REVISION TO THE NEW MEXICO STATE IMPLEMENTATION PLAN FOR REGIONAL HAZE

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New Mexico Regional Haze State Implementation Plan

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EXECUTIVE SUMMARY

This document comprises the State of New Mexico's State Implementation Plan (SIP) submittal to the U.S. Environmental Protection Agency (EPA) under the Regional Haze Rule in Section 309 of Title 40 of the Code of Federal Regulations, Part 51 (40 CFR 51.309). The first section of the SIP includes introductory and background information. Section II includes the SIP requirements under Section 309 and how New Mexico is addressing those requirements. Table ES-1 is a brief summary of each of the 309 SIP requirements along with New Mexico's approach in addressing those requirements.

Table ES-1 Summary of 309 SIP Requirements

Projection of visibility improvement	Projected visibility improvement for each of the Class I areas on the Colorado Plateau (San Pedro Parks Wilderness in New Mexico)
Clean Air Corridors	Emission growth either inside or outside of the Clean Air Corridor are not shown to be contributing to impairment within the Clean Air Corridor
Stationary Sources of SO_2	This section includes milestones for sulfur dioxide emissions along with a backstop market cap and trade program for sulfur dioxide emissions from specific sources.
Mobile Sources	Federal programs (such as low sulfur diesel, vehicle emission standards, etc.) lead to decreasing mobile source emissions throughout the planning period.
Programs Related to Fire	New Mexico has developed a smoke management regulation (20.2.65 NMAC) that is included as an appendix to this SIP and that is responsive to the Western Regional Air Partnership (WRAP) *Enhanced Smoke Management Programs for Visibility Policy*.
Paved and Unpaved Road Dust	Dust emissions are not a significant contributor to visibility impairment within the Colorado Plateau 16 Class I areas.
Pollution Prevention	Programs and policies within New Mexico related to renewable energy and energy efficiency are described. New Mexico's anticipated contribution to the pollution prevention goals are outlined.
Additional Recommendations	New Mexico has not identified any other recommendations in the Grand Canyon Visibility Transport Commission Report to implement in New Mexico at this time.
Periodic Revisions	New Mexico will submit period revisions to this SIP every five years as required by the Regional Haze Rule.
State Planning and Interstate Coordination	New Mexico has participated in the WRAP and will continue to participate in the WRAP. In addition, New Mexico participates with the Joint Advisory Council on US/Mexico border issues.
Geographic Enhancement	[~~As New Mexico does not have an approved SIP for reasonably attributable visibility impairment at this time, New Mexico is deferring the geographic enhancement option until a later date.~~] EPA approval of New Mexico's Phase I visibility SIP became effective on March 28, 2006. New Mexico commits to following the recommendations for determining attribution outlined in the report "Recommendations for Making Attribution Determinations in the Context of Reasonably Attributable BART", Westar Council, May 2003.

Reasonable Progress for Additional Class I Areas	New Mexico [~~intends to follow~~] is concurrently submitting a Section 309(g)(2) SIP for the eight additional Class I areas in New Mexico.

INTRODUCTION

The blue skies and scenic vistas of New Mexico are considered some of the most beautiful in the United States. While New Mexico's residents and visitors frequently enjoy good visibility, air pollutants interfering with light transmission can impose limitations on aesthetic appreciation of scenery. *Visibility* is the term used to characterize physical limitations in the atmosphere that affect our ability to see clearly. Human caused pollution of varied concentrations and sizes in the atmosphere can impair or reduce visibility. Widespread visibility impairment caused by pollutants from a variety of sources and activities over a broad geographic area is known as *regional haze*. This document is the State of New Mexico's Regional Haze State Implementation Plan (SIP), compiled in accordance with the requirements of Title 40 of the Code of Federal Regulations, Part 51, Section 309 (40 CFR 51.309).

Background

Particles and gases released into the atmosphere either scatter or absorb light. Light scattering and absorption reduces the amount of light the human eye receives from a viewed object and diminishes resolution and contrast. The effects include degradation of color, flattening or blurring of textures, and blocking of landscapes, resulting in the reduction or loss of aesthetic value. Visibility impairment can occur across state and international borders and at locations far from pollution source(s).

In 1977, Congress amended the 1970 Clean Air Act (CAA) and declared the national visibility goal, which is as follows:

> *The prevention of any future, and the remedying of any existing, impairment in visibility in mandatory class I areas which impairment results from anthropogenic air pollution.*

In accordance with requirements contained in the CAA, the U.S. Environmental Protection Agency (EPA) in 1980 promulgated its first visibility protection regulation [40 CFR 51.300 through 307]. Known as Phase I visibility protection, states were required to develop plans to address visibility impairment in mandatory federal Class I areas that is reasonably attributable to single sources or small groups of sources. In response to this regulation, New Mexico developed and submitted to EPA a Phase I, Part I visibility SIP in 1986 and a Phase I, Part II visibility SIP in 1992. The Phase was divided into two parts as a result of litigation following the promulgation of the regulation. EPA's approval of New Mexico's Phase I visibility SIP submittals became effective on March 28, 2006.

[~~However, New Mexico's Phase I visibility SIPs did not explicitly provide authority and obligation to New Mexico for reasonable visibility impairment attributions and Best Available Retrofit Technology (BART) determinations for single sources and groups of sources, nor were the SIPs given final approval by EPA. Currently, there are Federal Implementation Plans (FIPs) in place and EPA continues to hold the authority and obligation for Phase I visibility protection in New Mexico. Although New Mexico's two Phase I SIPs were intended to replace the two FIPs, they have not done so. The result of these complications is special language addressing Geographic Enhancements in New Mexico's Regional Haze SIP, due to the fact that the state~~

~~does not have authority or obligation for reasonable visibility impairment attributions or BART determinations.~~]

Building on science and technology that was developed since the Phase I requirements, EPA in 1999 promulgated a Phase II visibility protection regulation [40 CFR 51.308 and 309]. The Phase II regulation is commonly known as the Regional Haze Rule. The Regional Haze Rule addresses impairment across large geographic areas that impacts visibility in mandatory Federal Class I areas (Class I areas), with a goal of returning visibility in Class I areas to natural conditions by 2064. The Regional Haze Rule requires that states develop State Implementation Plans to control visibility-impairing air pollution.

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 combination of Phase I and Phase II (Regional Haze) visibility protection is expected to improve visibility throughout the United States and attain the national visibility goal.

Section 309 of the Regional Haze Rule (40 CFR 51.309) is an option available to only 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 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. New Mexico was an active participant in the process, as were New Mexico tribal governments, industry representatives and environmental groups. The State of New Mexico has chosen to pursue the path outlined in Section 309 in addressing regional haze.

The Western Regional Air Partnership (WRAP) is the successor organization to the GCVTC. Comprised of western states, tribes, federal agencies, and stakeholders, the WRAP is administered by the Western Governors' Association and the National Tribal Environmental Council. The WRAP's committees and forums have developed many technical and policy tools useful to New Mexico in implementing the requirements of Section 309. These committees and forums have membership from the State of New Mexico as well as from New Mexico tribal governments, industry, federal land managers and environmental groups.

Public Involvement

In reaching the decision to develop a SIP in accordance with Section 309, New Mexico held 13 meetings and numerous conference calls with stakeholders. New Mexico has also been an active member and participant in WRAP committees, forums, and work groups. New Mexico stakeholders have been active participants in the WRAP process as well.

STATE IMPLEMENTATION PLAN REQUIREMENTS

A. Projection of visibility improvement.

(a) Applicable Class I areas. This projection of visibility improvement covers the 16 Class I areas of the Colorado Plateau, as defined in 40 CFR 51.309(b)(1).

(b) Projected visibility improvement. [~~Pursuant to 40 CFR 51.309(d)(2), Tables 1 and 2 below indicate the projected visibility improvement in deciviews for each of the 16 Class I areas, from the years 1997-2001 through December 31, 2018. This projection was made for the 20% worst days and 20% best days, and is expressed in deciview (dV). Comparing the modeled data across the last three columns of the tables shows the improvement in visibility that would result from implementation of all of the 309 control strategies. The base case modeled column shows the visibility that would result in the absence of the 309 control strategies. The last two columns show the improvements resulting from the control strategies either with or without an optimal smoke management program.~~

~~The technical work was conducted by the WRAP, which evaluated the visibility improvements resulting from the application of the regional haze control strategies and programs described in Chapter 2 of the WRAP's Technical Support Document. See Appendix A of this implementation plan for the complete description of the control strategies and technical analysis.~~]

Pursuant to 40 CFR 51.309(d)(2), Table A-1 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 (Base 18b) = growth plus all controls "on the books" as of December 2004, no BART or SO_2 milestones assumptions;

- Preliminary Reasonable Progress Case (PRP18b) = 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 40 CFR 51.309(d)(2) of the Regional Haze Rule.

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. The methodology and current data showing projected visibility improvement in 2018 are now available through the WRAP TSS (http://vista.cira.colostate.edu/tss).

[~~Table A-1. Modeling Results of Projected Visibility Improvement at the 16 Colorado Plateau Class I Areas in 2018 on the Average 20% Worst Days, resulting from implementation of "All §309 Control Strategies."~~

			~~Modeling Results (deciviews)~~		
~~Colorado Plateau Class I Area~~	~~State~~	~~1997-2001 Monitoring Data (20% Worst Days' Visibility - deciviews)~~	~~2018 Base Case (20% Worst Days' Visibility for all controls "on the books" as of 2002)~~	~~2018 Scenario 1 (20% Worst Days' Visibility for all §309 Control Strategies (SO_2 Annex Milestones and Pollution Prevention) with Base Smoke Management)~~	~~2018 Scenario 2 (20% Worst Days' Visibility for all §309 Control Strategies (SO_2 Annex Milestones and Pollution Prevention) with Optimal Smoke Management)~~
~~Grand Canyon NP~~	~~AZ~~	~~12.30~~	~~11.62~~	~~11.56~~	~~11.51~~
~~Mount Baldy Wilderness~~	~~AZ~~	~~14.30~~	~~12.22~~	~~12.02~~	~~11.96~~
~~Petrified Forest NP~~	~~AZ~~	~~13.00~~	~~11.99~~	~~11.82~~	~~11.74~~
~~Sycamore Canyon Wilderness~~	~~AZ~~	~~15.40~~	~~11.63~~	~~11.51~~	~~11.48~~
~~Black Canyon of Gunnison NP~~	~~CO~~	~~11.30~~	~~10.90~~	~~10.76~~	~~10.60~~
~~Flat Tops Wilderness~~	~~CO~~	~~10.50~~	~~11.04~~	~~10.91~~	~~10.73~~
~~Maroon Bells-Snowmass WA~~	~~CO~~	~~10.60~~	~~11.15~~	~~11.00~~	~~10.84~~
~~Mesa Verde NP~~	~~CO~~	~~13.10~~	~~12.24~~	~~12.03~~	~~11.84~~
~~West Elk Wilderness~~	~~CO~~	~~10.60~~	~~11.19~~	~~10.99~~	~~10.84~~
~~Weminuche Wilderness~~	~~CO~~	~~11.30~~	~~11.08~~	~~10.89~~	~~10.72~~
~~San Pedro Parks Wilderness~~	~~NM~~	~~10.70~~	~~12.33~~	~~12.12~~	~~11.71~~
~~Arches NP~~	~~UT~~	~~12.10~~	~~12.41~~	~~12.29~~	~~12.15~~
~~Bryce Canyon NP~~	~~UT~~	~~11.80~~	~~12.26~~	~~12.24~~	~~11.95~~
~~Canyonlands NP~~	~~UT~~	~~12.10~~	~~12.41~~	~~12.31~~	~~12.18~~
~~Capitol Reef NP~~	~~UT~~	~~12.10~~	~~12.51~~	~~12.49~~	~~12.36~~
~~Zion NP~~	~~UT~~	~~13.60~~	~~12.13~~	~~12.09~~	~~12.03~~

~~**Table A-2. Modeling Results of Projected Visibility Improvement at the 16 Colorado Plateau Class I Areas in 2018, on the Average 20% Best Visibility Days, resulting from implementation of "All §309 Control Strategies."**~~

			~~**Modeling Results (deciviews)**~~		
~~**Colorado Plateau Class I Area**~~	~~**State**~~	~~**1997-2001 Monitoring Data (20% Best Days' Visibility - deciviews)**~~	~~**2018 Base Case (20% Best Days' Visibility for all controls "on the books" as of 2002)**~~	~~**2018 Scenario 1 (20% Best Days' Visibility for all §309 Control Strategies (SO_2 Annex Milestones and Pollution Prevention) with Base Smoke Management)**~~	~~**2018 Scenario 2 (20% Best Days' Visibility for all §309 Control Strategies (SO_2 Annex Milestones and Pollution Prevention) with Optimal Smoke Management)**~~
~~**Grand Canyon NP**~~	~~**AZ**~~	~~4.80~~	~~4.76~~	~~4.72~~	~~4.64~~
~~**Mount Baldy Wilderness**~~	~~**AZ**~~	~~5.50~~	~~5.49~~	~~5.46~~	~~5.36~~
~~**Petrified Forest NP**~~	~~**AZ**~~	~~6.50~~	~~5.18~~	~~5.14~~	~~5.10~~
~~**Sycamore Canyon Wilderness**~~	~~**AZ**~~	~~6.30~~	~~4.85~~	~~4.82~~	~~4.75~~
~~**Black Canyon of Gunnison NP**~~	~~**CO**~~	~~4.60~~	~~3.89~~	~~3.83~~	~~3.75~~
~~**Flat Tops Wilderness**~~	~~**CO**~~	~~3.10~~	~~3.96~~	~~3.90~~	~~3.81~~
~~**Maroon Bells-Snowmass WA**~~	~~**CO**~~	~~3.10~~	~~3.90~~	~~3.85~~	~~3.80~~
~~**Mesa Verde NP**~~	~~**CO**~~	~~5.50~~	~~4.40~~	~~4.38~~	~~4.33~~
~~**West Elk Wilderness**~~	~~**CO**~~	~~3.10~~	~~3.89~~	~~3.83~~	~~3.74~~
~~**Weminuche Wilderness**~~	~~**CO**~~	~~4.60~~	~~3.97~~	~~3.92~~	~~3.82~~
~~**San Pedro Parks Wilderness**~~	~~**NM**~~	~~4.00~~	~~5.59~~	~~5.51~~	~~5.36~~
~~**Arches NP**~~	~~**UT**~~	~~5.50~~	~~4.85~~	~~4.72~~	~~4.61~~
~~**Bryce Canyon NP**~~	~~**UT**~~	~~4.30~~	~~3.91~~	~~3.92~~	~~3.89~~
~~**Canyonlands NP**~~	~~**UT**~~	~~5.60~~	~~4.87~~	~~4.76~~	~~4.67~~
~~**Capitol Reef NP**~~	~~**UT**~~	~~5.60~~	~~4.85~~	~~4.85~~	~~4.75~~
~~**Zion NP**~~	~~**UT**~~	~~5.90~~	~~3.81~~	~~3.79~~	~~3.75~~]

