



2004 Regional SO₂ Emissions and Milestone Report

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2004 Regional SO₂ Emissions and Milestone Report

Executive Summary

Under Section 309 of the federal Regional Haze Rule, nine western states and tribes within those states have the option of submitting plans to reduce regional haze emissions that impair visibility at 16 Class I national parks and wilderness areas on the Colorado Plateau. Five states – Arizona, New Mexico, Oregon, Utah, and Wyoming – exercised this option by submitting plans to EPA by December 31, 2003. The tribes were not subject to the deadline and still can opt into the program at any time. Under the Section 309 plans, these five states have begun to track the emissions of the applicable stationary sources as part of the pre-trigger portion of the SO₂ Milestone and Backstop Trading Program. The Western Regional Air Partnership (WRAP) is assisting these states with the implementation and management of the regional emission reduction program.

As part of this program, the participating states must submit an annual Regional Sulfur Dioxide (SO₂) Emissions and Milestone Report that compares emissions to milestones. A milestone is a maximum level of annual emissions for a given year. The first report was submitted in 2004 for the calendar year 2003.

The milestone for 2004 was set at 448,259 tons for the five-state region. To determine whether or not the milestone was met, the 2003 and 2004 adjusted emissions were averaged, and this average was compared to the 2004 milestone. The adjustments to reported emissions were required to allow the current emissions estimates to be comparable to the emissions monitoring or calculation method used in the base year inventory (1999 for utilities and 1998 for all other sources).

The states of Arizona, New Mexico, Oregon, Utah, and Wyoming reported 319,618 tons of SO₂ emissions for the calendar year 2004. The total emissions increased to 337,970 tons of SO₂ after making adjustments to account for changes in monitoring and calculation methods. The adjustments result in an additional 18,352 tons of SO₂ emissions, which is about 6% of the reported total emissions. Adjustments required for changes in Part 75, Acid Rain Program, flow monitor quality assurance methods account for about 16,135 tons (88%) of the increase in the estimate, with the remaining 2,217 tons from other types of monitoring and calculation method changes. The 2004 adjusted emissions total of 337,970 tons was slightly higher than the 2003 adjusted emissions total of 330,679 tons. The average of 2003 and 2004 adjusted emissions is 334,325 tons.

Based on this average adjusted annual emissions estimate, a determination has been made that the five states have met the 2004 regional SO₂ milestone of 448,259 tons. The 448,259 ton milestone was determined as described in Section 51.309(h)(1)(i) and the 309 State Implementation Plans (SIPs). The milestone includes an adjustment to the base milestone to subtract emissions for western states

Based on the adjusted milestone and emissions data, the average of 2003 & 2004 emissions is about 25% below the 2004 five state regional milestone.

not participating. The SIPs contain additional provisions to adjust the milestones to reflect variations in smelter operations, and to account for enforcement actions (to reduce the milestones where an enforcement action identified that emissions in the baseline period were greater than allowable emissions). Based on emissions data received from the states and SIP requirements regarding adjustments to the milestones, the 2004 period requires a 1,356 tons smelter adjustment, but no adjustments at this time for enforcement actions.

The SIPs also require that the annual report identify changes in the source population from year to year and significant changes in a source's emissions from year to year. The significant emissions changes from 2003 to 2004, as well as a list of facilities added to or removed from the list of subject sources included in the base year inventories, are included in Section 7 of this report.

**Table ES-1
 Overview of 2004 Regional Milestone and Emissions for Section 309 Participating States**

<u>2004 Sulfur Dioxide Milestone</u>	
Base Regional 2004 Milestone*	682,000 tons
Adjustments**	
States and Tribes not Participating in the Program	-235,097 tons
Smelter Operations	1,356 tons
Enforcement	0 tons
Adjusted 5-State 2004 Milestone	448,259 tons
<u>2004 Sulfur Dioxide Emissions</u>	
Reported 5-State 2004 Emissions	319,618 tons
Adjustments***	
Part 75 Flow Rate Procedures	16,135 tons
Other Emission Monitoring and Calculation Methods	2,217 tons
Adjusted 5-State 2004 Emissions	337,970 tons
<u>Average Sulfur Dioxide Emissions (2003 & 2004)</u>	
Adjusted 5-State 2004 Emissions	337,970 tons
Adjusted 5-State 2003 Emissions	330,679 tons
Average of 2003 & 2004 Adjusted 5-State Emissions	334,325 tons
<u>Comparison of Emissions to Milestone</u>	
Average of 2003 & 2004 Adjusted 5-State Emissions	334,325 tons
Adjusted 5-state 2004 Milestone	448,259 tons
Difference (negative value = emissions < milestone)	-113,934 tons
2003 & 2004 Emissions Average as Percent of 2004 Milestone	75%

* See 40 CFR 51.309(h)(1), Table 1, Column 3, and the Regional Milestones section of each state's 309 SIP. (Applies if neither the BHP San Manuel nor the Phelps Dodge smelter facilities resume operation.)

