.

b) The 2005 SO_2 Milestone Report had some sources which were not picked up in the Pechan report. In those cases, the 2005 emissions were used as a placeholder for the 2018 emission values.

c) The projections do not specifically break out emissions from existing sources vs. new sources. For purposes of establishing a new source set-aside, 2006 emissions were assumed to be the baseline emissions for existing sources, and the projected increase in emissions between 2006 and 2018 is attributed to new source growth.

There have been steady SO_2 emission reductions from the non-utility sector since 1990. Several major sources were shut down, including two copper smelters (BHP San Manuel and Phelps Dodge Chino: 69,491 tons SO_2 in 1990) and a steel mill (Geneva Steel: 8,473 tons SO_2 in 1990). Kennecott Utah Copper reduced SO_2 emissions by 25,000 tons SO_2 during the mid-1990s. During this same time period, oil and gas production increased substantially in all three states requiring upgrades to processing plants and other facilities to address potential air quality problems. These upgrades have largely been completed, and it is anticipated that future emissions will reflect growing demand for natural gas in the Western

US. As can be seen in Figure 1, emissions have leveled off in recent years and are likely to increase as the US emerges from a major recession in coming years. The 2006 EH Pechan report describes in detail the methodology that was used to project future emissions for each source category.

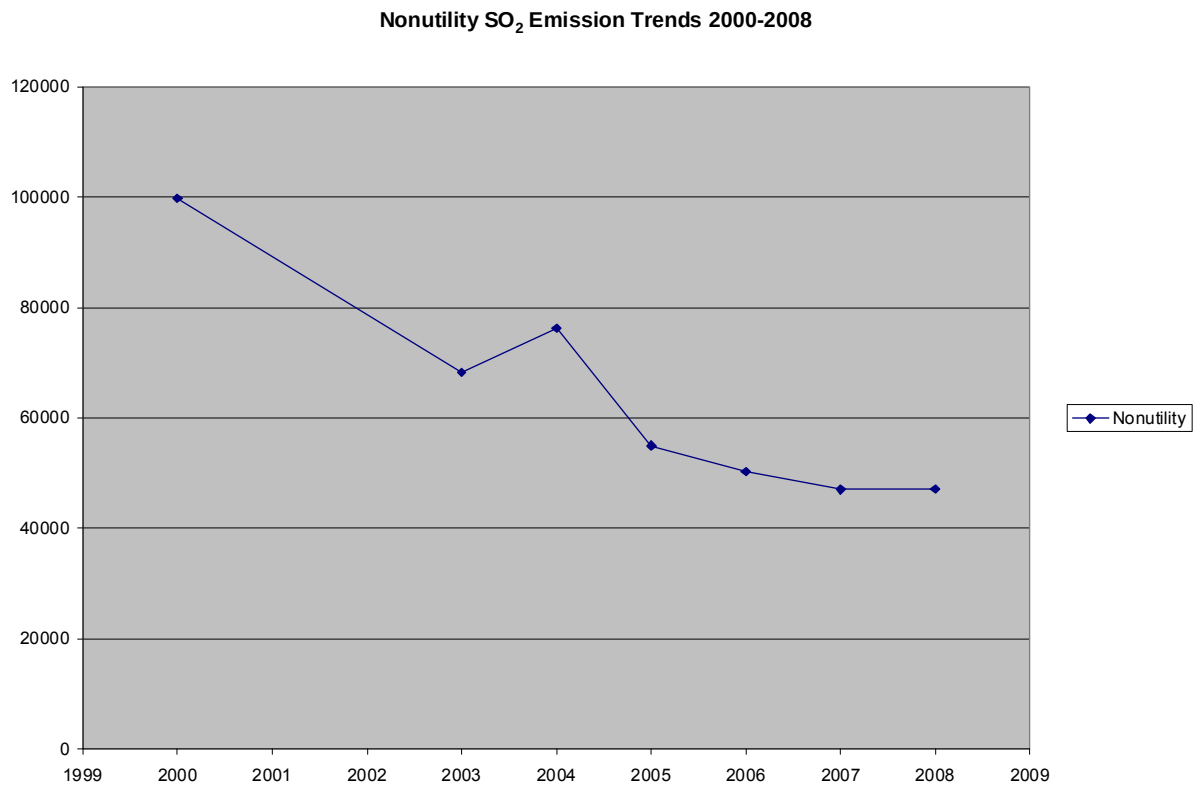


Figure 1. Non-utility Emission Trends

Table 2 summarizes the projected 2018 Baseline SO_2 emissions for the 3-State region.

Table 2. 2018 Baseline

	Projected 2018 SO_2 Emissions Baseline
Utility	128,409
Non-Utility	49,961
New Source Growth Utility	6,600
New Source Growth Non-Utility	5,686
Total 2018 Baseline	190,656

Remainder of document is all new material

E. Estimated Emission Reductions Due to BART

The SO2 milestones and backstop trading program were designed primarily to achieve reasonable progress towards meeting the long-term visibility goal. As outlined in the regional haze rule, in cases where the an alternative program has been designed to meet requirements other than BART, States are not required to make BART determinations under 40 CFR 51.308(e) and may use simplifying assumptions in establishing a BART benchmark based on an analysis of what BART is likely to be for similar types of sources within a source category. Emission estimates for 2018, assuming the application of BART for SO_2 on all subject-to-BART sources in the three states, were prepared and are compiled in a spreadsheet named "8-11-10_milestone.xls" (see technical support documentation). The 2018 estimates for these sources are estimates of actual emissions and therefore reflect greater emission reductions than would be enforceable in a case-by-case BART permit. The methodology that was used to estimate these emission reductions is described below.