Table A-1. Visibility Impairment in Deciviews*									
		20% Worst Visibility Days				20% Best Visibility Days			
			Projected Visibility *(Monthly Average Method)*				Projected Visibility *(Monthly Average Method)*		
Colorado Plateau Class I Areas Under §309(d)(2)	**State**	**2000-2004 Regional Haze Rule Baseline Monitoring Data**	**2018 Base Case (Base 18b)**	**2018 Preliminary Reasonable Progress Case (PRP18b)**	**2018 Final Reasonable Progress Case (FRP18)**	**2000-2004 Regional Haze Rule Baseline Monitoring Data**	**2018 Base Case (Base 18b)**	**2018 Preliminary Reasonable Progress Case (PRP18b)**	**2018 Final Reasonable Progress Case (FRP18)**
Grand Canyon National Park	AZ	11.7	11.4	11.1		2.2	2.2	2.1	
Mount Baldy Wilderness	AZ	11.9	11.5	11.5		3.0	2.9	2.9	
Petrified Forest National Park	AZ	13.2	12.9	12.8		5.0	4.9	4.7	
Sycamore Canyon Wilderness	AZ	15.3	15.1	15.0		5.6	5.6	5.5	
Black Canyon of the Gunnison National Park	CO	10.3	10.0	9.8		3.1	2.9	2.9	
Flat Tops Wilderness	CO	9.6	9.2	9.0		0.7	0.6	0.5	
Maroon Bells Wilderness	CO	9.6	9.2	9.0		0.7	0.6	0.5	
Mesa Verde National Park	CO	13.0	12.8	12.5		4.3	4.1	4.0	
Weminuche Wilderness	CO	10.3	10.0	9.8		3.1	2.9	2.9	
West Elk Wilderness	CO	9.6	9.2	9.0		0.7	0.6	0.5	
San Pedro Parks Wilderness	NM	10.2	10.0	9.8		1.5	1.3	1.2	
Arches National Park	UT	11.2	11.0	10.7		3.8	3.6	3.5	
Bryce Canyon National Park	UT	11.6	11.3	11.1		2.8	2.7	2.6	
Canyonlands National Park	UT	11.2	11.0	10.7		3.8	3.6	3.5	
Capitol Reef National Park	UT	10.9	10.6	10.4		4.1	4.0	3.9	
Zion National Park	UT	13.2	13.0	12.8		5.0	4.7	4.7	

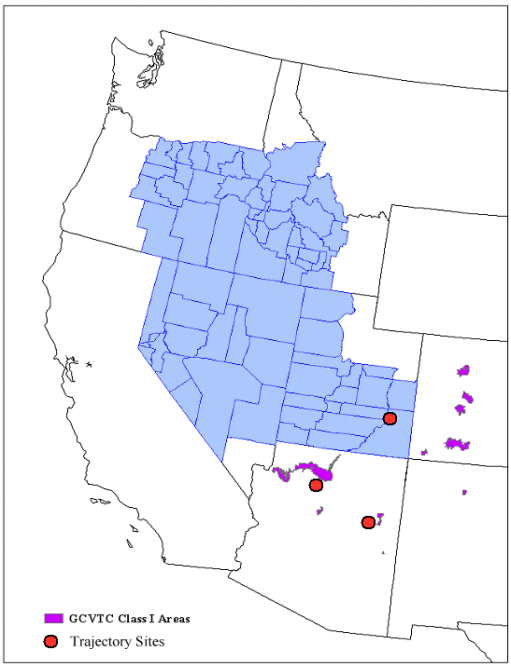
* Data are from: http://vista.cira.colostate.edu/TSS/Results/HazePlanning.aspx --> Modeling --> Visibility Projections

B. Treatment of Clean Air Corridors

(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, as specified in *(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. This comprehensive emissions tracking system was developed by the WRAP to assist the above states in meeting this requirement. Appendix M-1 of this implementation plan describes the comprehensive emissions tracking system, and the process by which the WRAP will 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 Clean Air Corridor, in accordance with *(c)* below.

(b) Identification of Clean Air Corridors. Pursuant to 40 CFR 51.309(d)(3)(i), the State of New Mexico has identified a Clean Air Corridor, as indicated in the map provided below. This Clean Air Corridor was identified using studies conducted by the Meteorological Subcommittee of the Grand Canyon Visibility Transport Commission, and then updated by the WRAP based on an assessment described in the *WRAP Policy Paper on Clean Air Corridors*, and related technical analysis conducted by the WRAP. The comprehensive emissions tracking system described above in *(a)* shall track emissions within these counties. Appendix B of this implementation plan is the *WRAP Policy Paper on Clean Air Corridors*. Technical work associated with the identification of the Clean Air Corridor is included in Appendix N, the WRAP final draft Technical Support Document.

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 State of New Mexico 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)* there is no significant emissions growth occurring at this time that is causing visibility impairment in the 16 Class I areas of the Colorado Plateau. See Appendix B of this implementation plan for further details of emissions growth assessment conducted by the WRAP. Future emissions growth will be tracked in accordance with the comprehensive emissions tracking system in *(a)* above. The WRAP will summarize annual emission trends within the corridor and make an assessment of 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 State of New Mexico 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)* there is no emissions growth occurring at this time that is impairing air quality within the Clean Air Corridor sufficient to cause any visibility impairment in any of the 16 Class I areas of the Colorado Plateau. See Appendix B of this implementation plan for further details of emissions growth assessment conducted by the WRAP. As part of the WRAP's annual summary of emission trends within the corridor, an assessment will be made of emission and monitoring data trends outside the Clean Air Corridor, 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 for additional details on this assessment process.

(e) Actions if impairment inside or outside the Clean Air Corridor occurs. The State of New Mexico, in coordination with other transport region states and tribes, will review the WRAP's annual summary of emission trends within the Clear Air Corridor and whether any significant emissions growth was identified within the corridor in accordance with *(c)* above, or was identified outside the corridor, in accordance with *(d)* above. If significant emissions growth was identified, the State of New Mexico in coordination with other transport region states and tribes, will conduct or 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 State of New Mexico in coordination with other transport states and tribes will evaluate the need for additional emission reduction measures, and identify an implementation schedule for such measures, if needed. The implementation of any additional emission measures shall be coordinated with 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. Pursuant to 40 CFR 51.309(d)(3)(v), the State of New Mexico has concluded that no other Clean Air Corridors can be identified at this time. This finding is based on the review of work conducted by the Meteorological Subcommittee of the Grand Canyon Visibility Transport Commission on Clean Air Corridors, as described in the *WRAP*

Policy Paper on Clean Air Corridors. See Appendix B of this implementation plan for further description of this finding. Although no formal update on this finding is required, the State of New Mexico recognizes that future modeling or monitoring data may indicate other possible Clean Air Corridors exist. The State of New Mexico will notify EPA if there is evidence to support such a finding in the future, and take appropriate action pursuant to this requirement. No clean air corridor or portion of a clean air corridor has been identified within New Mexico.

C. Stationary Sources

Sulfur Dioxide Milestone and Backstop Trading Program

Background

The SO_2 Milestones and Backstop Trading Program was developed to implement the emissions reduction program for major industrial sources of sulfur dioxide described in 40 CFR 51.309(h). The program is implemented through the following documents:

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

- Western Backstop SO_2 Trading Program Model Rule 20.2.81 NMAC contains the requirements that shall apply to major industrial sources of sulfur dioxide as a backstop regulatory program if the SO_2 milestones are exceeded. The rule may never be implemented if the goal to meet the regional SO_2 milestones through voluntary means is achieved. If the rule is implemented, it establishes the procedures and compliance requirements for sources in the Trading Program.

- 20.2.73 NMAC requires major industrial sources of SO_2 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 replaced by more rigorous monitoring requirements in 20.2.81 NMAC.

<u>Definitions</u>

The definitions in this part apply only to this Implementation Plan:

Account Certificate of Representation means for a WEB Source the completed and signed submission required to designate an Account Representative for a WEB source who is authorized to represent the owners and operators of the WEB source with regard to matters under the WEB Trading Program and for a general account, the individual who is authorized to represent the persons having an ownership interest with respect to allowances in the general account with regard to matters concerning the 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 (including, for example, to transfer and otherwise manage

allowances and certify all submissions to the Allowance Tracking System and the emissions tracking database for the purposes of the Rule) 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 Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.*

Actual Emissions means total annual sulfur dioxide emissions determined in accordance with 20.2.81.106 NMAC of the WEB Trading Program Rule, or determined in accordance with 20.2.73 NMAC for sources that are not subject to 20.2.81 NMAC.

Allocate means to assign allowances to a WEB source through Section C1 of this SIP.

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 the 20.2.81 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 20.2.81.109 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.

Compliance account means an account established in the Allowance Tracking System under Subsection A of 20.2.81.105 NMAC for the purpose of recording allowances that a WEB source might hold to demonstrate compliance with its allowance limitation.

Control period means the period beginning January 1 of each year and ending on December 31 of the same year, inclusive[~~, during which a WEB source must hold allowances not less than its emissions~~].

Department means the New Mexico Environment Department or its successor agency or authority, as represented by the Department Secretary or his or her designee.

Emissions tracking database means the central database where SO_2 emissions for WEB sources as recorded and reported in accordance with 20.2.81 NMAC are tracked to determine compliance with allowance limitations.

Emission unit means any part of a stationary source that emits or would have the potential to emit any pollutant submitted to regulations under the Clean Air Act.

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 Program Trigger Date.

Floor allocation means the amount of allowances set by the Department in accordance with this Plan that represents the minimum necessary for a source to operate under stringent control assumptions.

General account means an account established in the Allowance Tracking System under 20.2.81.105 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 Part C, Section A of the implementation plan, Milestones and Determination of Program Trigger.

New WEB Source means a WEB source that commenced operation on or after the 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 (a) of this implementation plan.

Opt-in means to choose to participate in the WEB Trading Program by following the procedures in 20.2.81.101 NMAC and to comply with the terms and conditions of 20.2.81 NMAC.

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 Department determines that the WEB Trading Program has been triggered in accordance with the provisions of Section A2 of this Plan.

Reducible allocation means the amount of allowances set by the Department in accordance with Section C1.1(b)(9) of this Plan 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 results 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 meets the Low-Impact Hydropower Institute criteria. Biomass includes agricultural, food and wood wastes. For the purposes of this 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 D of 20.2.81.101 NMAC. [~~Any retired source resuming operations under Paragraph (4) of Subsection D of 20.2.81.101 NMAC, must submit its exemption as part of its registration materials.~~]

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.

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 Department as the administrator of the WEB Allowance Tracking System and the emission tracking database.

Tribal Set-Aside means a [~~20,000~~] 2,000-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-side 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 Part C Section A.1 of this state implementation plan.

Unit means a stationary boiler, combustion turbine or combined cycle system.

WEB source means a stationary source that meets the applicability requirements of 20.2.81.100 NMAC.

Western Backstop SO_2 Trading Program ("WEB Trading Program") refers to 20.2.81 NMAC that shall be triggered as a backstop in accordance the provisions in Section C of this Plan 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 authorized under Section 169B(f) of the Act, and to address other common Western regional air quality issues.

C. Emission Reductions for Stationary Sources

A1. Regional SO_2 Milestones and Determination of Program Trigger

A1.1 Base Milestone Values

The regional sulfur dioxide base milestones for the years [~~2003~~] 2008 through 2018 are provided in Table C-1. The base milestones shall be adjusted annually as described in paragraphs A1.2 and A1.3 of the New Mexico State Implementation Plan.

TABLE C-1. [~~Base~~] Sulfur Dioxide Emissions Milestones [~~(excludes Smelter Set-aside)~~]

Column 1	Column 2	Column 3
For the year	the base 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~~	~~682,000 tons SO_2~~	~~2003~~
~~2004~~	~~682,000 tons SO_2~~	~~Average of 2003 and 2004~~
~~2005~~	~~682,000 tons SO_2~~	~~Average of 2003, 2004 and 2005~~
~~2006~~	~~682,000 tons SO_2~~	~~Average of 2004, 2005 and 2006~~
~~2007~~	~~682,000 tons SO_2~~	~~Average of 2005, 2006 and 2007~~
2008	[~~680,333~~] 269,083 tons SO_2	Average of 2006, 2007 and 2008
2009	[~~678,667~~] 234,903 tons SO_2	Average of 2007, 2008 and 2009
2010	[~~677,000~~] 200,722 tons SO_2	Average of 2008, 2009 and 2010
2011	[~~677,000~~] 200,722 tons SO_2	Average of 2009, 2010 and 2011
2012	[~~677,000~~] 200,722 tons SO_2	Average of 2010, 2011 and 2012
2013	[~~659,667~~] 185,795 tons SO_2	Average of 2011, 2012 and 2013
2014	[~~642,333~~] 170,868 tons SO_2	Average of 2012, 2013 and 2014
2015	[~~625,000~~] 155,940 tons SO_2	Average of 2013, 2014 and 2015
2016	[~~625,000~~] 155,940 tons SO_2	Average of 2014, 2015 and 2016
2017	[~~625,000~~] 155,940 tons SO_2	Average of 2015, 2016 and 2017
2018	[~~480,000~~] 141,849 tons SO_2	Year 2018 only
2019 forward until replaced by an approved SIP	[~~480,000~~] 141,849 tons SO_2	Annual; no multiyear averaging

[~~A1.2 Adjustments for participation by eligible States and Tribes.~~

~~The amount provided in Table 2 below shall be subtracted from the milestone in Table 1 for each state and tribe that does not have an Implementation Plan approved by the EPA Administrator as meeting the requirements of 40 CFR 51.309 as of December 31 of the year following the milestone year. The first adjustment to the 2003 milestone shall be made no later than March 31, 2005, and shall be based on all states and tribes that do not have a federally approved Implementation Plan as of December 31, 2004.~~

~~TABLE 2a. [Years 2003-2010] Amounts of SO_2 tons to be Subtracted from the Base Milestones for States and Tribes that do not have an Approved Implementation Plan under 40 CFR 51.309 (Data includes new source set aside but not smelter set aside.)~~

~~State or Tribe~~	~~2003~~	~~2004~~	~~2005~~	~~2006~~	~~2007~~	~~2008~~	~~2009~~	~~2010~~
~~1. Arizona~~	~~117,372~~	~~117,372~~	~~117,372~~	~~117,372~~	~~117,372~~	~~117,941~~	~~118,511~~	~~119,080~~
~~2. California~~	~~37,343~~	~~37,343~~	~~37,343~~	~~37,784~~	~~37,343~~	~~36,363~~	~~35,382~~	~~34,402~~
~~3. Colorado~~	~~98,897~~	~~98,897~~	~~98,897~~	~~98,897~~	~~98,897~~	~~98,443~~	~~97,991~~	~~97,537~~
~~4. Idaho~~	~~18,016~~	~~18,016~~	~~18,016~~	~~18,016~~	~~18,016~~	~~17,482~~	~~16,948~~	~~16,414~~
~~5. Nevada~~	~~20,187~~	~~20,187~~	~~20,187~~	~~20,187~~	~~20,187~~	~~20,282~~	~~20,379~~	~~20,474~~
~~6. New Mexico~~	~~84,624~~	~~84,624~~	~~84,624~~	~~84,624~~	~~84,624~~	~~84,143~~	~~83,663~~	~~83,182~~
~~7. Oregon~~	~~26,268~~	~~26,268~~	~~26,268~~	~~26,268~~	~~26,268~~	~~26,284~~	~~26,300~~	~~26,316~~
~~8. Utah~~	~~42,782~~	~~42,782~~	~~42,782~~	~~42,782~~	~~42,782~~	~~42,795~~	~~42,806~~	~~42,819~~
~~9. Wyoming~~	~~155,858~~	~~155,858~~	~~155,858~~	~~155,858~~	~~155,858~~	~~155,851~~	~~155,843~~	~~155,836~~
~~10. Navajo Nation~~	~~53,147~~	~~53,147~~	~~53,147~~	~~53,147~~	~~53,147~~	~~53,240~~	~~53,334~~	~~53,427~~
~~11. Shoshone-Bannock Tribe of the Fort Hall Reservation~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~
~~12. Ute Indian Tribe of the Uintah and Ouray Reservation~~	~~1,129~~	~~1,129~~	~~1,129~~	~~1,129~~	~~1,129~~	~~1,131~~	~~1,131~~	~~1,131~~
~~13. Wind River Reservation~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~

~~TABLE 2b. [Years 2011-2018] Amounts of SO_2 tons to be Subtracted from the Base Milestones for States and Tribes that do not have an Approved Implementation Plan under 40 CFR 51.309 *~~