** See 40 CFR 51.309(h)(1)(i), and (ii), and (v)-(viii), and the Regional Milestones section of each state's 309 SIP.

*** See 40 CFR 51.309(h)(1)(iii) and (iv), and the Annual Emissions Report section of each state's 309 SIP.

2004 Regional SO₂ Emissions and Milestone Report

1.0 Introduction

1.1 Background

Under Section 309 of the federal Regional Haze Rule (40 CFR Part 51), nine western states and the tribes within those states have the option of submitting plans to reduce regional haze emissions that impair visibility at 16 Class I national parks and wilderness areas on the Colorado Plateau. Five states – Arizona, New Mexico, Oregon, Utah, and Wyoming – and the city of Albuquerque, New Mexico exercised this option by submitting plans to EPA by December 1, 2003. The tribes were not subject to this deadline and still can opt into the program at any time.

Under the Section 309 State Implementation Plans (SIPs), these five states have begun to track emissions under the pre-trigger requirements of the SO₂ Milestone and Backstop Trading Program. The Western Regional Air Partnership (WRAP) is assisting these states with the implementation and management of this regional emission reduction program.

Under the milestone phase of the program, the states have established annual SO₂ emissions targets (from 2003 to 2018). These voluntary emissions reduction targets represent reasonable progress in reducing the emissions that contribute to regional haze. If the participating sources fail to meet the milestones through this voluntary program, then the states will trigger the backstop trading program and implement a regulatory emissions cap for the states, allocate emissions allowances (or credits) to the affected sources based on the emissions cap, and require the sources to hold sufficient allowances to cover their emissions each year.

This report is the second annual report for the milestone phase of this program. The report provides background on regional haze and the Section 309 program, the milestones established under the program, and the emissions reported for 2004. Based on the first two years, the voluntary milestone phase of the program is working, and emissions are well below the target levels.

What is Regional Haze?

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

What U.S. EPA Requirements Apply?

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

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

How Have the WRAP States Responded to EPA Requirements?

Of the nine states (and tribes within those states) that have the option under Section 309 of participating in a regional strategy to reduce SO₂ emissions, five states have submitted Section 309 SIPs to EPA. These states are Arizona, New Mexico, Oregon, Utah, and Wyoming. In addition, the City of Albuquerque has also submitted a Section 309 SIP. To date, no tribes have opted to participate under Section 309, and the other four states of the original nine opted to submit SIPs under Section 308 of the Regional Haze Rule.

The following summarizes a few key elements of the Section 309 process for the five states:

1. Section 309(d)(4)(i) requires SO₂ milestones in the SIP. Section 309(h)(1) contains the actual SO₂ milestones for each year from 2003 to 2018, and includes provisions for making adjustments to these milestones if necessary.
2. Section 309(d)(4)(ii) requires monitoring and reporting of stationary source SO₂ emissions in order to ensure the SO₂ milestones are met. The SIP must commit to reporting to the WRAP as well as to EPA. Section 309(h)(2) specifies that monitoring and reporting starts in 2003, and applies to all sources with reported SO₂ emissions over 100 tons per year. Section 309(h)(2) also contains provisions on how to document emission calculations, conduct record keeping, and comply with other reporting requirements.
3. Section 309(d)(4)(iii) requires that a SIP contain criteria and procedures for activating the trading program within 5 years if an annual milestone is exceeded. A Section 309 SIP

also must provide assessments in 2008, 2013, and 2018. Section 309(h)(3) describes the mechanism for comparing emissions to the milestones using annual emission reports, and allows for a regional planning organization like the WRAP to assist in performing this function. It also includes requirements for public and independent review.

This report responds to Item 3, above, and provides the annual report that compares the 2004 emissions against the milestones for the states that have submitted Section 309 SIPs to EPA.

What Elements Must the Regional SO₂ Emissions and Milestone Report Contain?