1. Utilities - Presumptive BART.

All utilities that were determined to be subject to BART were assumed to be operating at the presumptive emission rate established in 40 CFR Part 51, Appendix Y (0.15 lb/MMBtu). Actual emissions at this presumptive emission rate were estimated for 2018.

2. Other sources.

The SO_2 milestones were primarily designed to achieve reasonable progress for all sources of SO_2 in the 3-state region and therefore the regional haze rule allows States to use simplifying assumptions in establishing the BART benchmark. EPA has not established presumptive emission rates for nonutilities, therefore another approach was needed to estimate emission reductions from four boilers located at 2 trona facilities in SW Wyoming. . Recent pollution control projects achieved a 63% reduction in SO_2 from two of the boilers, and represent reasonably stringent controls, considering the age and purpose of the facility. Therefore, the emission rate achieved by these projects is used as the BART benchmark for the four boilers.

I. General Chemical Soda Ash Partners, Green River Plant

C Boiler
Constructed in 1/74
Fuel Analysis for coal: 262,800 tons/year; 534 x 10e6 BTU/hr site rated capacity
Emission limit for SO_2 1.2 lb/MMBtu; 640.8 lb/hr; 2806.7 TPY

D Boiler
Constructed in 1/75
Fuel Analysis for coal: 388,000 tons/year; 880 x 10e6BTU/hr site rated capacity
Emission limit for SO_2 1.2 lb/MMBtu; 1056.0 lb/hr; 4625.3 TPY

II. FMC Wyoming Corporation Westvaco Facility

NS-1A

Constructed in 1975
Modified 8/2007 (New chevron mist eliminators installed in venturi scrubber)
Fuel Analysis coal: 380,888 tons/year; 887 x 10e6 BTU/hr site rated capacity
Emissions limit for SO_2 0.54 lb/MMBtu;

NS-1B
Constructed in 1975
Modified 7/2008 (New chevron mist eliminators installed in venturi scrubber)
Fuel Analysis coal: 380,888 tons/year; 887 x 10e6 BTU/hr site rated capacity
Emission limit for SO_2 0.54 lb/MMBtu

All four boilers were originally constructed in SW Wyoming for purposes of processing trona in the mid 1970's. As process units, these four boilers are subject to greater load swings than would be experienced at electric generating units which typically come up to full operating levels and stay there. All four boilers were at one time operating under emission limits of 1.2 lb/MMBtu. All four boilers are roughly the same size with site rated capacities between 880 MMBtu/hr and 887 MMBtu/hr except for the oldest boiler, C Boiler at General Chemical at Green River rated at 534 MMBtu/hr. All four boilers burn primarily coal with oil and gas used as start up fuels. All four units have been participating in the SO_2 Backstop Trading Program, reporting inventories annually as required by Wyoming Air Quality Standards and Regulations.

Two of the four units, NS1A and NS1B operated by FMC, sought early SO_2 reductions in 2007 and 2008 respectively as participants in the 309 program. These two units reduced SO_2 emissions by 55 percent or 5126 tons collectively from both units. New chevron mist eliminators were installed on venturi scrubbers to accomplish this reduction. Since that time, FMC has reviewed additional reductions resulting in a total reduction from the 2018 baseline of 5827 tons or an additional 701 tons. Total reduction from the 1.2 lb/MMBtu emission rate is a 63 percent removal rate. The State of Wyoming has reviewed these additional reductions and has determined that they represent reasonably stringent controls, considering the age and purpose of the facility.

In a similar fashion, the State has reviewed potential SO_2 reductions at the General Chemical facility at Green River and had concluded that a 63 percent removal rate is also appropriate for the two boilers located at that facility. As was mentioned above, these facilities are similar in age, and purpose. General Chemical boilers C and D are currently permitted at 7,432 tons of SO_2 operating at 1.2 lb/MMBtu. The State would expect that reasonably stringent controls at this facility would result in a similar 63 percent reduction from the same starting point of 1.2 lb/MMBtu. Reviewing reductions from the 2018 milestone baseline, the General Chemical boilers would be looking at reducing emissions by 2,669 tons.

While the 2018 milestone baseline level is not the same for the two companies, the state has determined that equitable treatment of like facilities would require similar reductions from the two companies prior to the 309 program. Both companies would be reducing emissions from a starting point of 1.2 lb/MMBtu down to 0.45 lb/MMBtu. In the case of FMC, who made early reductions in the program, an additional 701 ton reduction is expected to be achieved. In the case of General Chemical, 2,669 tons will be achieved. The total reduction from both

facilities has been estimated at 3,370 tons. The State has determined that these are reasonably stringent controls and the resulting emissions would serve as an adequate BART benchmark.

3. Summary.
The estimated emission reductions due to the application of BART in the §309 States are summarized in Table 3.

Table 3. Emission Reduction due to BART

	2018 baseline SO_2	2018 SO_2 with BART	Emission Reduction due to BART
Utilities	128,409	82,972	45,437
Non-Utilities	49,961	46,661	3,370
Total			48,807

F. 2018 BART Benchmark

2018 Baseline	190,656
Estimated BART Reductions	-48,807
Total	141,849

G. Milestones Provide Greater Reasonable Progress than BART

The Regional SO_2 milestone of **141,849** equals the BART benchmark, but provides greater reasonable progress than BART for the reasons outlined below.