~~State or Tribe~~	~~2011~~	~~2012~~	~~2013~~	~~2014~~	~~2015~~	~~2016~~	~~2017~~	~~2018~~
~~1. Arizona~~	~~119,080~~	~~119,080~~	~~116,053~~	~~113,025~~	~~109,998~~	~~109,998~~	~~109,998~~	~~82,302~~
~~2. California~~	~~34,402~~	~~34,402~~	~~33,265~~	~~32,128~~	~~30,991~~	~~30,991~~	~~30,991~~	~~27,491~~
~~3. Colorado~~	~~97,537~~	~~97,537~~	~~94,456~~	~~91,375~~	~~88,294~~	~~88,294~~	~~88,294~~	~~57,675~~
~~4. Idaho~~	~~16,414~~	~~16,414~~	~~15,805~~	~~15,197~~	~~14,588~~	~~14,588~~	~~14,588~~	~~13,227~~
~~5. Nevada~~	~~20,474~~	~~20,474~~	~~20,466~~	~~20,457~~	~~20,449~~	~~20,449~~	~~20,449~~	~~20,232~~
~~6. New Mexico~~	~~83,182~~	~~83,182~~	~~81,682~~	~~80,182~~	~~78,682~~	~~78,682~~	~~78,682~~	~~70,000~~
~~7. Oregon~~	~~26,316~~	~~26,316~~	~~24,796~~	~~23,277~~	~~21,757~~	~~21,757~~	~~21,757~~	~~8,281~~
~~8. Utah~~	~~42,819~~	~~42,819~~	~~41,692~~	~~40,563~~	~~39,436~~	~~39,436~~	~~39,436~~	~~30,746~~
~~9. Wyoming~~	~~155,836~~	~~155,836~~	~~151,232~~	~~146,629~~	~~142,025~~	~~142,025~~	~~142,025~~	~~97,758~~
~~10. Navajo Nation~~	~~53,427~~	~~53,427~~	~~52,707~~	~~51,986~~	~~51,266~~	~~51,266~~	~~51,266~~	~~44,772~~
~~11. Shoshone-Bannock Tribe of the Fort Hall Reservation~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~	~~4,994~~
~~12. Ute Indian Tribe of the Uintah and Ouray Reservation~~	~~1,135~~	~~1,135~~	~~1,135~~	~~1,135~~	~~1,135~~	~~1,135~~	~~1,135~~	~~1,135~~
~~13. Wind River Reservation~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~	~~1,384~~

~~* These numbers differ from Annex opt-in/-out tables in that the smelter set-aside is excluded and the new source set-aside is included.~~]

[~~A1.3 Adjustment for Future Operation of Copper Smelters in Arizona and New Mexico.~~

~~If either the BHP San Manuel smelter in Arizona or the Phelps Dodge Hidalgo smelter in New Mexico resumes operation, the milestones shall be increased as described below. The adjustment shall occur only if the respective state has a State Implementation Plan approved by the EPA Administrator under 40 CFR 51.309. Once the adjustments have been made, the milestones shall not be changed due to future suspensions or changes in plant operations, except as provided below. If Arizona or New Mexico elect not to submit a SIP under 40 CFR 51.309, the emissions for the smelters in the state opting-out will be subtracted from the smelter set-aside.~~

~~(a) If one or both smelters resume operations under their existing permits, the milestone shall automatically be adjusted upward for each smelter respectively by the following amounts:~~

~~1. Phelps Dodge Corporation, Hidalgo Smelter: 22,000 tons SO_2~~
~~2. BHP, San Manuel Smelter: 16,000 tons SO_2~~
~~3. For the 2013 through 2018 milestones, the maximum increase shall be 30,000 tons SO_2.~~

~~(b) If New Mexico determines that either smelter will resume operation by operating only a portion of the plant, the milestone adjustment in (a) shall be reduced by a percentage to reflect current conditions. If the smelter resumes normal operations at a later date, the full adjustment described in (a) shall be applied.~~

~~(c) If one or both smelters resume operations after going through new source review, the milestone adjustment shall be based on the new permitted level for the source, but in no instance may the adjustment to the milestones exceed 22,000 tons SO_2 per year for the Hidalgo Smelter or 16,000 tons SO_2 per year for the San Manuel Smelter.~~

~~(d) If one or both smelters do not resume operation, the Department will determine, based on the calculation procedures in provision A3.4 the amount of facility specific set-aside that 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 level listed in Table 3 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 3. Preliminary Smelter-Specific Set Aside~~

~~Company / Smelter~~	**~~Baseline Sulfur input~~**	**~~Baseline Allocation~~**	**~~Smelter-specific Set-aside~~**
~~BHP San Manuel~~	~~417,200 tons~~	~~16,000 tons SO_2~~	~~1,500 tons SO_2~~
~~Asarco Hayden~~	~~235,000 tons~~	~~23,000 tons SO_2~~	~~3,000 tons SO_2~~
~~Phelps Dodge Chino~~	~~212,800 tons~~	~~16,000 tons SO_2~~	~~3,000 tons SO_2~~
~~Phelps Dodge Hidalgo~~	~~256,800 tons~~	~~22,000 tons SO_2~~	~~4,000 tons SO_2~~
~~Phelps Dodge Miami~~	~~208,700 tons~~	~~8,000 tons SO_2~~	~~2,000 tons SO_2~~
~~Kennecott Salt Lake~~	~~340,269 tons~~	~~1,000 tons SO_2~~	~~100 tons SO_2~~
~~TOTAL~~	**~~1,670,769 tons~~**	**~~86,000 tons SO_2~~**	**~~13,600 tons SO_2~~**]

A1.4 [~~Other~~] Milestone Adjustments.

a)All [~~other~~] milestone adjustments shall require a SIP revision. Section A3.3 of this plan 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 ninety 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 ten years from the date of establishing the record, whichever is longer.

(c) Opt-in Provisions for States and Tribes. The regional milestones in Table C-1 were developed for a three state and one local jurisdiction region: New Mexico, Utah, and Wyoming, and the City of Albuquerque. 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 SIP/Tribal Implementation Plan (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 C-1. A new participant must agree to develop a SIP or TIP 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 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 plan 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 or through a contractor to maintain the SO_2 tracking system that is described in this plan. The Department is responsible for all regional program administration functions as described in this plan. The Department shall perform these functions through the WRAP, as the Department's agent. The WRAP shall have no authority to make regulatory determinations. The WRAP has limited authority under this 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/TIP in a timely manner.

A2.2 Designation of the Tracking System Administrator.

If the backstop trading program is triggered due to an exceedance of the SO_2 milestones as outlined in section A3 of this plan, New Mexico 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 with the TSA that shall require the TSA to perform all TSA functions described in this 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.

New Mexico 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 other states and tribes have provided proper documentation and followed the public notification process outlined in A3.6 through A3.8 of this Plan.

A3. Determination of Program Trigger.

A3.1 [~~The~~] Until the program has been triggered and source compliance is required, the Department shall submit an annual emissions report to the WRAP and all participating states and tribes by September 30 of each year. The report shall document actual sulfur dioxide emissions during the previous calendar year for all sources required under Subsection F of 20.2.73 NMAC, Pre-trigger Emissions Tracking Requirements for Sulfur Dioxide Emissions Inventories, to submit emission inventory reports in New Mexico. The first report for calendar year 2003 shall be submitted by September 30, 2004. The Department shall prepare the supporting documentation that is included with the annual emissions report as noted in provisions A3.2 and A3.3 below.

A3.2 The annual emissions report for New Mexico shall include a source emissions change exceptions 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 New Mexico shall include a proposed emissions adjustment as described in (a) [~~through (c)~~] and (b) below to ensure a consistent comparison to the milestones.

(a) [~~Changes in flow rate measurement methods. 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, except emissions for the year 2018 shall not be adjusted. 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 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)~~] 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 2006 base year inventory [~~for the Annex (1999 for utilities and 1998 for all other sources)~~].

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

1. Adjustments due to enforcement settlements. Adjustments to the milestones shall be made, as specified in Section [~~A3.3(c)~~] A3.3(b) 3 and 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. The milestones shall also be adjusted as directed by any final administrative or judicial order, as specified in Section [~~A3.3(c)~~] A3.3(b) 3 and 4. Where the final administrative or judicial order does not include a reforecast of the source's baseline, the Department shall evaluate whether a reforecast of the source's baseline emissions is appropriate.

3. Adjustment procedures. Based on [~~A3.3(c)~~] A3.3(b) 1 and 2, the milestone must be decreased by an appropriate amount based on a reforecast of the source's decreased sulfur dioxide emissions. The adjustments 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. In the periodic 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 New Mexico'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 sulfur dioxide milestone and emissions report for New Mexico shall document any adjustments that should be made to the milestone for the previous year as described in (a) [~~through (e)~~] <u>and (b)</u>.

(a) The Department shall document the submittal date of this Implementation Plan to implement the regional WEB Trading Program, and the approval date by the EPA Administrator, if applicable.

[~~(b) New Mexico shall determine the status of Phelps Dodge Hidalgo copper smelter during the previous year. If the smelter resumed operation in the milestone year, the report shall include:~~

~~1. the date the smelter resumed operation;~~

~~2. a determination by New Mexico that either,~~

~~(i) the smelter resumed production consistent with past operations,~~

~~(ii) the smelter was required to go through new source review, in which case New Mexico shall include the new permitted limit for sulfur dioxide for the Phelps Dodge Hidalgo smelter in the report, or~~

~~(iii) the smelter resumed operations in a substantially different manner such that emissions will be less than for past operations, in which case New Mexico shall determine expected emissions from the operation; and~~

~~3. a proposed adjustment to the sulfur dioxide milestone to account for the operation of the Phelps Dodge Hidalgo smelter.~~

~~(c) Comparison of actual emissions from all smelters in New Mexico to the baseline emissions level for that smelter listed in Table 3. If actual emissions and sulfur input are greater than the baseline level in Table 3, and either the BHP San Manuel smelter in Arizona or the Phelps Dodge smelter in New Mexico have not resumed operation, the Department shall determine the milestone 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 3.~~

~~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 1,564 tons of SO_2 (which is ok, since it is less than the maximum of 3,000 tons in Table 3 for Asarco).~~
~~adjustment = 6.38% x baseline emissions~~
~~adjustment = 6.38% x 23,000~~
~~adjustment = 1,564 tons~~]

(b) Changes due to enforcement actions.

1. Adjustments due to settlements arising from enforcement actions. Adjustments to the milestones will be made, as specified in subsection (3.) below, if:

(i) 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;

(ii) 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

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

2. Adjustments due to administrative or judicial orders. Adjustments to the milestones will be made as directed by any final administrative or judicial order, as specified in (3.)

below. Where the final administrative or judicial order does not include a reforecast of the source's baseline, the Department will evaluate whether a reforecast of the source's baseline emissions is appropriate.

3. Adjustments method and effective dates. The milestone will be decreased by an appropriate amount based on a reforecast of the source's decreased sulfur dioxide emissions. The adjustments will not be made to the milestone until after the source has reduced its sulfur dioxide emissions as required in the settlement agreement, or administrative or judicial order.

4. Documentation of adjustments for enforcement actions. The report will include the following documentation of any adjustment due to an enforcement action or a settlement agreement:

(i) identification of each source in New Mexico that has reduced sulfur dioxide emissions pursuant to a settlement agreement or an administrative or judicial order;

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

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

(iv) if 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.

5. The State of New Mexico will include all accumulated milestone adjustments due to enforcement actions or settlement agreements in the periodic SIP revisions required under 40 CFR 51.309(d)(10).

A3.5 Compilation of Reports

(a) The WRAP shall compile the annual emissions reports submitted by all participating states and tribes into a draft regional emission report for sulfur dioxide. The WRAP shall 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 New Mexico'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 for all states and tribes that have an Implementation Plan that has been approved by the EPA Administrator under 40 CFR 51.309(h).

1. Actual regional sulfur dioxide emissions (tons/year).
2. Adjustments to account for:
   (i) [~~changes in flow rate measurement methods,~~
   ~~(ii)~~] 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 participation by eligible states and tribes and the future operation of smelters in Arizona and New Mexico.~~]

[~~A separate report that includes additional states and tribes that have submitted Implementation Plans that are still under review by the Environmental Protection Agency shall also be prepared for information purposes.~~]

A3.6 The Department shall evaluate the draft regional emissions report and shall propose a draft determination that the sulfur dioxide milestone has either been met in the region, or has been exceeded. In the event that the TSA 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 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 Environmental Protection Agency.

A3.7 The Department will publish a notice of the final determination in newspapers of general circulation throughout the state of New Mexico. This notice will include the milestone and the final annual regional sulfur dioxide emissions for that year. If the milestone has been exceeded, the notice will specify the program trigger date and the first year that WEB sources must be in compliance with the WEB Trading Program provisions as outlined in 20.2.81.109 NMAC. New Mexico shall submit the draft determination to EPA for review and comment.

A3.8 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 a response to address the comments.

A3.9 The WRAP shall compile the comments and 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 The Department shall review and approve the final regional emissions report. The Department shall then submit this report to the Environmental Protection Agency 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 New Mexico. This final determination shall be submitted to the Environmental Protection Agency by the end of March fifteen months following the milestone year. The first final determination shall be due March 31, 2005 for the 2003 milestone. If the milestone has been exceeded, the common trigger date proposed in the regional report shall 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 Department in the absence of a regional emissions and milestone report prepared by the TSA, the date shall be March 31 of the applicable year.

A3.11 The Department shall notify the public of the final determination. 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 C of 20.2.81.101 NMAC.

New Mexico will publish the final annual emissions report in a statewide newspaper's legal section and post it on the New Mexico Environment Department's website.

A4. Year 2013 Assessment.

A4.1 Initial Assessment in 2013 Periodic SIP/TIP 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 A3 of this plan.

(b) [~~New Mexico~~] 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 New Mexico'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 plan. The Department shall include a list of all known projects in New Mexico 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 Department by December 31, 2013, as outlined in Section A3.5 of this 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 unanimously 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 for 2018 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 emissions of SO_2 in 2018.

A4.5 Public Notification.

[~~New Mexico~~] The Department shall notify the public of the decision in a newspaper of statewide circulation and post the document on the NMED website. 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

If the WEB Trading Program is triggered as outlined in Section A of the SO_2 Milestone and Backstop Trading Program 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.

[~~The Department shall allocate allowances to all WEB sources as established in the 2013 SIP revision described in Section D of this Plan. WEB sources will have the option to buy and sell allowances during a two-month allowance transfer period as provided in 20.2.81.110 NMAC.~~

~~At the end of this two-month allowance transfer period, compliance with the allowance limitation shall be determined as provided in Subsection A of 20.2.81.109 NMAC of the WEB Trading Program Model Rule. Penalties shall be assessed for SO_2 emissions that are greater than the allowance limitation for each WEB source as provided in Subsection C of 20.2.81.109 NMAC. However, notwithstanding Subsections A and C of 20.2.81.109 NMAC, SO_2 emissions in the year 2018 for each WEB source shall be determined in accordance with the pre-trigger emission tracking requirements in Section B of this plan.~~]

Details on the penalty provisions for violation of the 2018 milestone can be found in 20.2.81.110 NMAC. In general, the penalty involves an assessment of the minimum $5,000 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 streamline settlement approach outlined in 20.2.81.110 NMAC.

The amount of the minimum monetary penalty in 20.2.81.110 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.

B1. SO_2 Emission Inventory

Pre-Trigger Emission Tracking Requirements

The State of New Mexico is currently in the process of revising our state regulation for 20.2.73 NMAC -- Notice of Intent and Emission Inventory Requirements. The regulation revision will be submitted for hearing in conjunction with this SIP. Appendix C-2 contains the revised regulation language for 20.2.73 NMAC.

To insure compliance with the emission inventory requirements for pre-trigger tracking compliance with the sulfur dioxide milestones set forth under 40 CFR 51.309, the following changes will be incorporated into 20.2.73 NMAC.

(a) All stationary sources with actual emissions of one hundred (100) tons per year or more of sulfur dioxide in the year 2000, or in any subsequent year, to submit an annual inventory of sulfur dioxide emissions, beginning with the 2003 emission inventory. A source that meets these criteria that then emits less than 100 tons per year in a later year must still submit a sulfur dioxide inventory for tracking compliance with the regional sulfur dioxide milestones until the WEB Trading Program has been fully implemented and emission tracking is occurred under 20.2.81.106 NMAC - Western Backstop Sulfur Dioxide Trading Program.