To facilitate compliance with the Section 309 SIPs, the WRAP has committed to compiling a regional report on emissions for each year. In accordance with the SIPs, the WRAP will compile the individual state emission reports into a summary report that includes:

1. Reported regional SO₂ emissions (tons/year).
2. Adjustments to account for:
 - Changes in flow rate measurement methods;
 - Changes in emissions monitoring or calculation methods; or
 - Enforcement actions or settlement agreements as a result of enforcement actions.
3. As applicable, average adjusted emissions for the last three years (which are compared to the regional milestone). Since this is the second report, 2003 and 2004 emissions are averaged.
4. Regional milestone adjustments to account for states/tribes not participating in the program and the operational status of certain smelters.

How Is Compliance with the SO₂ Milestone Determined?

While the WRAP assists with the preparation of this report, each state reviews the information in the report, and proposes a draft determination that the regional SO₂ milestone has either been met or exceeded. The draft determination is then submitted for public review and comment during the first part of 2006, culminating in a final report sent to EPA by March 31, 2006.

1.2 Report Organization

This report presents the regional SO₂ emissions and milestone information required by the 309 SIPs for the five states. The report is divided into the following sections, including an appendix:

- Reported SO₂ Emissions in 2004
- Monitoring Methodology Emissions Adjustments
- Two-year Average Emissions
- Enforcement Milestone Adjustments
- Smelter Milestone Adjustments
- Quality Assurance (including Source Change information)
- Preliminary Milestone Determination
- Appendix A - Facility Emissions and Emissions Adjustments

2.0 Reported SO₂ Emissions in 2004

All stationary sources with reported emissions of 100 tons or more per year in 2000 or any subsequent year are required to report annual SO₂ emissions. Table 1 summarizes the annual reported emissions from applicable sources in each state. The 2004 reported SO₂ emissions for each applicable source are listed in Appendix A, Table A-1.

Table 1
Reported 2004 SO₂ Emissions by State

State	Reported 2004 SO ₂ Emissions (tons/year)
Arizona	87,642
New Mexico	50,963
Oregon	17,923
Utah	41,525
Wyoming	121,565
TOTAL	319,618

3.0 Monitoring Methodology Emissions Adjustments

The annual emissions reports for each state include proposed emissions adjustments to ensure consistent comparison of emissions to the milestones. The adjustments account for any differences in emissions that result from changes in the monitoring or calculation methodology used in 2004 as compared to the methodology used to calculate baseline year emissions. The adjustments described in the following sections will also be performed in subsequent reports until the milestones are revised in the SIPs.

3.1 Changes in Part 75 Flow Rate Methodology

The 309 SIPs and Section 51.309(h)(1)(iv) spell out three specific methods for adjusting Part 75 Acid Rain Program electric generating unit emissions due to changes in quality assurance procedures for the flow monitor component of SO₂ continuous emission monitoring systems. These changes involve the use of new flow reference methods in the Relative Accuracy Test

Audit (RATA), which were not available in the 1999 baseline year. The use of these new methods (reference methods 2F, 2G, and 2H) are expected to result in a decrease in the SO₂ emissions measurement.

The three methods in the SIPs for adjusting for flow RATA reference method changes are outlined below:

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:

$$\frac{\text{Heat input/MW for first full year of data using new flow rate method}}{\text{Heat input/MW for last full year of data using old flow rate method}}$$

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

$$\frac{\text{SCF/Unit of Generation for first full year of data using new flow rate method}}{\text{SCF/Unit of Generation for last full year of data using old flow rate method}}$$

New Mexico, Utah, and Arizona provided adjusted emissions for changes in the Part 75 flow RATA reference method for several plants: the Public Service Corp of New Mexico San Juan plant and the Tri-State Escalante plant in New Mexico; the PacifiCorp Carbon, Hunter, and Huntington plants and the Intermountain Power Service Corporation plant in Utah; and the AEPCO Apache Station in Arizona. In addition, the WRAP calculated adjusted emissions for a number of plants in Wyoming for which the state information was incomplete. These include four PacifiCorp plants (Dave Johnston, Jim Bridger, Naughton, and Wyodak) and one Basin Electric plant (Laramie River Station). Changes in the RATA flow reference method result in an upward adjustment for the 2004 SO₂ emissions of 16,135 tons.

The adjustment for each of these plants is listed below in Table 2. The Appendix table A-1 provides additional information on the flow RATA reference method changes, and which adjustment method was used for each plant.