1. Early Reductions.
The GCVTC recommended that the market trading program "contain specific provisions to encourage and reward early emission reductions, including reductions achieved before 2000."[§§] The GCVTC committed to achieve a 13% reduction in SO_2 emissions from stationary sources by the year 2000. The GCVTC also recognized that there was a good possibility that actual emission reductions would be greater than this 13% goal. A general plan was derived to give some early reductions credit to the region and some to the environment. The emission reductions that were greater than 13% were to be split, with ½ going to the environment (through the establishment of milestones) and the other ½ providing headroom.[***]

Sulfur dioxide emissions decreased by 25% in the 9-state GCVTC region between 1990 and 2000, and SO_2 emissions in the three §309 states 33% in that same time period.

The regional milestones have been in effect since 2003 when the original five participating states submitted regional haze SIPs, as required by section 309 of the regional haze rule. The 2003 SIP was designed to provide flexibility so that sources could find the most cost-effective way to reduce SO_2 emissions, including over-controlling some plants while opting for lower cost controls at other plants. The 2003 SIP was also designed to encourage early

[§§] *Recommendations for Improving Western Vistas* at 33 (June 1996).

[***] *Id.* at 34.

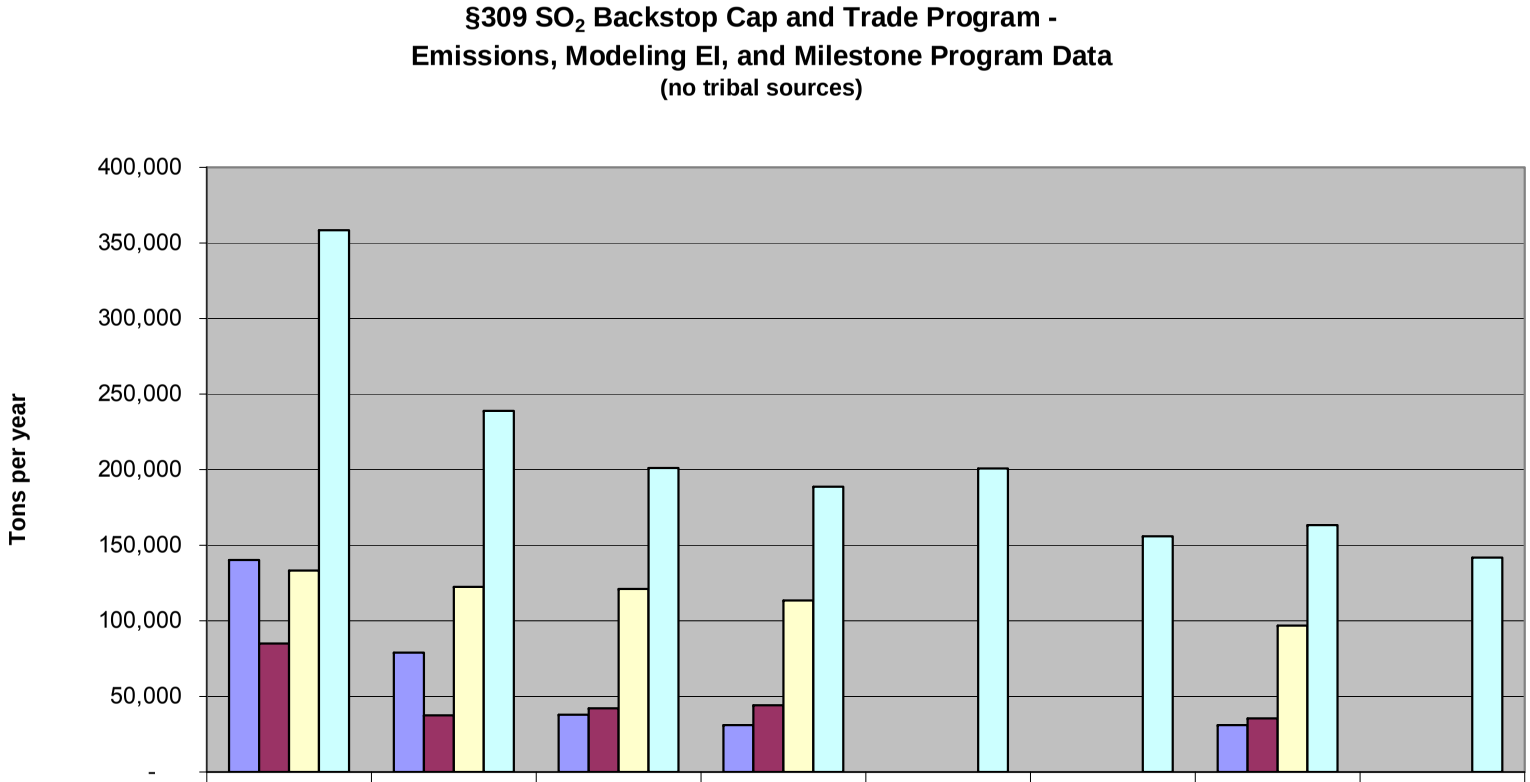
reductions by providing an extra allocation for sources that made reductions prior to the program trigger year. The 2003 SIP influenced the long term planning for sources in the region, and utilities began upgrading plants based on the provisions of the SIP years earlier than would have been required under a case-by-case BART determination in a §308 SIP.

Emissions in the 3-state region decreased an additional 31% between 2000 and 2008.[†††] Figure 2 shows the emission reductions from 1990 baseline emissions in the §309 states that will have been achieved by 2018. This total 60% reduction from 1990 emissions is well on the way to the GCVTC goal of reducing SO_2 emissions by 50% - 70% by the year 2040.