(b) All WEB Trading Program sources will be subject to the following federally enforceable provisions:

(1) submit an annual inventory of sulfur dioxide 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 methods from 40 CFR Part 75 methodology to report emissions from all sources subject to the federal acid rain program;

(5) smelters must submit an annual report of sulfur input, in tons per 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 (e.g. raw material or feed) that may affect the emissions projections.

(8) retain records for a minimum of ten years from the date of establishment, or if the record was the basis for an adjustment to the milestone, 5 years after the date of an implementation plan revision, whichever is longer.

(c) The State of New Mexico shall retain emission inventory records for non-utilities [~~sources from 1996 and 1998~~] until the year 2018 to ensure that changes in emissions monitoring techniques can be tracked.

[~~(2) Reporting of emissions for which reporting is required under the Federal Act shall not be waived.~~]

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 are used by the Department to determine compliance with the milestones.

The audit is not intended to be a full review the Department's 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/TIP review required by 40 CFR 51.309(d)(10).

The Department shall provide an opportunity for public review and comment on the draft audit report following each Department procedure. The Department shall respond to comments and provide notice of the final availability of the report. The Department shall submit the final audit report to the EPA regional office.

C WEB Trading Program Requirements

[~~The proposed revisions to the regional haze rule 40 CFR 51.309 are referenced to reflect the SIP requirements for the WEB Trading Program as found in 68 FR 33784.~~]

C1. Allowance Allocations

C1.1 Initial Allocation of SO_2 Allowances.

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

1. List of all WEB sources in New Mexico as defined in 20.2.81.101 NMAC. The list shall group the sources into two categories:

(i) Category 1: WEB sources that commenced operation prior to January 1, [~~2003~~] 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, [~~2003~~] 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 20.2.81.101 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 20.2.81.101 NMAC and would therefore not be included in the allocation process.

2. Floor allocation for all WEB sources in New Mexico.

(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). 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.

(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.

Note: The floor level approach described above is designed to address equity issues regarding the allocation process for utilities. The State of New Mexico is participating in ongoing discussions with the other participating states, tribes and regional stakeholders to ensure that all equity issues have been addressed. New Mexico 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 C-2. The floor allocation methodology will ensure that credits are available for early 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.

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 Subsection E of 20.2.81.104 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 Subsections A and C of 20.2.81.106 NMAC of 20.2.81 NMAC and the new permit must contain monitoring requirements that are consistent with Subsections A and C of 20.2.81.106 NMAC. Emission units that are monitored using the less stringent monitoring requirements of Subsections B of 20.2.81.106 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, systemwide, of the existing available allowances, as provided in this plan.

(ii) The Department will review the application and will certify early reductions for each full year between [~~2003~~] 2008 and the program trigger year that meet the requirements of Subsection E of 20.2.81.104 NMAC [~~of the WEB Trading Model Rule~~] and this plan.

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

[~~4. A list of all renewable energy resources in New Mexico that began operation after October 1, 2000, 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, systemwide, of the existing available allowances, as provided in 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 average of the years 2000 – 2002~~] 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 average of annual SO_2 emissions for the [~~years 1996 and 1998~~] 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 section 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.

(b) Compiled Allocation Report [~~from Tracking System Administrator~~]

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 thirty 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 New Mexico.

The State of New Mexico 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 [~~for calculating the proposed regional allocation for utilities and non-utilities is based on the assumption that the states of Arizona, Oregon, New Mexico, Utah and Wyoming are the only participating states in the WEB Trading Program. These 5 states are actively pursuing a SIP under section 309 of the Regional Haze Rule and it is unlikely that any other states will be able to develop a SIP under section 309 by the deadline of December 31, 2003. The State of New Mexico will work closely with the other four states that are developing 309 SIPs to ensure that the regional allocation is distributed consistently and fairly and to address any change in status that may affect this process. Tribal nations may participate in the program at a later date under the provisions of the Tribal Authority Rule. There are currently four category 1 sources operating on tribal lands under the jurisdiction of three tribal nations. The following methodology will remain unchanged if any of these tribal nations opt in to the program at a later date because the allocation for any of the four existing tribal sources will be covered by the opt-in adjustment for the tribe, and the allocation for any new sources will be covered by the regional new-source set-aside~~] distributes the allowances available under the milestone in the following order: tribal set-aside, new source set-aside, floor, early reduction 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. New Mexico 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 early reduction credit allocation is greater than the remaining available allowances under the milestone, then each of the early reduction sources would receive a reduced early reduction credit allocation, and there would be no reducible allocation.

1. Table [~~7~~] C-2 shows [~~the calculation of the available allocation for existing sources. The base milestone for the 5-state region calculated in accordance with section E.1.a(2) of this plan is the starting point. The base milestone does not include the smelter set-aside. 20,000 tons of SO_2 is then subtracted for a tribal set-aside~~] 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 3-state region is the starting point.

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Table [~~7~~] C-2. Utility/Non-utility Split.

Year	Milestone	Tribal Set-Aside	New Source Set-Aside	Remaining Allocation	Utility Portion	Non-Utility Portion
2008	269,083	2,500	6,143	260,440	210,480	49,961
2009	234,903	2,500	6,143	226,260	176,299	49,961
2010	200,722	2,500	6,143	192,079	142,119	49,961
2011	200,722	2,500	6,143	192,079	142,119	49,961
2012	200,722	2,500	6,143	192,079	142,119	49,961
2013	185,795	2,500	12,286	171,009	121,048	49,961
2014	170,868	2,500	12,286	156,082	106,121	49,961
2015	155,940	2,500	12,286	141,154	91,194	49,961
2016	155,940	2,500	12,286	141,154	91,194	49,961
2017	155,940	2,500	12,286	141,154	91,194	49,961
2018	141,849	2,500	12,286	127,063	80,402	46,661
2019*	141,849	2,500	12,286	127,063	80,402	46,661

*2019 and forward, until replaced by an approved SIP.

[~~2. Table 8 shows the new source set-aside for the 5-state region.~~

~~(i) The new source set-aside is calculated by subtracting the new source set-aside adjustment listed in Table 8 for all states and tribes that do not have a federally approved Implementation Plan for the WEB trading program under 40 CFR 51.309 as of the program trigger date from the maximum possible set-aside for each of the first five years of the trading program.~~

~~Table 8. New Source Set-Aside Adjustment~~

	~~2003 - 2007~~	~~2008 - 2012~~	~~2013 - 2018~~

~~**Maximum Possible Set-Aside**~~	~~9,000~~	~~18,000~~	~~27,000~~
~~**State or Tribe**~~	~~**Adjustment (tons/yr SO_2)**~~		
~~1. Arizona~~	~~1,757~~	~~3,596~~	~~5,437~~
~~2. California~~	~~559~~	~~1,039~~	~~1,532~~
~~3. Colorado~~	~~1,480~~	~~2,945~~	~~4,364~~
~~4. Idaho~~	~~270~~	~~496~~	~~721~~
~~5. Nevada~~	~~302~~	~~618~~	~~1,011~~
~~6. New Mexico~~	~~1,267~~	~~2,512~~	~~3,889~~
~~7. Oregon~~	~~393~~	~~795~~	~~1,075~~
~~8. Utah~~	~~640~~	~~1,293~~	~~1,949~~
~~9. Wyoming~~	~~2,333~~	~~4,706~~	~~7,020~~
~~10. Tribes~~	~~No adjustment needed~~	~~No adjustment needed~~	~~No adjustment needed~~

~~(ii) Subtract the floor allocation for all WEB sources in the region that were identified as Category 2 from the new source set-aside for the 5-state region to determine the available allocation for new sources that begin operation after the program trigger date. The allocation process for these new sources is described in section E.3.c of this plan.~~]

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 will 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.

Example calculation of the new source set-aside.
The example uses the following assumptions:
(i) Emissions exceed the milestones based on an average of the years [~~2003-2005~~] 2004-2006.
(ii) The program trigger date is March 31, [~~2007~~] 2008 .
(iii) The first 5 years of the program are [~~2011-2015~~] 2012-2016.
[~~(iv) Five states are participating in the program (AZ, NM, OR, UT, WY~~)].
(iv) New sources that commenced operation between January 1, [~~2003~~] 2008 and the program trigger date have a total floor allocation of [~~6,000~~] 600.

	~~**2011**~~	~~**2012**~~	~~**2013**~~	~~**2014**~~	~~**2015**~~
~~Maximum Possible Set-Aside~~	~~18,000~~	~~18,000~~	~~27,000~~	~~27,000~~	~~27,000~~
~~5-State Adjustment~~	~~-5,098~~	~~-5,098~~	~~-7,628~~	~~-7,628~~	~~-7,628~~
~~Floor for Category 2 Sources~~	~~-6,000~~	~~-6,000~~	~~-6,000~~	~~-6,000~~	~~-6,000~~
~~Remaining New Source Set-aside~~	~~6,902~~	~~6,902~~	~~13,372~~	~~13,372~~	~~13,372~~

	2012	**2013**	**2014**	**2015**	**2016**
New Source Set-Aside	6,143	12,286	12,286	12,286	12,286
Floor for Category 2 Sources	600	600	600	600	600
Remaining New Source Set-Aside	5,543	11,686	11,686	11,686	11,686

3. The remaining allocation shown in Table [~~7~~] C-2 is available for distribution to category 1 sources. The final two columns in Table [~~7~~] C-2 split this remaining allocation into a utility allocation and a non-utility allocation. [~~Apply any milestone adjustments due to the smelter set-aside as outlined in section E.1.a(3) to the non-utility allocation listed in Table 7.~~]

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. New Mexico 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 ten.

(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 ten 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 will be assigned to Category 1 sources.

(i) For non-utility sources, add together the historic SO_2 emissions in accordance with [~~section XX.E.3.a(1)(e)~~] Part C1.1(a)5 of this [~~plan~~] section 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 calculated in paragraph [~~(h)~~] (7) 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 [~~(2000 through 2002)~~] (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 shall 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 State of New Mexico 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 Part C1.1(a)2 of this section.

[~~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 source~~] to determine the proposed allocations for the first five years of the WEB Trading Program.

8. [~~(i)~~] Add together the proposed allocations 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.

(c) Public Comment Period.

[~~New Mexico shall make the draft regional allocation report available for public comment. New Mexico shall notify the public of the decision in a newspaper of statewide circulation and post the document on the NMED website. The Public will have thirty (30) days to comment on the report.~~] The Department will publish notice of availability of the

draft regional allocation report in newspapers of general circulation throughout New Mexico. A 30-day public comment period will be established, and a hearing will be held during the comment period. The Department will consider the comments, and will revise the draft report if the recommended changes are consistent with the allocation process outlined in this Plan. The Department will 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.

[~~The Department shall submit proposed changes to the budget and source allocations to the Tracking System Administrator within sixty days of receipt of the draft regional allocation report.~~] The Department will 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 sixty days of receipt of the draft regional allocation report.

(e) Compilation of Changes.

[~~The Tracking System Administrator shall compile the proposed changes and shall submit a final draft regional allocation report to the participating states and tribes for approval within 30 days of receipt of the recommended changes.~~] The TSA will compile the comments, responses, and proposed changes to the report and will submit a final draft regional allocation report that is consistent with the allocation methodology outlined in this Plan to the Department within 90 days of the receipt of the draft regional allocation report.

(f) Final Regional Allocation Report.

The Department shall review the final regional allocation report and shall determine the budget for New Mexico and allocations for WEB sources within New Mexico in accordance with the [~~provisions of~~] allocation methodology outlined in this plan within thirty days of receipt of the final draft allocation report. The Department shall submit the budget and allocations for all WEB sources in New Mexico to EPA, and shall notify the Tracking System Administrator that the WEB source allocations should be recorded in the allowance tracking system.

(g) The Department shall notify all WEB sources within New Mexico 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 sulfur dioxide emissions may change due to the implementation of new monitoring methodologies as required by 20.2.81.106 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.

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 [~~allowances from the new source set-aside in the amount of the annual permitted SO_2 emissions for the source~~] an annual floor allocation equal to the lower of the annual permitted sulfur dioxide emissions for the source, or sulfur dioxide 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 20.2.81.104 NMAC.

2. Existing sources that increase production are eligible to receive allowances from the new source set-aside [~~for the annual permitted amount of SO_2 emissions that is attributable to the increase in production over the permitted production level as of January 1, 2003.~~] 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. When the next five-year allocation block is distributed as outlined in Section C1.2 of this plan, 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 20.2.81.104 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. The Department shall then forward the request to the Tracking System Administrator.

(e) The Tracking System Administrator 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. The Tracking System Administrator 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)3 of this 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 Tracking System Administrator shall then send written notification to the source and to [~~New Mexico~~] the Department that the allowances have been recorded in the source's compliance account.

(f) If [~~the new source set-aside is depleted~~] there are insufficient allowances remaining in the new source set-aside to fulfill the request, the source [~~shall need to~~] must 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)(3) of this Implementation Plan. If there is more than one such source, their allocation requests will be processed in the order they were received by the TSA.

(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, [~~20,000~~] 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 Department 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 state 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 C1.1(b)(11).

C1.5. [~~Distribution of Allowances for~~] Opt in Sources. [~~The WRAP Market Trading Forum has recommended including provisions in this plan 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 Allowance Tracking System (WEB ATS)

[[~~Note: Section C1 includes a commitment to distribute the first round of allocations one year after the program is triggered. The contract for development of the ATS and ETD specifications should address whether this time frame is reasonable.~~]]

[~~51 CFR 309(d)(4)(v) requires the~~] The Department [~~to~~] will 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 provide that all necessary information regarding emissions, allowances, and transactions is publicly available in a secure, centralized database. The EATS must ensure that each allowance is uniquely identified, allow for frequent updates, and include enforceable procedures for recording data.

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 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 Allowance Tracking System, 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 participating states and tribes shall contract with a common Tracking System Administrator 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 [~~described in a report prepared for the WRAP, titled "Western Emissions Backstop (WEB) Emissions and Allowance Tracking System (EATS) Analysis" (July 2003)~~] WEB Emissions and Allowance Tracking System (EATS) Analysis. [~~A copy of this report is provided in outlined in related Technical Support Document (TSD) included in this plan as an appendix in this SIP.~~] The [~~report~~] EATS Analysis and related Sections of [~~the WEB Trading Program Model Rule~~] 20.2.81 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. The account representative will also look to the Analysis to determine the appropriate interface with the EATS.

Neither the Department 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 20.2.81.103 NMAC , and a compliance account will be established under 20.2.81.105 NMAC. Each allowance will be

assigned a serial number. The allowance serial number will be used by the WEB EATS to track allowance allocations, transfers under 20.2.81.107 NMAC, deductions, and account for any unused allowances from a previous year (20.2.81.108 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 plan 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.

[~~40 CFR 51.309(d)(4)(viii) requires the Implementation Plan to include provisions for detailing the process for transferring allowances between parties.~~] [~~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 20.2.81.107 NMAC. This includes transfers of allowances for the purpose of retirement. Once an allowance is retired, it is no longer available for transfer to or from any account. Allowances may be purchased by any party for the purpose of retirement.

The Tracking System Administrator 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 Tracking System Administrator 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 Tracking System Administrator shall not record such transfer.

C3.2 Notification of the Recording of Allowance Transfers

The Tracking System Administrator 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 Tracking System Administrator 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 20.2.81.107 NMAC, the Tracking System Administrator 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.

[~~51 CFR 309(4)(ix) allows states to include in the Implementation Plan provisions for the accounting of unused allowances from a previous year. The unused~~] Unused allowances may be kept for use in future years in accordance with 20.2.81.108 NMAC [~~and describe the restrictions on the use of the allowances in accordance with 20.2.81.108 NMAC~~].

[~~The federal rule requires that allowances~~] Allowances kept for use in future years may be used in calendar year 2018 only to the extent that the Implementation Plan guarantees that such allowances will not interfere with the achievement of the 2018 milestone.

Subsection D of 20.2.81.108 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~~] Increased flexibility and early reduction stimulus are a benefit to allowing the WEB source to tap the previous year's unused allowances. [~~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" , and is described below.

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 sixty-day transfer period, allowances shall be deducted from the compliance account of each 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 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) exceeds 10 percent of the milestone for the next control period, then the flow control procedures in Subsection C of 20.2.81.108 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 periods without establishing an absolute limit on their use. WEB sources shall 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 just-completed 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 emission limitation as outlined in 20.2.81.109 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 Tracking Systems Administrator 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	= [~~75,000~~] 30,000
2010 milestone [~~(5-state, no smelter)~~]	= [~~508,223~~] 200,722
Percent of milestone	= [~~14.75~~] 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
20.1 x [~~508,223~~] 200,722 ÷ [~~75,000~~] 30,000 = [~~0.67~~] 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	= 1,000
	Remaining Prior Year Allowances	= [~~500~~] 600
	2010 Emissions	= [~~1,400~~] 1,580

In this example, the TSA would multiply the prior year allowances by [~~0.67~~] 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 [~~335~~] 420. The remaining prior year allowances would then be used at a 2:1 ratio. [~~130~~] Three hundred sixty allowances would be needed to cover the remaining [~~65~~] 180 tons of SO_2 emissions. The TSA would therefore deduct a total of [~~1,465~~] 1,780 allowances (1,000 + [~~335~~] 420 + [~~130~~] 360) to cover [~~1,400~~] 1,580 tons of SO_2 emissions.

C5. Monitoring and Recordkeeping Section

[~~Recommendations regarding monitoring and recordkeeping and reporting are under development by the WRAP. Recommendations will be included in 20.2.81 NMAC, New Mexico's Backstop Trading Program Rule, pending their acceptance by the WRAP.~~]

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. For WEB sources subject to 20.2.81.111 NMAC or 20.2.81.112 NMAC, the Department shall quality assure and finalize the data in accordance with these provisions for submission to the Tracking System Administrator

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 20.2.81.106 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 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.

Paragraph 1 of Subsection B of 20.2.81.106 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 20.2.81.106 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 20.2.81.106 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 ensure that a ton of reductions is the same regardless of where the reductions originate.

The Department will review the application to monitor under Paragraph 1 of Subsection B of 20.2.81.106 NMAC. If the emission units meet the criteria in Paragraph 1 of Subsection B of 20.2.81.106 NMAC, the Department will determine the portion of the WEB source's allocation that is associated with the emission units that will be monitored under Paragraph 1 of Subsection B of 20.2.81.106 NMAC and will require the TSA to record that portion of the WEB source's allocation in the special reserve compliance account. The Department will use the methodology for determining allocations described in Section C1.1 of this Plan to determine the portion of the allocation that is associated with emission units monitored under Paragraph 1 of Subsection B of 20.2.81.106 NMAC. The Department will 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 Paragraph 1 of Subsection B of 20.2.81.106 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, and Penalties

When a WEB source exceeds its allowance limitation in 20.2.81.109 NMAC, the Department shall require the Tracking System Administrator to deduct allowances from the following year's allocation in an amount equal to [~~two~~] 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 20.2.81.109 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 Tracking System Administrator 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.

[~~C6.2 Penalties~~
~~The amount of the penalty 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 rule establishes a penalty of $5000 per ton for each ton of emissions above the source's allowance limitation. Each ton represents a separate violation. In addition, two allowances from the next year's allocation will be deducted from the account for~~

~~each ton of exceedance. Under the rule, sources are also liable for penalties for each day of violations of the program's other requirements. More detail on liabilities for different provisions can be found in the provisions of 20.2.81 NMAC.~~]

C7. Periodic Evaluation of the Trading Program.

C7.1 Annual Report

(a) [~~One~~] Beginning one year after compliance with the trading program is required, the Department shall obtain from the Tracking Systems Administrator 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 from a previous year [~~(~~] in order to determine whether these emissions have or have not contributed to the emissions in excess to the cap.[~~)~~]

(5) The total number of WEB sources participating in the trading program and any changes to eligible sources, such as 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 Tracking System administrator [~~will~~] 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 for 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 Section C4.2 of the state 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 will publish a notice of availability of the draft report, in newspapers of general circulation throughout New Mexico, and will hold a 30-day comment period.

(e) [~~The~~] After the comment period, the Department will make a final determination that the flow control procedures have either been triggered or have not been triggered for the next control period. If the flow control procedures have been triggered, the Department will notify all WEB sources in New Mexico that flow control procedures will be in effect during the next control period.

C7.2 Five-year Evaluation.

(a) The Department will work cooperatively with other participating States and tribes [~~shall~~] to 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~~] replace the Implementation Plan assessments in [~~2008,~~] 2013[~~,~~] and 2018 as required by the regional haze regulations. The evaluation [~~should~~] will be conducted by an independent third party and include an analysis of:

1. Whether the total actual emissions could exceed the values in Table C-1 of this Implementation Plan 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 are 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 Department, in consultation with the WRAP, will make appropriate modifications to this plan. The Department will revise this 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 20.2.81.101 NMAC [~~Section 4 of the Model Rule~~] 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 recordkeeping 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 sixty 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 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 retired and that does not request a retired source exemption shall forfeit all abandoned allowances in that source's compliance account, as outlined in Paragraph (5) of Subsection D of 20.2.81.101 NMAC Section 4 of the WEB Trading Program Model Rule. The forfeited allowances shall not be redistributed to other sources, and shall be retired from the Allowance Tracking System as outlined in 20.2.81.107 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

[~~40 CFR 51.309 requires that the requirements for emissions reporting and for the trading program be incorporated into a permit that is enforceable as a practical matter by EPA and by citizens to the extent permitted by the Act.~~] It is expected that all WEB sources will at least initially be required to obtain a permit under New Mexico's Title V delegated permitting program. Under 20.2.70 NMAC, New Mexico'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. 20.2.81 NMAC requires that any source that for any reason and at any time is not required to have a permit under 20.2.70 NMAC must obtain a New Source Review permit pursuant to 20.2.72 NMAC, 20.2.74 NMAC or 20.2.79 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 first must 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 New Mexico's Implementation Plan.

D 2013 SIP/TIP 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 [~~/TIP~~] shall contain:

1. Source specific allocations for all WEB sources under the jurisdiction of the Department 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 in 2003 because many things may 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.

D2. Achievement of 13 percent SO_2 emission reduction.

Pursuant to 40 CFR 51.309(d)(4)(ii), the State of New Mexico has determined that a 13 percent reduction in actual stationary source SO_2 emissions has occurred between the years 1990 and 2000. Table [~~5~~] C-3 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 M-5 of this implementation plan.] The current emissions and modeling data and results for stationary sources in the WRAP region are now available through the WRAP TSS (http://vista.cira.colostate.edu/tss). The methodology and data for the revised SO_2 Milestone Program are available at: http://www.wrapair.org/forums/309/docs.html. Tracking pre-trigger stationary source SO_2 emissions is found in Section 4.3 of Chapter 4 of the WRAP TSD.

Table [~~5~~] C-3: 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.[~~Report on Assessment of NOx / PM Strategies~~] Provisions for Stationary Source NOx and PM

[~~Provisions for Stationary Source NOx and PM. Pursuant to 40 CFR 51.309 (d)(4)(v), the State of New Mexico has included in this SIP a report which assesses emissions control strategies for stationary sources of 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 C-2. The report represents the initial assessment of stationary source NOx and PM strategies for regional haze. The Department has determined that NOx and PM strategies are not needed at this time. The State of New Mexico will review the need for long term strategies for stationary sources of NOx and PM during the SIP revision updates due in 2008, 2013 and 2018.~~]

Assessment of need for NOx and PM milestones. Pursuant to 40 CFR 51.309(d)(4)(vii), the State of New Mexico has evaluated the need for NOx and PM emission control strategies, the degree of visibility improvement expected, and whether such milestones are needed to avoid any net

increase in these pollutants. This evaluation was made by the WRAP Market Trading Forum for all WRAP states, including the transport region states.

Several conclusions were reached based on WRAP analyses. These include:

(a) That for the vast majority of Mandatory Federal Class I areas throughout the WRAP region stationary source NOx and PM emissions are not a major contributor to visibility impairment;

(b) That RAVI remedies are available in cases where particular stationary sources may impact particular Class I areas;

(c) Analysis for NOx and PM impacts in the 309(g) SIP submittal has reaffirmed the position that the need for milestones to support potential market-based programs is not yet established.

The initial assessment of the need for NOx and PM long-term strategies is provided in the New Mexico TSD. The State of New Mexico will continue to work with the WRAP to improve the emission inventories and regional modeling to support future policy decisions regarding stationary source NOx and PM emissions. The State of New Mexico has made an additional preliminary assessment on the need for long-term strategies for stationary sources of PM and NOx in the 309(g) SIP. NOx and PM long-term strategies are discussed in the 309(g) SIP submittal, with commitments to reassess in SIP updates for 2013 and 2018.

Applicable WRAP Reports and Documents. Chapter 4, Section 4.3 of the TSD Development Plan provides a summary of the method for tracking and reporting stationary source emissions covered in the backstop trading program, through the WRAP emissions data system. The current emissions and modeling data and results for stationary sources in the WRAP region are now available through the WRAP TSS (http://vista.cira.colostate.edu/tss). The methodology and data for the revised SO_2 Milestone Program are available at:
http://www.wrapair.org/forums/309/docs.html.

The *Western Emissions Backstop Emissions Trading and Allowance Tracking System (EATS) Analysis* report describes how emissions, allocations, and transactions will occur if the backstop trading program is triggered. This report is described further in the New Mexico TSD.

Stationary Source NOx and PM Emissions in the WRAP Region: An Initial Assessment of Emissions, Controls and Air Quality Impacts reviews possible emission control strategies for stationary sources of NOx and PM, and the degree of visibility improvement that would result from such strategies. The report is described further in the New Mexico TSD.

D. Mobile Sources

(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. Table D-1 below summarizes these emissions, and indicates the year on-road mobile source emissions are projected to be at their lowest level within the state. The following inventory as well as additional information on mobile source emissions can be found in Chapter 5 of the Wrap *Technical Support Document*, included in Appendix N of this SIP.

Table D-1: Statewide On-Road Mobile Source Emissions, Annual Average Day (Tons Per Day)

Year	VOC	NOx	SO_2	PM2.5*
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	59	60	0.8	3.3

*Includes organic and elemental carbon as a percentage of PM2.5. As a percentage of PM2.5, both organic and elemental carbon shows a continuous decline over the 2003-2018 planning period

(b) Contribution to Visibility Impairment Finding. Pursuant to 40 CFR 51.309(d)(5)(i), the State of New Mexico, with the assistance of the WRAP, has developed a statewide inventory that shows a decline in sulfur dioxide emissions from mobile sources over the 2003-2018 planning period. In the 2008 SIP review, New Mexico will reevaluate mobile source emissions to determine if long-term strategies are needed. Mobile source emissions are not a significant source of visibility impairment in New Mexico. Additional information on the mobile source emission inventory as well as significance is included in Chapter 1 of the WRAP *Technical Support Document*, included as Appendix N to this SIP.

Table D-2 Net emissions change from 2003 to 2018 for total mobile source emissions, by pollutant.

2018 Total Mobile Source Emissions (tons per day)				**Reduction from 2003 (%)**			
VOC	**NOx**	**$PM_{2.5}$***	**SO_2**	**VOC**	**NOx**	**$PM_{2.5}$**	**SO_2**
75.8	80.4	6.9	1.4	54%	62%	38%	89%

* Exhaust emissions only, includes elemental and organic carbon as a percentage of PM2.5. As a percentage of PM2.5, both organic and elemental carbon shows a continuous decline over the 2003-2018 planning period.

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(c) Interim Implementation Status Reports. Pursuant to 40 CFR 51.309(d)(5)(iv), the State of New Mexico will submit periodic progress reports in 2008, 2013 and 2018 on the status of implementation of adopted regional and local strategies recommended by the Commission Report to address mobile source emissions.

E. Programs Related to Fire.

(a) Definition of "fire". The Regional Haze Rule in Section 40 CFR 51.309(b)(4) defines fire as "wildfire, wildland fire (including prescribed natural fire), prescribed fire, and agricultural burning conducted and occurring on Federal, State, and private wildlands and farmlands." Prescribed natural fire has been functionally replaced by wildland fire managed for resource benefit (WFU) under the National Fire Plan. Except where "prescribed fire" is noted, the term "fire" shall apply to the sources identified herein.

(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 the state, 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 New Mexico's 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. Appendix E-1 describes the results of these evaluations in detail.

The Department currently has in place a memorandum of understanding (MOU) with the federal land management agencies and the State Forestry Division. This MOU addresses actions to minimize emissions; evaluation of smoke dispersion; alternatives to fire; air quality monitoring; surveillance and enforcement; and program evaluation.

As a result of these evaluations, the Department is making the following changes to the smoke management programs listed below.

Program evaluation is part of this smoke management program as required by the Regional Haze Rule. The Department will convene an annual meeting after the beginning of the calendar year during which the burn community and other interested stakeholders will assess the adequacy of the design, impact and implementation of the program. These program evaluations will be used to revise and improve the smoke management program and regulation as needed, as well as assisting the Department in the preparation of the five-year state implementation plan revision.

The proposed Smoke Management regulation adds requirements for public notice for burn projects planned in proximity to populations. For small projects planned within one mile of a population, public notice is now required. For larger projects planned within 15 miles of a population, or if wind direction is prescribed within 15 miles upwind of a population, public notice is required.

For larger burn projects, the proposed Smoke Management regulation requires burners to either review smoke management educational materials provided by the Department, or to complete an approved smoke management training program prior to initiating burning.

Surveillance/enforcement is an oversight mechanism that assures adherence to smoke management efforts as defined by the smoke management program. The New Mexico Air

Quality Control Act, NMSA 1978, Chapter 74, Article 2, authorizes enforcement actions and the assessment of civil penalties for violations. These actions may include a Warning Letter, Notice of Violation, or Compliance Order. An appeal process for enforcement actions is detailed in the Act as well.

The Civil Penalty Policy, a public document available on the Department website, provides guidance to the Air Quality Bureau in determining the amount of civil penalties related to violations of the Air Quality Control Act. The objectives of the policy include ensuring fair and consistent penalty determination, ensuring a level playing field among sources and to impose penalties proportional to the gravity of the violation.

The Department has authority to audit data, records, or weather measurements from previously conducted burns, if necessary to verify conformity with, or deviation from, procedures and authorizations outlined in the Smoke Management Regulation. On-site inspections of burn sites may be conducted to ensure compliance with required elements of the smoke management regulation where appropriate. Any field surveillance and enforcement conducted will be consistently applied to all burners.

The Department will respond to and investigate smoke complaints on a case-by-case basis. If the burn is in compliance with the Smoke Management Regulation, shut down or mop up activities would not be anticipated. The Department will compile data from complaints to assist in future planning and program evaluation. The Department will notify individuals or agencies responsible for a burn of smoke complaints specific to the burn project.

In order to ensure that the regional effects on visibility are addressed in this program, the Department will coordinate with tribes and other states during the evaluation of airshed impacts. For example, should the state become aware of large burns planned or wildfires already occurring on lands outside of New Mexico's jurisdiction, the Department will work with burners to ensure that airsheds are not overly impacted by smoke emissions. Conversely, the Department will coordinate with New Mexico burners to ensure that New Mexico is not adversely impacting other jurisdictions. The Department will continue to work with the WRAP and the Western States Air Resources Council on issues including smoke management.

All fires of more than 10 acres in size or greater than 1000 cubic feet of pile volume are included within the New Mexico Smoke Management Regulation [20.2.65 NMAC]. The proposed Smoke Management Regulation addresses actions to minimize emissions; evaluation of smoke dispersion; alternatives to fire; public notification; air quality monitoring; burn authorization; and fire tracking.

(c) Emissions Inventory and Tracking System. Pursuant to 40 CFR 51.309(d)(6)(ii), New Mexico has established a system for tracking and emissions inventory for VOC, NOx, elemental and organic carbon, and particulate for fire sources within the state. The Department has implemented an emissions tracking system that follows the WRAP *Fire Tracking System Policy*, 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 served as the basis for creating a fire emissions inventory within the State of New Mexico. See Appendix M-2 of this implementation plan for further information on the fire emissions inventory and tracking system in New Mexico.