Figure 3 shows the sulfate contribution to visibility at the long-term IMPROVE sites located on the Colorado Plateau. As can be seen from these graphs, there has been a steady decrease in the visibility impact due to sulfates. The trend is especially apparent on the 20% best days that are not affected by the variability of fire emissions in the region.

[†††] *WRAP 2008 Regional Emissions and Milestone Report*, March 31, 2010.

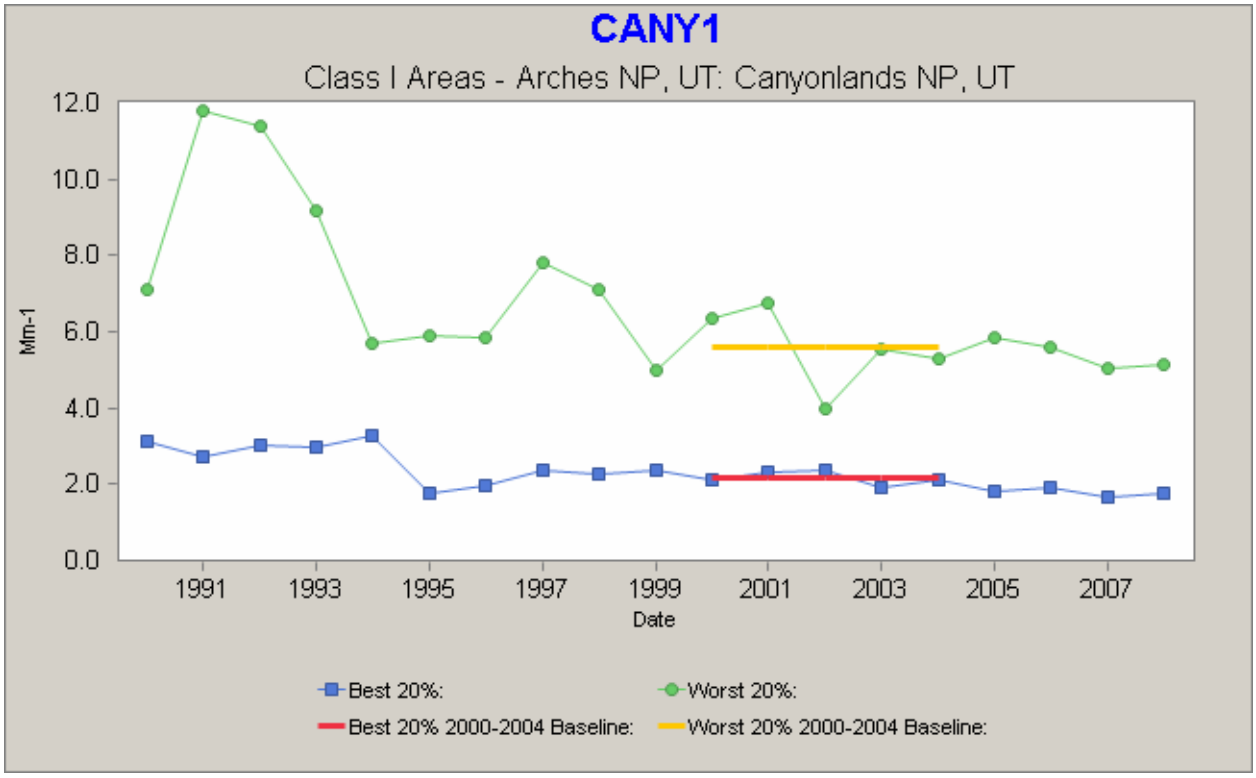
Figure 2. Emission Trends



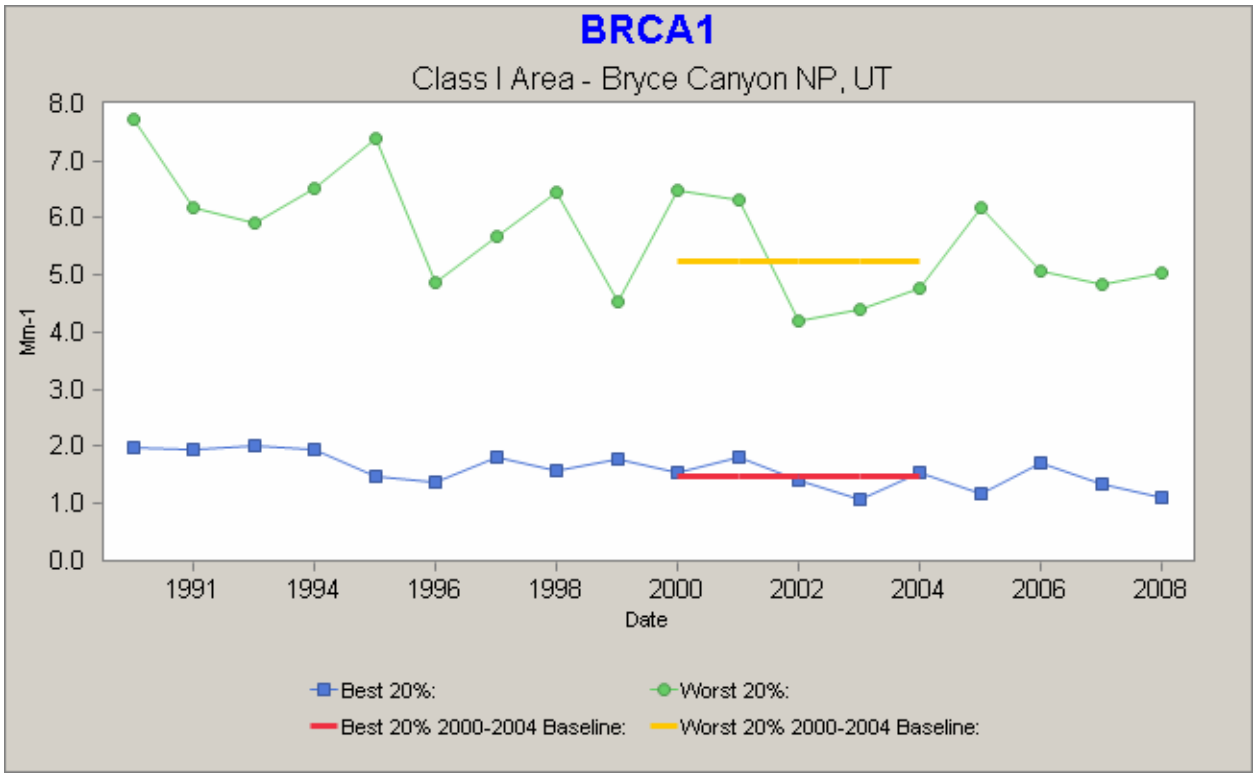
	1990	2000	2002 (Plan02d)	2006 Milestone Report	2008 Milestone	2013 Milestone	2018 (PRP18b)	2018 Milestone
NM	140,177	79,011	37,918	31,068			31,012	
UT	84,983	37,483	42,183	44,175			35,429	
WY	133,204	122,373	120,991	113,465			96,809	
3-State Total	358,364	238,867	201,092	188,708	200,722	155,940	163,250	141,849