The database for New Mexico will be implemented as follows:

1. Information from the registration and tracking forms will be entered into the database.

2. Information from the database will eventually be available to the public through a web portal, as that capability is developed within the New Mexico Environment Department.

3. All sources that burn over 10 acres (or 1000 cubic feet of pile volume) in a day are required to track; therefore, all sources will be included in the database.

4. The database will use appropriate emission factors to determine the emissions of VOC, NOx, elemental carbon, organic carbon, and PM 2.5.

(d) Strategy for use of non-burning alternatives. The Department has developed a process with key public and private entities, such as the state departments of agriculture and forestry, farming and forestry associations, etc. to identify and remove administrative barriers to the use of non-burning alternatives to prescribed fire on federal, state, and private lands, pursuant to 40 CFR 51.309(d)(6)(iii). The process is collaborative and provides for continuing identification and removal of administrative barriers, and considers economic, safety, technical and environmental feasibility criteria, and land management objectives. This process is described in Appendix E-2 of this implementation plan. Included in Appendix E-2 is a summary of the administrative barriers currently known to exist in the state. In developing this process, the Department relied 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. No administrative barriers are known to exist in New Mexico at this time, but any barriers identified shall be addressed through the collaborative process in Appendix E-2.

(e) Enhanced Smoke Management Program. Pursuant to CFR 51.309(d)(6)(iv), all smoke management programs within the State of New Mexico are consistent with the WRAP *Enhanced Smoke Management Programs for Visibility Policy*. 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 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." The table in Appendix E-1 assesses the current smoke management program in the state, and explains how it will meet the Enhanced Smoke Management Program policy and the rule requirements.

The Department has developed a Smoke Management Regulation that address all sources of fire over 10 acres or 1,000 cubic feet pile volume. This will add private burns to the federal land manager and state agency burns the New Mexico Environment Department currently tracks through its Memorandum of Understanding with these agencies.

New Mexico's new smoke management 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 during dispersion conditions of good or better. All burners with burns greater than 10 acres per day or 1000 cubic feet pile volume per day are required to submit prior registration and follow up after the burn with tracking, including the use of emission reduction techniques. For burns with emissions of greater than one ton of PM-10 emission per day, burners are required to document the reasons for not utilizing alternatives to burning on the registration form.

The burn authorization process requires that burners register burn projects, notify the Department prior to beginning burning, and, for larger burns, complete smoke management training. Burn authorization, regional coordination, and the requirement to utilize at least one ERT all focus on ensuring visibility protection.

(f) Annual Emission Goals. Pursuant to 40 CFR 51.309(d)(6)(v), efforts will be made within the State of New Mexico to minimize emission increases in fire, excluding wildfire, to the maximum extent feasible, through the use of annual emission goals (AEG), in accordance with the WRAP *Annual Emission Goals for Fire Policy*. This policy recognizes that Emission Reduction Techniques (ERTs) can be used to minimize emissions from fire. The Department has established a collaborative mechanism for setting annual emission goals, and developed a process for tracking their attainment on a yearly basis.

The minimum emission increase from fire is accomplished through the application of emission reduction techniques (ERTs). The use of ERTs with the projected annual burn information provides the basis for the AEG. Due to the potential impacts from all fire sources, annual emission goals will apply to all fire except wildfire (as exempted by the Regional Haze Rule), and will be developed for the entire state in cooperation with all burners on a yearly basis.

The AEG is determined by the New Mexico Environment Department compiling all the registration information provided by the burners, specifically the total projected emissions and the total projected emission reductions. Information on the statewide use of ERTs from prior years' tracking forms will be used to determine if the annual emission goal is being set in a realistic manner. Appendix E-3 of this implementation plan describes this process in more detail.

F. Paved and Unpaved Road Dust.

(a) Impact of paved and unpaved road dust emissions. Pursuant to 40 CFR 51.309(d)(7), an assessment was made by the WRAP 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. A complete description of this assessment is provided in Appendix F of this implementation plan.

(b) Contribution to Visibility Impairment Finding. Pursuant to 40 CFR 51.309(d)(7), the results of assessment on the impact of dust emissions described above, the State of New Mexico has determined that dust emissions are not a significant contributor to visibility impairment within the Colorado Plateau 16 Class I areas. A summary of this impact assessment is provided in Appendix F of this implementation plan. Based on these findings, no emission management strategies have been identified for inclusion in this SIP submittal. A summary of this impact assessment is provided below. See also Appendix F for more information.

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 increase by about three percent per year from 1996 to 2018, per the 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 about 65% of road dust PM_{10} emissions in 2018. Overall, 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 results, WRAP determined that the regional impacts of road dust emissions are not significant at the 16 Colorado Plateau Class I areas at this time.

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

(c) Tracking of Road Dust Emissions. The State of New Mexico shall track road dust emissions with the assistance of the WRAP, and provide an update on paved and unpaved road dust emission trends, including any modeling or monitoring information regarding the impact of these emissions on visibility in the Colorado Plateau 16 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). Appendix M-3 of this implementation plan provides a description of the road dust emission tracking program.

G. Pollution Prevention.

(a) Summary of P2 programs in the state. Pursuant to 40 CFR 51.309(d)(8)(i), Tables G-1 through G-3 summarize all P2 programs currently in place in New Mexico. Appendix G summarizes all renewable energy generation capacity and production in use or planned as of 2002, the total energy generation capacity and production in the State, and the percent of the total that is renewable.

Table G-1. Policy Mechanisms to Promote Renewable Energy

Policy Program Title	Statutory/Regulatory Citation	Program Description
Renewable Portfolio Standard	Statutory/Regulatory Citation: New Mexico Public Regulation Commission, Utility Case No. 3619; Title 17, Chapter 9, Part 573—Renewable Energy as a Source of Electricity, *in* New Mexico Administrative Code [http://www.nmcpr.state.nm.us/nmac/]	Description: In December 2002, the New Mexico Public Regulation Commission adopted a new Renewable Energy rule. The purpose of the rule is "…to establish a process for promoting the use and development of renewable energy in New Mexico to assure that electric consumers obtain adequate and reliable electric services at just and reasonable rates." The rule includes a Renewable Portfolio Standard (RPS); Section 17.9.573.10.A-C, NMAC. The RPS requires public utilities (El Paso Electric Company, Public Service Company of New Mexico, Southwestern Public Service Company, Texas-New Mexico Power Company) to develop an energy portfolio appropriate to its suppliers and customers. The portfolio must include a progressively greater percentage of service from renewable sources, as follows: By January 1, 2006, the RPS shall be at least five percent (5%) of retail jurisdictional energy sales; By January 1, 2007, the RPS shall be at least six percent (6%) of retail energy sales; By January 1, 2008, the RPS shall be at least seven percent (7%) of retail energy sales; By January 1, 2009, the RPS shall be at least eight percent (8%) of retail energy sales; By January 1, 2010, the RPS shall be at least nine percent (9%) of retail jurisdictional energy sales; Upon and after January 1, 2011, the RPS shall be at least ten percent (10%) of retail jurisdictional energy sales. Other factors being equal, preference is to be given to renewable energy generated in New

Policy Program Title	Statutory/Regulatory Citation	Program Description
		Mexico. All transactions are to be documented using Renewable Energy Certificates (RECs). RECs are to be issued in the following values: 1 kilowatt-hour (kwh) WIND or HYDRO = 1 kwh REC 1 kwh BIOMASS, GEOTHERMAL, LANDFILL GAS = 2 kwh REC 1 kwh SOLAR = 3 kilowatt-hours REC
Green Power Marketing	Statutory/Regulatory Citation: New Mexico Public Regulation Commission, Utility Case No. 3619; Title 17, Chapter 9, Part 573—Renewable Energy as a Source of Electricity, *in* New Mexico Administrative Code [http://www.nmcpr.state.nm.us/nmac/]	Description: In December 2002, the New Mexico Public Regulation Commission adopted a new Renewable Energy rule. The purpose of the rule is "…to establish a process for promoting the use and development of renewable energy in New Mexico to assure that electric consumers obtain adequate and reliable electric services at just and reasonable rates." The rule includes a Green Pricing/Green Power Marketing Program facilitated through Voluntary Renewable Tariffs filed by public utilities and rural electric cooperatives; Section 17.9.573.10.D, NMAC. Under this section of the Rule, each utility and cooperative must offer a voluntary renewable energy tariff for those customers who want the option to purchase additional renewable energy. The tariff is to set out any applicable conditions as to price, quantity and term of the agreement. Each public utility must also develop a corresponding educational program on the benefits and availability of its voluntary renewable energy program. All utilities and cooperatives are required to file a proposed tariff by September 1, 2003.
Net Metering	New Mexico Public Regulation Commission; Title 17, Chapter 10, Part 571—Net Metering of Customer-Owned Qualifying Facilities of 10kW or Smaller, *in* New Mexico Administrative Code [http://www.nmcpr.state.nm.us/nmac/]	Description: The purpose of this rule, effective September 30, 1999, is "…to simplify the interconnection requirements for Qualifying Facilities of 10 kilowatts (kW) or smaller and encourage the use of small-scale, customer-owned renewable or alternative energy resources in recognition of the beneficial effects the development of such resources will have on the environment of New Mexico." If the electricity generated by a customer exceeds the electricity supplied by

Policy Program Title	Statutory/Regulatory Citation	Program Description
		the grid during a billing period, the utility must credit the customer on the next bill for the excess kilowatt-hours generated. Unused credits are carried forward from month to month.

Table G-2. Financial Incentives to Promote Renewable Energy

Policy Program Title	Statutory/Regulatory Citation	Program Description
Renewable Energy Production Tax Credit	Statutory/Regulatory Citation: New Mexico Statutes Annotated, Section 7-2A-19 [http://www.legis.state.nm.us]; New Mexico Energy, Minerals and Natural Resources Department, Title 3, Chapter 13, Part 19—Renewable Energy Production Tax Credit, *in* New Mexico Administrative Code [http://www.nmcpr.state.nm.us/nmac/]	Description: 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.
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	Description: This law provides wind developers an exemption from the gross receipts tax for

Policy Program Title	Statutory/Regulatory Citation	Program Description
	[http://www.legis.state.nm.us];	certain wind equipment, including nacelles and rotors, *provided* the project is financed with Industrial Revenue Bonds (Section 7-9-54.3 NMSA 1978).

Table G-3. Programs to Promote Renewable Energy

Policy Program Title	Program Description
State Energy Program	*State Energy* Program The State Energy Office administers the U.S. Department of Energy 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.
Geothermal Development and Use Program	*Geopowering the West* Program NM Geothermal Energy Working Group The New Mexico Geothermal Energy Working Group was established in December 2000. It is an informal organization of representatives from both the public and private sectors, including geothermal developers, leaseholders and businesses, federal/state/tribal/local governments, national laboratories, electric utilities, universities, and renewable energy advocates. 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. Department of Energy's *Geopowering the West* program. Over 70 individuals are now included on the NM Geothermal Working Group e-mail address list. 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 Geothermal Energy Working Group are: serve as a forum for networking, communications and coordination among geothermal stakeholders; acquisition and

Policy Program Title	Program Description
	dissemination of information about existing geothermal resources, their development and use (both electric generation and thermal applications); identification and delineation of the issues that impede expansion of geothermal applications; and removal of barriers to geothermal advancement.
Solar Development and Use	*Million Solar Roofs* Program Million Solar Roofs (MSRI) is an initiative to install solar energy systems on one million U.S. buildings by 2010. The initiative includes two types of solar technology: solar electric systems (or photovoltaics**)** that produce electricity from sunlight and solar thermal systems that produce heat for domestic hot water, space heating, or heating swimming pools. The Million Solar Roofs Initiative is helping increase the market for solar energy. At the same time, the Initiative is offering consumers an affordable, clean-energy option, creating new U.S. high-technology jobs, and playing an important role in reducing emissions. Emissions associated with power generation are caused mostly by the inefficient burning of fossil fuels. By increasing the efficiency of how we use fossil fuels, reducing our use of these fuels and switching to alternative, non-polluting fuels, we can significantly reduce the emissions we put into the air and the atmosphere thereby reducing their harmful effects on human health and the environment. One of the most promising non-fossil sources is solar energy. *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 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 Statutory/Regulatory Citation: New Mexico Statutes Annotated, Sections 47-3-1 to -5 [http://www.legis.state.nm.us] Description: The Solar Rights Act declares that the State of New Mexico recognizes that

Policy Program Title	Program Description
	economic benefits can be derived for its citizens from the use of solar energy. It goes on to state that the actual construction and installation of solar devises is properly a commercial activity which the law should encourage to be carried out, whenever practicable, by private enterprise. The Act defines the term "solar right" as "…a right to an unobstructed line-of-sight path from a solar collector to the sun." Moreover, the Legislature declares in the Act that the right to use the natural resource of solar energy is a property right. Solar Recordation Act Statutory/Regulatory Citation: New Mexico Statutes Annotated, Sections 47-3-6 to -12 [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 Statutory/Regulatory Citation: New Mexico Statutes Annotated, Sections 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

Policy Program Title	Program Description
	furthering research and investment in solar energy use in New Mexico. Solar Collector Standards Act Statutory/Regulatory Citation: New Mexico Statutes Annotated, Sections 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 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.
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. Department of Energy'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,

Policy Program Title	Program Description
	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.
Hydrogen Development and Use Program	Hydrogen Technology Partnership (HyTep) The Energy Conservation and Management Division is administering the U.S. Department of Energy 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
Supplemental Environmental Projects (SEPs)	The New Mexico Environment Department can utilize supplemental environmental projects in enforcement cases for pollution prevention projects.

Table G-4. 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. Department of Energy 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 SO_2 would be prevented each year in New Mexico.

Table G-5. 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
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 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 The program provides information, training and technical assistance to private commercial building owners and local government participants in the program. Over 59 participants, with over 42.4 million square feet of building space, are improving their energy efficiency. Energy audits have identified potential savings of more than $750,000 per year. *Industries of the Future* Program The US Department of Energy Program seeks to broaden the impact of investments in advanced industrial technologies and practices for energy efficiency

Policy Program Title	Program Description
	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	*Wind Powering America* 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. Department of Energy 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.
Federal Energy Management program	The purpose of this program is to advance energy efficiency, water conservation, the use of distributed and renewable energy, and improving utility management decisions at federal sites. Currently the State Energy office is working with the Institute of American Indian Arts (IAIA) to develop and implement a Sustainable Energy Initiative on the IAIA campus.

(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 G of this implementation plan summarizes the State of New Mexico's anticipated contribution toward meeting the GCVTC renewable energy goals for 2005 and 2015. See also section (g) below.

(c) Incentive programs. Pursuant to 40 CFR 51.309(d)(8)(ii), Table G-6 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.

Table G-6: New Mexico Incentive Program

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.

(d) Programs that preserve and expand energy conservation efforts. Pursuant to 40 CFR 51.309(d)(8)(iii), Tables G-1 through G-5 identify programs in New Mexico that preserve and expand energy conservation efforts.

(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 G of this implementation plan.

(f) Projections of renewable energy goals, energy efficiency and pollution prevention activities. Pursuant to 40 CFR 51.309(d)(8)(v), regional projections have been made by the WRAP of the short and long term emissions reductions, visibility improvements, cost savings, and secondary benefits associated with "renewable energy goals, energy efficiency and pollution prevention activities." Projections of visibility improvements for the 16 Class I areas on the Colorado Plateau are provided in Table A-1. 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 G and Tables G-1 through G-5 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 G of this implementation plan 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. Included in Appendix G is 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.

(h) Future progress reports. Pursuant to 40 CFR 51.309(d)(8)(vi), the State of New Mexico shall submit progress reports in 2008, 2013, and 2018, describing the state'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 the state to meet its contribution to these goals, the state shall identify what measures were implemented to achieve its contribution, and explain why meeting its contribution was not feasible.

H. Implementation of Additional Recommendations.

(a) Evaluation of additional Grand Canyon Visibility Transport Commission recommendations. Pursuant to 40 CFR 51.309(d)(9), the State of New Mexico has evaluated the "additional" recommendations of the Grand Canyon Visibility Transport Commission, to determine if any of these recommendations can be practicably included in this implementation plan. The State of New Mexico reviewed the Commissions' 1996 report *Recommendations for Improving Western Vistas* to identify those recommendations that were not incorporated into Section 309 of the Regional Haze Rule.

(b) Implementation of Additional Recommendations. Based on the evaluation made by the State of New Mexico, no additional recommendations were identified that the state believes are practical or necessary for inclusion in this implementation plan at this time.

(c) Future progress reports. Pursuant to 40 CFR 51.309(d)(9), the State of New Mexico shall prepare a progress report in 2008, 2013, and 2018 that contains an evaluation in accordance with Section *(a)* and *(b)* above. Copies of this report shall be provided to EPA and made available to the general public.

I. Periodic implementation plan revisions.

(a) Periodic Progress Reports for demonstrating Reasonable Progress. Pursuant to 40 CFR 51.309(d)(10)(i), the State of New Mexico shall submit to EPA, as a SIP revision, periodic progress reports for the years 2008, 2013, and 2018 for the purpose of demonstrating reasonable progress in Class I areas within New Mexico, and Class I areas outside New Mexico that are affected by emissions from New Mexico. This demonstration may be conducted by the WRAP, with assistance from New Mexico, and shall address the elements listed under 40 CFR 51.309(d)(10)(i)(A) through (G), as summarized 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 State of New Mexico 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 state finds that the implementation plan is inadequate to ensure reasonable progress due to emissions from outside the state, New Mexico shall notify EPA and the other contributing state(s), and initiate efforts through a regional planning process to address the emissions in question. The State of New Mexico shall identify in the next progress report the outcome of this regional planning effort, including any additional strategies that were developed to address the plan's deficiencies;

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

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

J. State planning and interstate coordination.

(a) Participation in Regional Planning and Coordination. Pursuant to 40 CFR 51.309(d)(11), the State of New Mexico 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 Western Regional Air Partnership. The State of New Mexico has not participated in any regional planning and/or interstate coordination outside our participation with the Western Regional Air Partnership. Should this change, Appendix J-1 of this implementation plan will describe any participation in regional planning and interstate coordination outside of work with the Western Regional Air Partnership.

(b) Tribal Implementation. Pursuant to 40 CFR 51.309(d)(12), and in accordance with the Tribal Authority Rule, no Tribes whose lands are surrounded by the State of New Mexico 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. Should this change, Appendix J-2 of this implementation plan will describe the participating Tribes and the emission management strategies in more detail.

(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.

K. Geographic Enhancement.

[~~The purposes of this section of New Mexico's Phase II visibility State Implementation Plan (SIP) are as follows:~~

- ~~Address the authority and obligation that EPA has for reasonably attributable visibility impairment (RAVI) attribution and Best Available Retrofit Technology (BART) determination for a source or group of sources, if and when a Federal Land Manager(s) certifies RAVI for one or more mandatory federal Class I areas in New Mexico;~~
- ~~Clarify why the authority and obligation held by EPA are currently not held by the New Mexico Environment Department;~~
- ~~Explain how the authority and obligation held by EPA may be transferred to the New Mexico Environment Department.~~

~~The authority and obligation held by EPA for RAVI attributions and BART determinations in New Mexico derive from the Federal Implementation Plans (FIPs) that are in place for New Mexico for Phase I of the federal visibility protection regulations (40 CFR 51.300 through 40 CFR 51.307). FIPs are now in place for New Mexico because a SIP was not developed by New Mexico and submitted to EPA in accordance with a May 6, 1985 deadline specified in an April 20, 1984 court-approved settlement between EPA and Environmental Defense Fund (now called Environmental Defense). The court-approved settlement divided Phase I of the federal visibility protection regulations into two parts (Phase I, Part I and Phase I, Part II) and outlined a schedule for EPA to put into place FIPs for New Mexico for each of these two parts.~~

~~New Mexico developed and submitted to EPA a Phase I, Part I visibility SIP in 1986 and a Phase I, Part II visibility SIP in 1992. Although submitted after the deadline, the two SIPs were intended to replace the two FIPs, and in doing so, provide to New Mexico the authority and obligation to undertake RAVI attributions and related BART determinations if and when a Federal Land Manager(s) certifies RAVI for one or more mandatory federal Class I area in New Mexico. However, EPA never approved New Mexico's Phase I visibility SIPs. Compounding the issue is the fact that neither of New Mexico's Phase I visibility SIPs contain language explicitly providing to New Mexico the authority and obligation for RAVI attributions and BART determinations.~~

~~Geographic enhancement, an optional component of New Mexico's Phase II visibility SIP, is meant to address the intersection between a state's existing reasonably attributable BART provision and regional haze BART, which may be met through an emissions trading program such as the milestone/backstop market trading program. RAVI is different from regional haze, in that it addresses visibility impairment in a Class I area that is reasonably attributable to a single source or a small group of sources in relatively close proximity to the Class I area. The geographic enhancement approach allows a state 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. Since New Mexico's Phase I visibility SIPs did not provide to New Mexico authority or obligation to perform RAVI attributions or related BART determinations, EPA continues to hold the authority and obligation through the FIPs that are in place for New~~

~~Mexico's Phase I visibility protection. Accordingly, this Phase II visibility SIP for New Mexico does not include geographic enhancement. The authority and obligation needed by New Mexico to perform RAVI attributions and related BART determinations, and the geographic enhancement that may be necessary with such authority, may be provided to New Mexico by a SIP revision completed at a future date.~~]

1. Geographic Enhancements Program

The requirements for geographic enhancement are discussed on page 35757 in the Preamble to the 1999 regional haze rule. Geographic enhancement is a voluntary approach for addressing reasonably attributable visibility impairment (RAVI) for stationary sources, under the provisions of 40 CFR 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 to accommodate situations where RAVI needs to be addressed. Additional information is contained in the WESTAR report, Recommendations for Making Attribution Determinations in the Context of Reasonably Attributable BART.

Procedure for addressing Reasonably Attributable Visibility Impairment under the Regional Haze Rule. If the Federal Land Manager certifies impairment, the State of New Mexico will fulfill its obligations to determine attribution and if necessary determine BART for the applicable source or group of sources in accordance with New Mexico's SIP for reasonably attributable visibility protection approved by EPA through a notice in the Federal Register on January 27, 2006. The New Mexico SIP for reasonably attributable visibility became effective on March 28, 2006.

2. Applicable WRAP Reports and Documents

See WESTAR report Recommendations for Making Attribution Determinations in the Context of Reasonably Attributable BART (Appendix XX). New Mexico commits to following the recommendations outlined in this report in making RAVI determinations.

L. Reasonable Progress for Additional Class I Areas.

(a) Declaration for other Class I areas. Pursuant to 40 CFR 51.309(g)(1), the State of New Mexico declares it will follow Section 309(g)(2) in developing an implementation plan for the eight Class I areas not on the Colorado Plateau in the State of New Mexico, to be submitted by December 31, 2008. These Class I areas are as follows:

Bandelier National Monument
Bosque del Apache National Wildlife Refuge
Carlsbad Caverns National Park
Gila Wilderness Area
Pecos Wilderness Area
Salt Creek Wilderness Area
Wheeler Peak Wilderness Area
White Mountain Wilderness Area

M. 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.[1]

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.

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

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)."

> 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 M-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, NOx 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 98_{th} 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.

Table M-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	1 Unit	Y	N	WY DEQ	22

State	Plant Name	Unit	BART Eligible	Subject to BART	Modeling Entity	BART Category
	SPRINGS COKING PLANT					
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.

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.

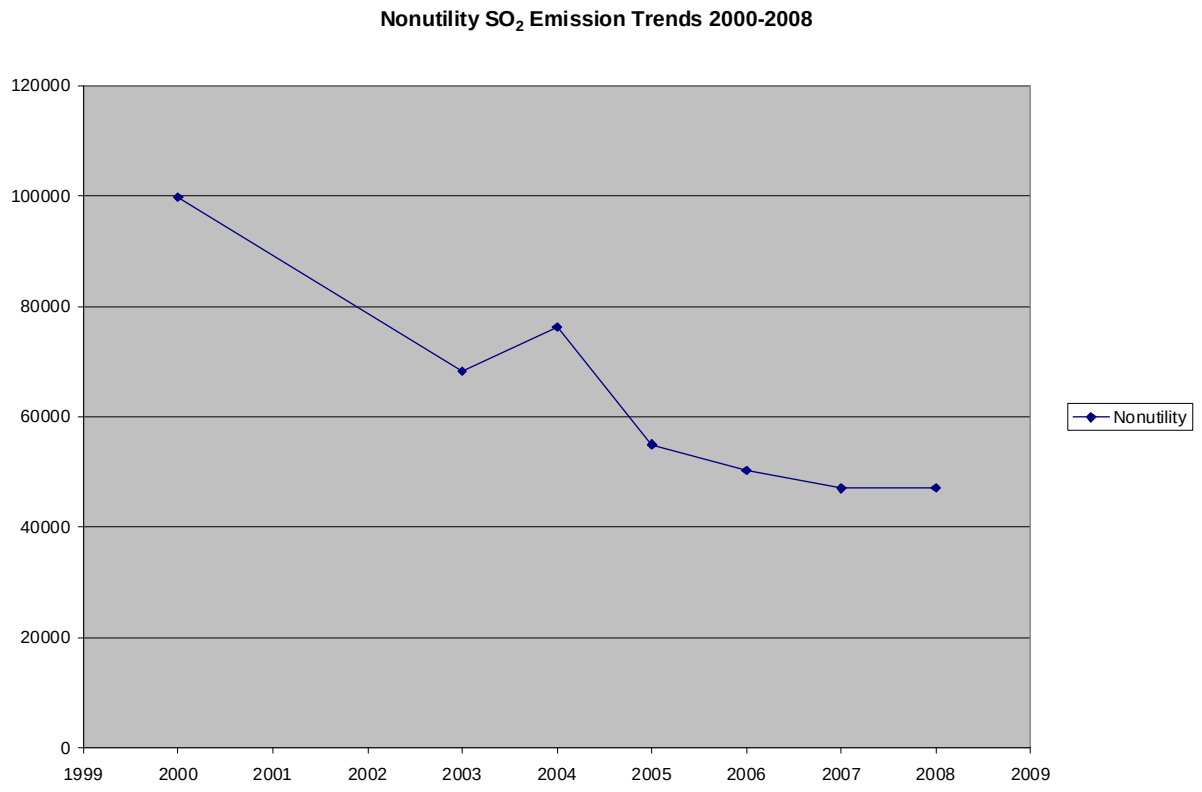


Figure 1. Non-utility Emission Trends

Table M-2 summarizes the projected 2018 Baseline SO_2 emissions for the 3-State region.

Table M-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

E. Estimated Emission Reductions Due to BART

The SO_2 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 analyisis 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
Emission 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 M-3.

Table M-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."[2] 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.[3]

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

[2] *Recommendations for Improving Western Vistas* at 33 (June 1996).

[3] *Id.* at 34.

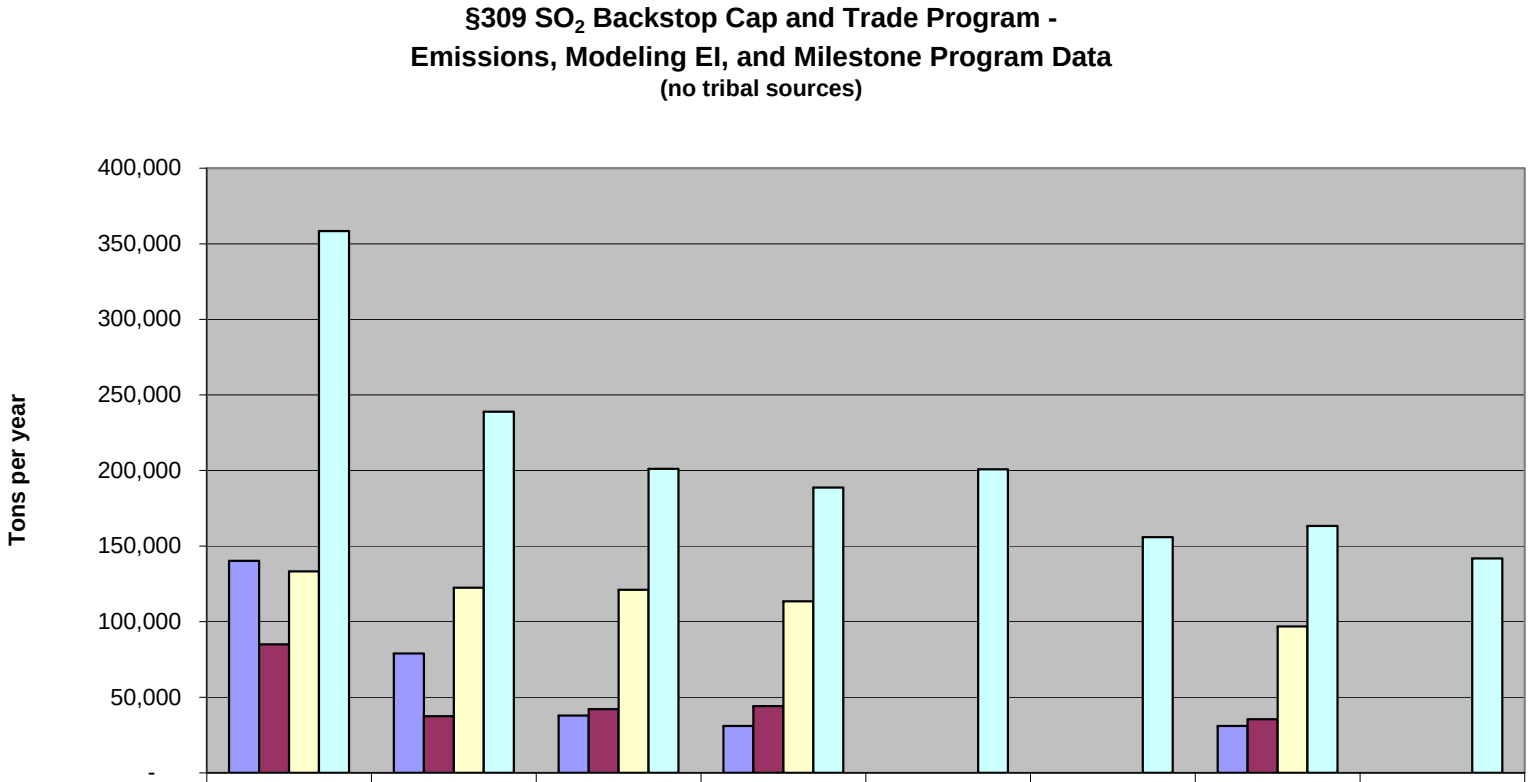
controls at other plants. The 2003 SIP was also designed to encourage early reductions by providing an extra allocation for sources that made reductions prior to the program trigger year. The 2003 SIP influenced the long term planning for sources in the region, and utilities began upgrading plants based 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.[4]
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.

[4] *WRAP 2008 Regional Emissions and Milestone Report*, March 31, 2010.