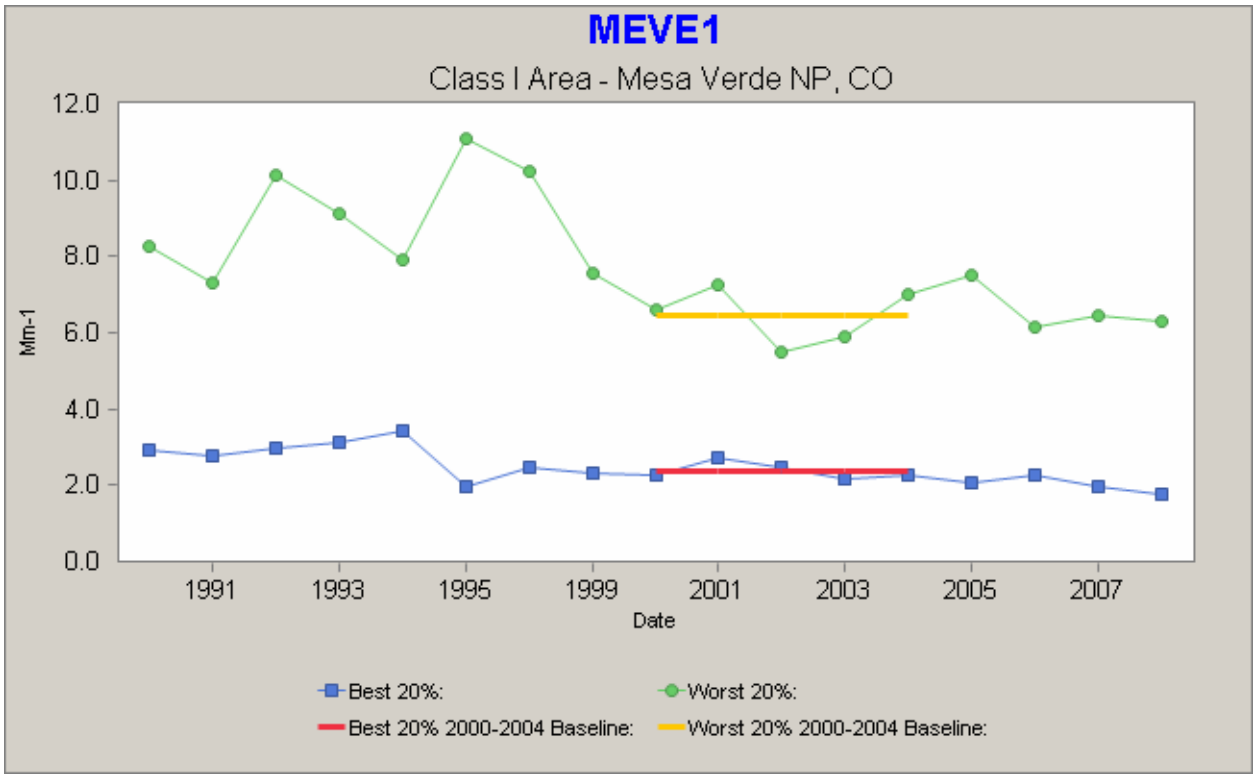
Figure 3. Sulfate Contribution to Light Extinction at Class I Areas on the Colorado Plateau.[‡‡‡]