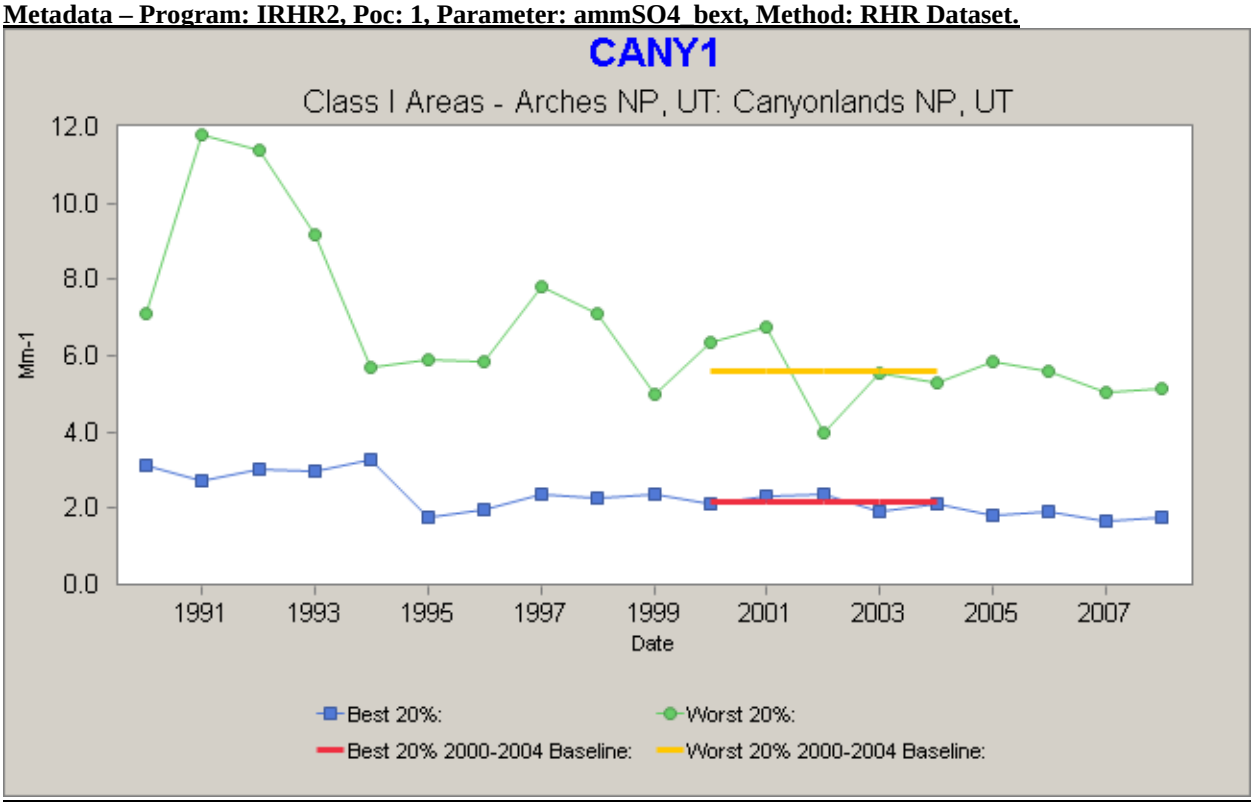
Figure 2. Emission Trends



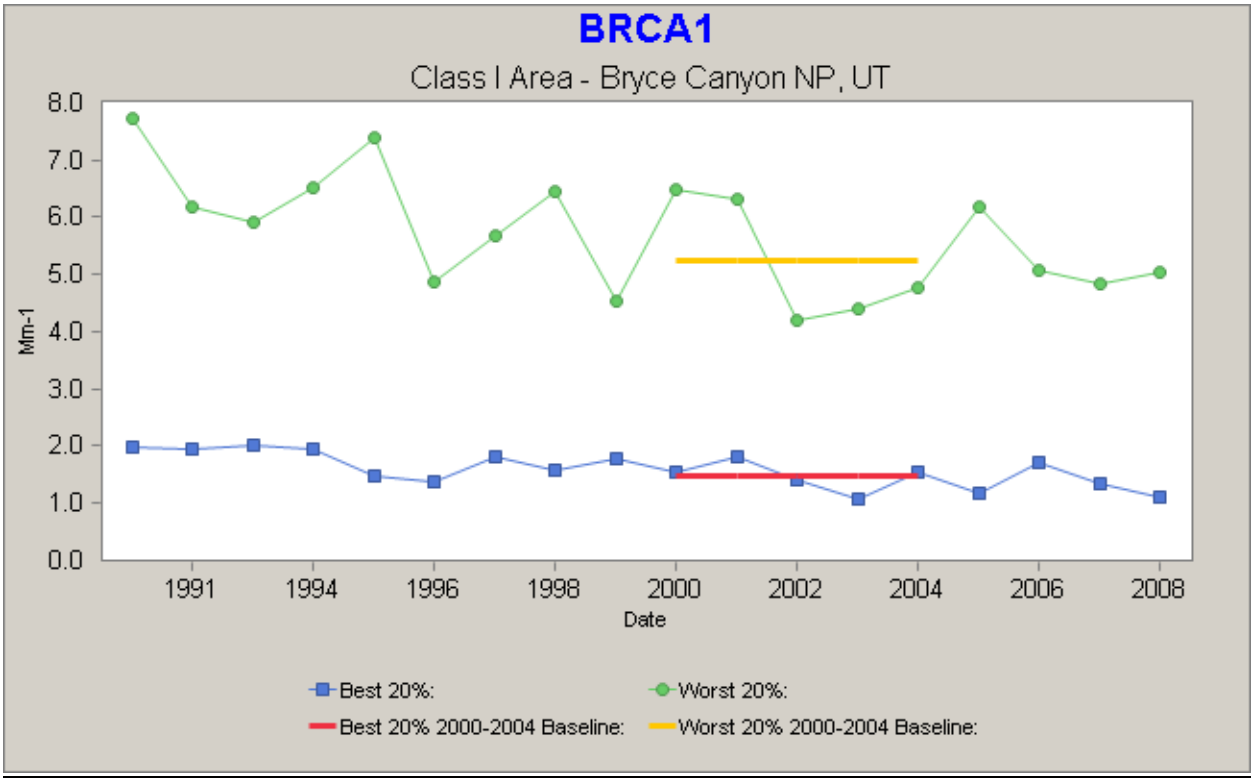
	1990	2000	2002 (Plan02d)	2006 Milestone Report	2008 Milestone	2013 Milestone	2018 (PRP18b)	2018 Milestone
NM	140,177	79,011	37,918	31,068			31,012	
UT	84,983	37,483	42,183	44,175			35,429	
WY	133,204	122,373	120,991	113,465			96,809	
3-State Total	358,364	238,867	201,092	188,708	200,722	155,940	163,250	141,849

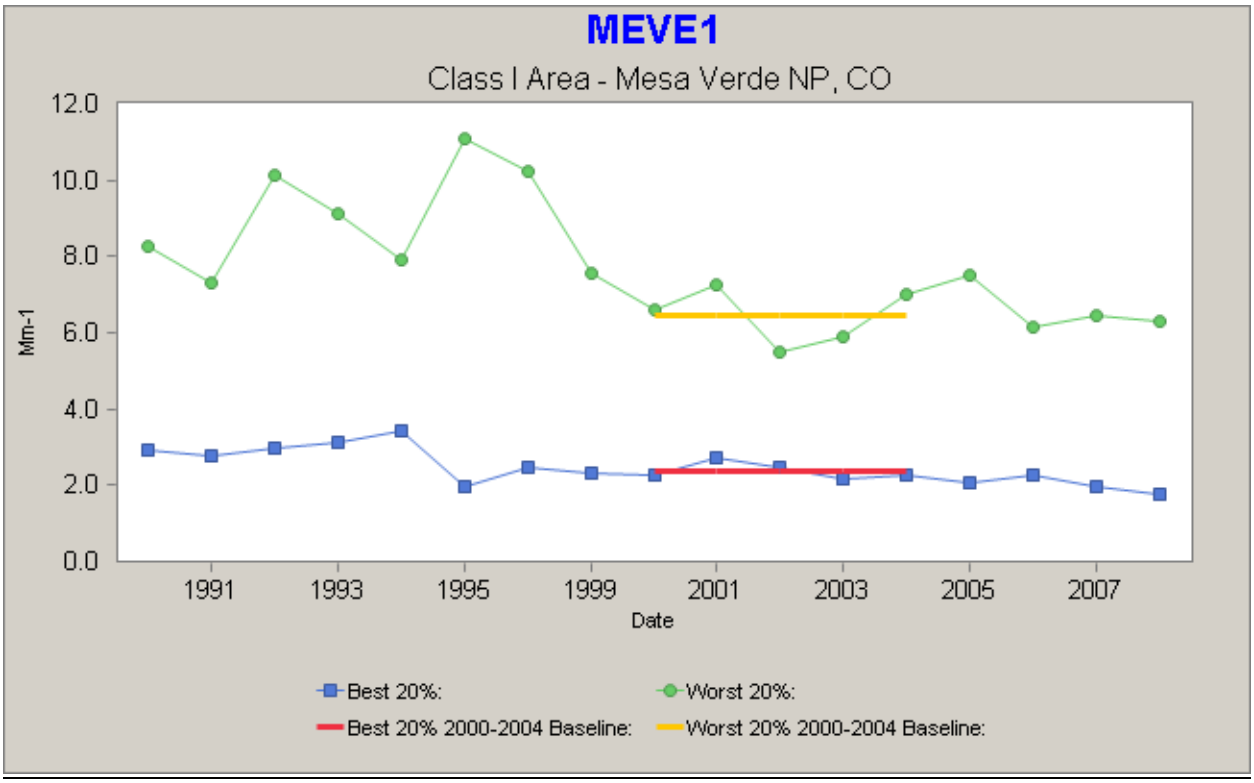
Figure 3. Sulfate Contribution to Light Extinction at Class I Areas on the Colorado Plateau.[5]

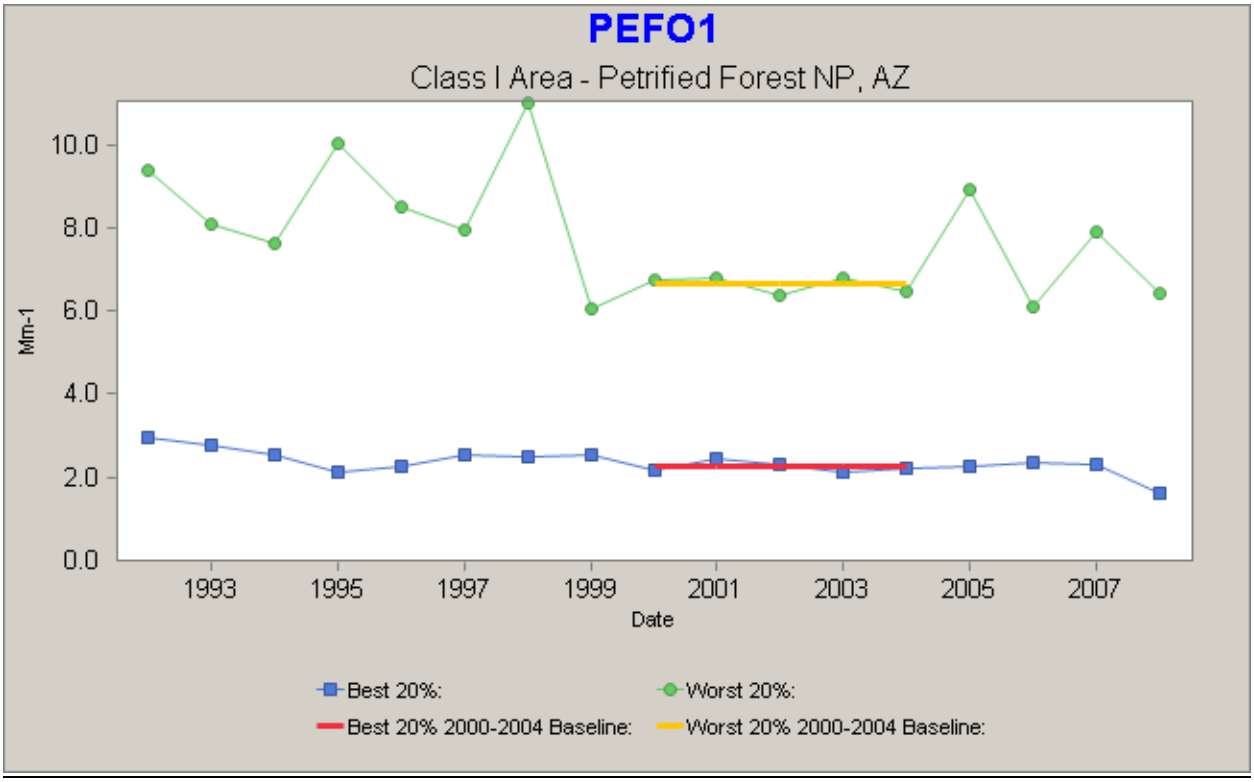
Series – Aggregation: Best 20%, Worst 20%, Best 20% 2000-2004 Baseline, Worst 20% 2000-2004 Baseline, Metadata – Program: IRHR2, Poc: 1, Parameter: ammSO4_bext, Method: RHR Dataset.

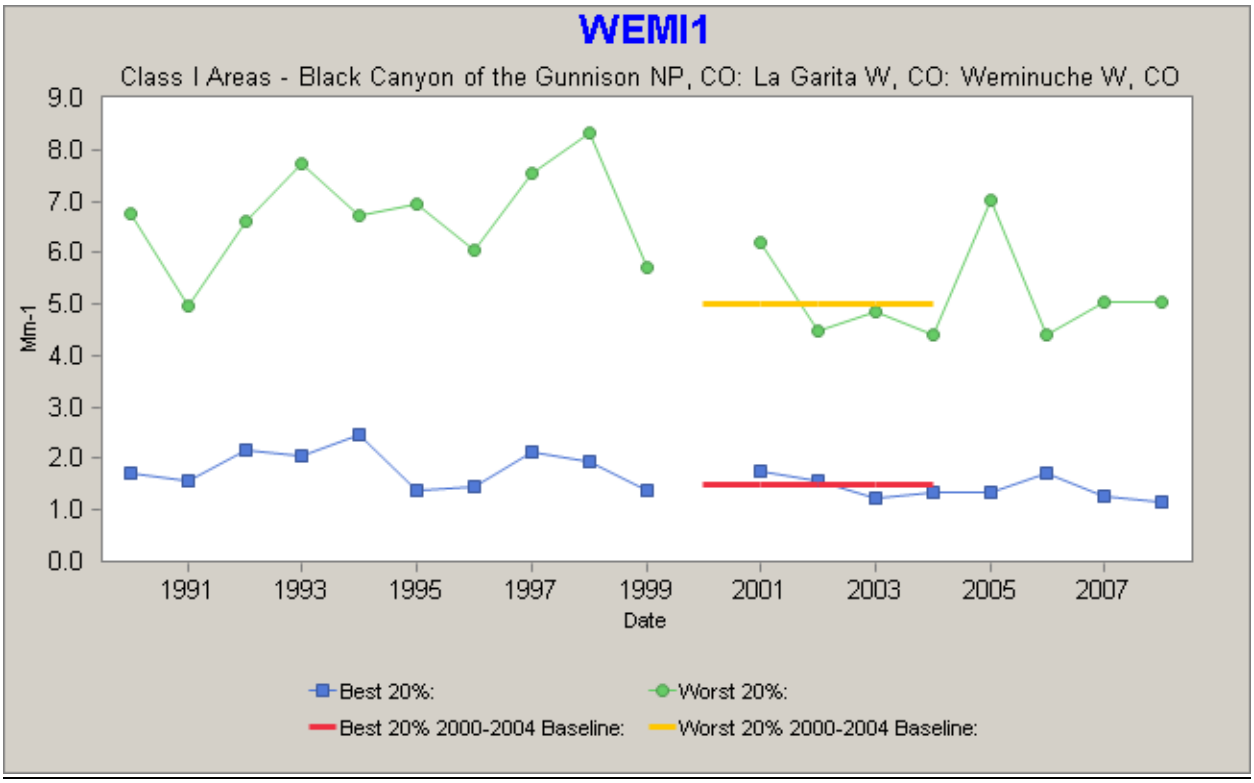


[5] Only those Class I areas on the Colorado Plateau with at least 15 years of data are included in this figure.


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.[6] 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.

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

[6] CAA § 169A(a)(1).

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 Setaside

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.[7] 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."[8] 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 development on tribal lands. In general, these lands are currently lacking in economic bases and have not contributed to the visibility problems.[9]

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[7] *Recommendations for Improving Western Vistas* (June 1996). at 35.

[8] *Id.* at 66-67.

[9] *Id.* at 71.

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 M-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.

Table M-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[10.] 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.[11]"

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10 *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.

11 *Id*. at C-21.