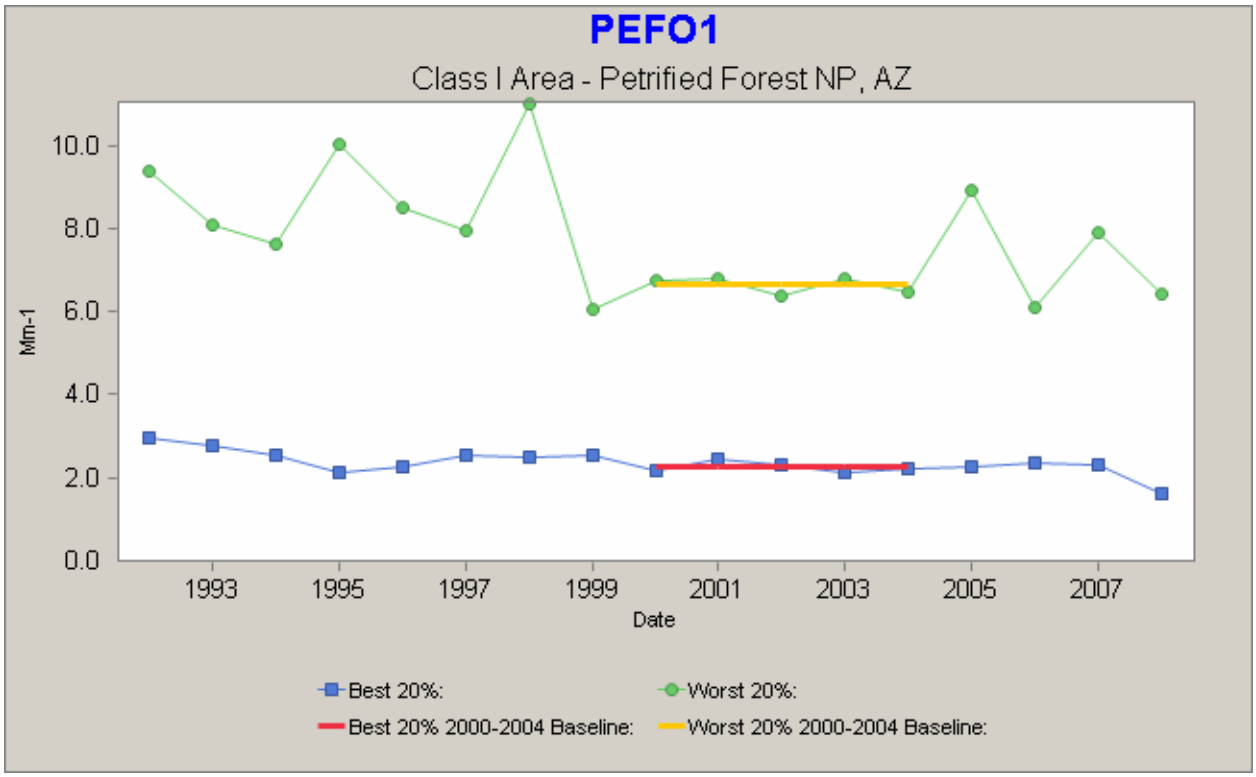
Series – Aggregation: Best 20%, Worst 20%, Best 20% 2000-2004 Baseline, Worst 20% 2000-2004 Baseline, Metadata – Program: IRHR2, Poc: 1, Parameter: ammSO4_bext, Method: RHR Dataset.

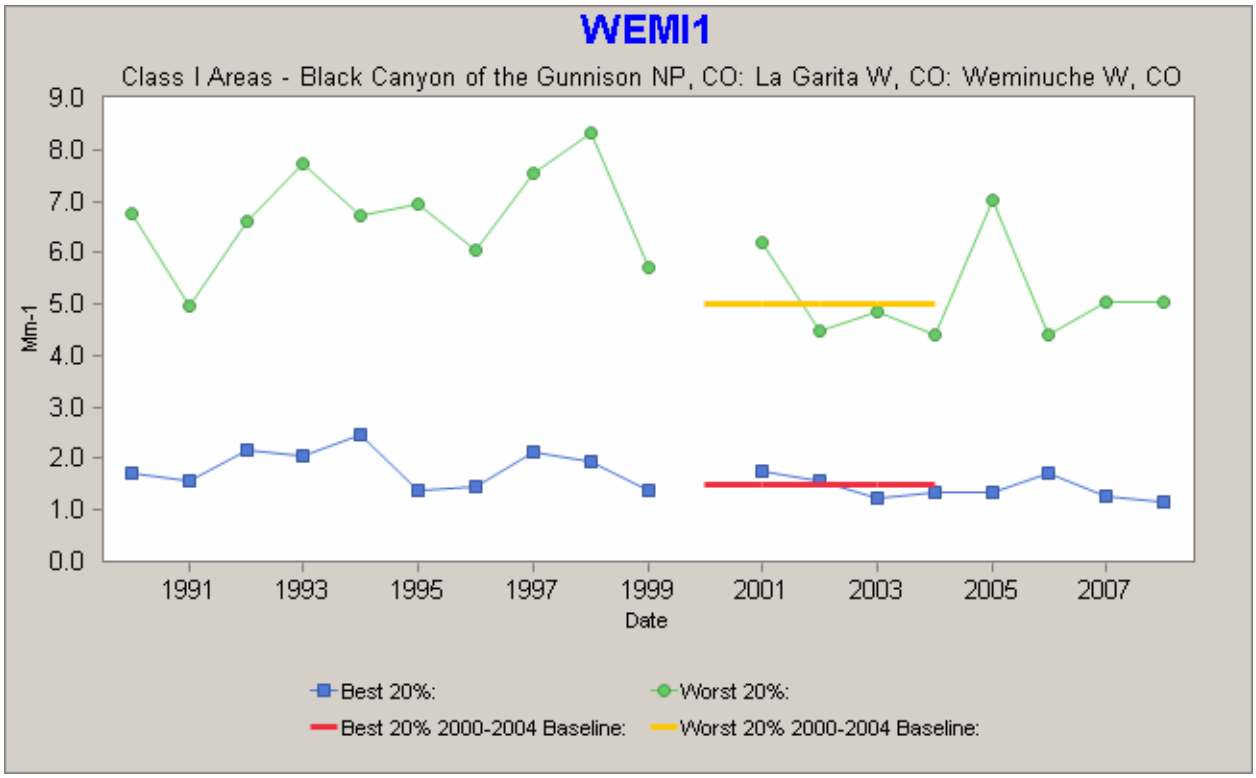


[‡‡‡] Only those Class I areas on the Colorado Plateau with at least 15 years of data are included in this figure.


BRCA1
Class I Area - Bryce Canyon NP, UT
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Mm-1
1991
1994
1996
1998
2000
2002
2004
2006
2008
Date
Best 20%:
Worst 20%:
Best 20% 2000-2004 Baseline:
Worst 20% 2000-2004 Baseline:


MEVE1
Class I Area - Mesa Verde NP, CO
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Mm-1
1991
1993
1995
1999
2001
2003
2005
2007
Date
Best 20%:
Worst 20%:
Best 20% 2000-2004 Baseline:
Worst 20% 2000-2004 Baseline:


PEFO1
Class I Area - Petrified Forest NP, AZ
Mm-1
10.0
8.0
6.0
4.0
2.0
0.0
1993
1995
1997
1999
2001
2003
2005
2007
Date
Best 20%:
Worst 20%:
Best 20% 2000-2004 Baseline:
Worst 20% 2000-2004 Baseline:


WEMI1
Class I Areas - Black Canyon of the Gunnison NP, CO: La Garita W, CO: Weminuche W, CO
Mm-1
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1993
1995
1997
1999
2001
2003
2005
2007
Date
Best 20%:
Worst 20%:
Best 20% 2000-2004 Baseline:
Worst 20% 2000-2004 Baseline:

2. Additional Sources Included.

The backstop trading program includes all stationary sources with emissions greater than 100 tons/year of SO_2. The §309 States designed this program as part of an overall strategy to address all sources of visibility impairing pollutants, rather than focusing on a subset of stationary sources.

	Number of Sources	2006 Emissions	Percentage
Subject to BART	10	121,542	62%
Other Stationary Sources	63	73,038	38%

The inclusion of all major SO_2 sources in the program is necessary to create a viable trading program, and also serves a broader purpose to ensure that growth in emissions from sources that are not subject to BART does not undermine the progress that has been achieved. BART applied on a case-by-case basis would not affect these sources, and there would be no limitation on their future operations under their existing permit conditions. Because the milestones will cap these sources at actual emissions (which are less than current allowable emissions), the overall effect of their inclusion is to provide greater reasonable progress than would have been achieved if only sources that are subject to BART were included in the program.

3. Cap on New Source Growth.

When Congress established the visibility program in 1977 it declared as a national goal "the prevention of any future, and the remedying of any existing" anthropogenic visibility impairment in mandatory class I federal areas.[§§§] BART is an emission limitation established at a specific source and is designed as a remedy to impairment at specific mandatory Class I areas. By contrast, the SO_2 milestones developed by the §309 States serve the dual purpose of remedying existing impairment and preventing future impairment by requiring regional SO_2 emissions reductions and capping emissions for stationary sources. Future impairment is prevented by capping emissions growth from sources not eligible under the BART requirements, from sources subject to BART that are expected to significantly increase utilization, and from entirely new sources in the region.

The milestones include estimates for growth, but then lock these estimates in as an enforceable emission cap. The milestone approach is consistent with the statutory goal of preventing any future visibility impairment that results from man-made air pollution. The entire region is experiencing rapid growth which could erode the progress that has been achieved in the last two decades towards improving visibility. BART applied on a case-by-case basis would have no impact on future growth, and in the long run would not achieve the regional emission reductions that are guaranteed by the program.

4. Commission Strategies are a Total Package.

[§§§] CAA § 169A(a)(1).

The GCVTC recommendations were developed as a comprehensive strategy includes strategies to address mobile sources, prescribed fire, pollution prevention, and Clean Air Corridors. The stationary source strategies need to be viewed as part of this overall package. Visibility impairment in the west is caused by multiple sources and pollutants, and a narrow focus on stationary sources may not achieve the same results as a broad-based program. When viewed as part of the entire SIP, the milestones achieve much greater reasonable progress than BART.

5. Mass Based Cap has Inherent Advantages over BART

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. The use of actual emissions has an effect in several ways. If the BART process was applied on a case-by-case 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. The difference between actual emissions and allowable emissions is particularly large when a source is permitted to burn two different fuel types, such as oil and natural gas, or when the source is part of a cyclical industry where production varies from year to year due to the changing demand for their product. 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.

Another difference is that mass-based limits will include excess emissions that may occur due to malfunctions or during the start-up or shut-down of emission units. A good example of this difference is the requirement in the acid rain program that emissions must be assumed to be the highest value recorded from the past year during the time period that continuous emission monitors are not functioning on a stack. These higher emissions are calculated as part of the overall tons/year, and must be accounted for under the mass-based cap for the acid rain program.

6. Tribal Set-aside

The GCVTC recommended a market based program to address stationary source emissions of SO_2. The GCVTC recommended that the market based program include allocations to tribes that are of practical benefit.[****] This recognized the concern that "tribes, by and large, have not contributed to the visibility problem in the region" and that "[t]ribal economies are much less developed than those of states, and tribes must have the opportunity to progress to reach some degree of parity with states in this regard."[††††] The tribes specifically recommended that if an emission trading strategy is adopted to achieve SO_2 reductions from stationary sources that allocations be based on considerations of equity rather than historical emissions:

> Credits should not be based on historical emissions, but should be based on equitable factors, including the need to preserve opportunities for economic

[****] *Recommendations for Improving Western Vistas* (June 1996). at 35.

[††††] *Id.* at 66-67.

> development on tribal lands. In general, these lands are currently lacking in economic bases and have not contributed to the visibility problems.[‡‡‡‡]

Accordingly, the backstop trading program contains a 2,500 allocation to tribes in the GCVTC region. Case-by-case BART permits would not provide this practical benefit to tribes that was an integral part of the GCVTC recommendations.

7. Other Class I Areas Also Show Improvement in Visibility

In addition to demonstrating successful SO_2 emission reductions, §309 states have also relied on visibility modeling conducted by the WRAP to demonstrate improvement at Class I areas. The complete modeling demonstration showing deciview values was included as part of the visibility improvement section in each of the state §309 SIPs, but the SO_2 portion of the demonstration has been included below as Table 4 to underscore the improvements associated with 309 SO_2 reductions and further demonstrate why the 309 program is better than BART. 40 CFR 51.309(g)(2)(i) allows states to build upon the strategies implemented in a 309 program and take full credit for visibility improvement achieved through these strategies when addressing additional Class I areas. This table demonstrates achievements in visibility in these additional Class I areas (off the Colorado Plateau) in and surrounding the three states participating in the 309 program. For the most part, the table shows projected visibility improvement for 2018 with respect to SO_2 on the worst days and no degradation on the best days. There is one Class I area in New Mexico off the Colorado Plateau that is not showing improvement on the worst days. The State of New Mexico has reviewed the emissions data related to impacts in the Gila Wilderness and has determined that the visibility degradation is largely due to increasing point source emissions from Mexico.

[‡‡‡‡] *Id.* at 71.

Table 4. Visibility - Sulfate Extinction Only

Class I Area Monitor (Class I Areas Represented)	20% Worst Visibility Days (Monthly Average, Mm^{-1})		20% Best Visibility Days (Monthly Average, Mm^{-1})	
	2018 [1] Base Case (Base 18b)	2018 [2] Preliminary Reasonable Progress Case (PRP18a)	2018 [1] Base Case (Base 18b)	2018 [2] Preliminary Reasonable Progress Case (PRP18a)
Bridger, WY (Bridger WA and Fitzpatrick WA)	5.2	4.3	1.6	1.3
North Absaroka, WY (North Absaroka WA and Washakie WA)	4.8	4.5	1.1	1.1
Yellowstone, WY (Yellowstone NP, Grand Teton NP and Teton WA)	4.3	3.9	1.6	1.4
Badlands, SD	17.8	16.0	3.5	3.1
Wind Cave, SD	13.0	12.1	2.7	2.5
Great Sand Dunes NM, CO	5.3	4.9	2.0	1.8
Mount Zirkel, CO (Mt. Zirkel WA and Rawah WA)	4.6	4.1	1.4	1.3
Rocky Mountain, CO	6.8	6.2	1.3	1.1
Gates of the Mountains, MT	5.3	5.1	1.0	1.0
UL Bend, MT	9.7	9.6	1.8	1.7
Craters of the Moon, ID	5.8	5.5	1.5	1.5
Sawtooth, ID	3.0	2.8	1.2	1.1
Bandelier NM, NM	6.4	5.9	2.4	2.2
Bosque del Apache NWRW, NM	7.0	6.6	2.7	2.5
Gila W, NM	6.2	6.7	1.8	1.8
Salt Creek NWRW, NM	14.4	14.0	3.3	3.1
Wheeler Peak, NM (Pecos W and Wheeler Peak W)	4.7	4.4	1.1	1.0
White Mountain W, NM	8.9	8.7	1.8	1.7
Great Basin NP, NV	4.1	4.1	1.2	1.2
Jarbidge W, NV	3.8	3.4	1.3	1.2
Chiricahua, AZ (Chiricahua NM, Chiricahua W, Galiuro W)	7.4	7.4	2.2	2.1
Ike's Backbone, AZ (Mazatzal W, Pine Mountain W)	6.1	5.9	2.2	2.1
Queen Valley, AZ	7.5	7.5	3.0	3.0
Saguaro NM, AZ	7.1	6.8	2.6	2.5
Saguaro West, AZ	7.3	7.1	3.2	3.1
Sierra Ancha, AZ	6.0	5.8	2.2	2.1
Superstition, AZ	6.7	6.5	2.7	2.6
Guadalupe Mountains NP, TX (Carlsbad Caverns NP, NM and Guadalupe Mountains NP, TX)	13.7	13.6	3.3	3.2

[1] Represents 2018 Base Case growth plus all established controls as of Dec. 2004. No BART or SO_2 Milestone assumptions were included.
[2] Represents 2018 Preliminary Reasonable Progress growth estimates and established SO_2 limits.

H. Comparison of Trading vs. Command and Control BART Requirements

During the development of the Annex, the WRAP conducted modeling to determine whether the distribution of emissions under the backstop trading program would differ substantially from the distribution of emissions assuming installation of BART or would disproportionately impact any Class I area due to a geographic concentration of emissions. The results of this modeling are included in Tables 2 and 3 of Attachment C to the Annex[§§§§]. Attachment C, Section G concludes, "The results of this analysis showed that the maximum difference between the two scenarios at any of the Class I areas was only 0.1 deciviews.[*****]"

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§§§§ *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 Visibiltiy Transport Commission* (September 2000) at C-15 and 16.

***** *Id*. at C-21.