Table 2
Adjustments for Changes in Part 75 Flow RATA

State	Source	Reported 2004 SO ₂ Emissions (tons)	Flow RATA Adjustment (tons)	Adjusted 2004 SO ₂ Emissions (tons)
AZ	AEPCO - Apache Station	2,920	15	2,935
NM	Public Service Co of New Mexico/San Juan Generating Station	16,198	2,590	18,788
NM	Tri-State Gen & Transmission/Escalante Station	1,228	511	1,739
UT	Intermountain Power Service Corporation - Intermountain Generation Station	3,848	19	3,867
UT	PacifiCorp - Carbon Power Plant	5,642	888	6,530
UT	PacifiCorp - Hunter Power Plant	5,726	866	6,592
UT	PacifiCorp - Huntington Power Plant	16,727	2,849	19,576
WY	Basin Electric - Laramie River Station	12,466	-240	12,226
WY	PacifiCorp - Dave Johnston	18,816	3,089	21,905
WY	PacifiCorp - Jim Bridger	22,795	2,752	25,547
WY	PacifiCorp - Naughton	21,173	2,352	23,525
WY	PacifiCorp - Wyodak	7,862	444	8,306

3.2 Changes in Emissions Monitoring and Calculation Methodology

In addition to the specific flow reference method related requirement for Part 75 program sources, there is also a general requirement to account for any changes in emissions monitoring or calculation methods. The reported emissions are adjusted so that the adjusted emissions levels are comparable to the levels that would result if the state used the same emissions monitoring or calculation method that was used in the base year inventory (1999 for utilities and 1998 for all other sources). The net impact throughout the region as a result of these adjustments is an increase of 2,217 tons from the reported 2004 emissions. Table 3 summarizes these results, and Appendix A provides additional source information. Some key aspects of the adjustments include:

- Oregon adjusted its 2004 SO₂ emissions inventory upwards by 2 tons.
- Utah adjusted their emissions downward by 57 tons.

- Wyoming adjusted their emissions upward by 1,083 tons.
- Arizona did not report any emissions adjustments.
- The city of Albuquerque, New Mexico reported that plant baseline emissions were incorrect for two facilities which should not have been included in milestone calculations. In each case, the 1998 baseline emissions were based on the facility potential to emit, and not on reported emissions, which were less than 100 tons per year in 1998 and in each year since then. Thus, their emissions would not typically be included in this report, but until the milestones can be revised in the next SIP revision to correct the baseline error, these sources will be included and adjusted up to their potential to emit so that "paper decreases" in emissions are not counted towards meeting the milestones.
- New Mexico did not have information on the baseline year emissions calculation and monitoring methodologies, and thus did not make any adjustments for facilities under the state's jurisdiction. The 1998 baseline year corresponded to a period when New Mexico's inventory relied on the sources to calculate and report emissions. Also, during that period, New Mexico prepared an emissions inventory every other odd year (1997 and 1999).

Table 3
Adjustments for Changes in Monitoring Methodology
(Oregon, Utah, Wyoming, and Albuquerque, New Mexico)

State	Source	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Monitoring Methodology Adjustment (tons)	Comment
NM	GCC Rio Grande Cement	17	1,103	1,086	Facility potential to emit was used for the baseline year calculation. Adjustment is equal to the difference between reported and potential.
NM	Southside Water Reclamation Plant	17	120	103	Facility potential to emit was used for the baseline year calculation. Adjustment is equal to the difference between reported and potential.
OR	Weyerhaeuser Company	160	162	2	State emission factor changed. Methodology did not.

(cont.)

Table 3
Adjustments for Changes in Monitoring Methodology
(Oregon, Utah, Wyoming, and Albuquerque, New Mexico) (cont.)

State	Source	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Monitoring Methodology Adjustment (tons)	Comment
UT	Tesoro West Coast - Salt Lake City Refinery	893	858	-35	Reported emissions include SO ₃ . SO ₃ was not included in 1998.
UT	Holly Ref. - Phillips Refinery	474	452	-22	Changed from AP42 emission factor to CEM.
WY	Anadarko E&P - Brady	89	147	58	Thermal oxidizer used stack test and hours of operation in 1998; went to CEM in 2002.
WY	Black Hills - Neil Simpson I	1,083	1,174	91	Mass balance approach replaced the 1990 stack test results used in the baseline year.
WY	Frontier Oil & Refining - Cheyenne	1,565	1,557	-8	Source 43 coker flare used stack test and coke cycle time for hours in 1998; went to permitted limit and ratio of reported/ permitted throughput in 2001.
WY	Solvay Minerals - Soda Ash Plant	53	99	46	Coal boilers used stack test and hours in 1998; went to a CEM in 2002.
WY	Sinclair Oil Company - Sinclair Refinery	2,749	3,645	896	FCC unit used stack test and hours of operation in 1998; went to CEM in 2004.

4.0 Two-Year Average Emissions (2003 and 2004)

The SIPs require that the average of the 2003 and 2004 total adjusted emissions be used to determine whether or not average adjusted emissions are greater than or less than the 2004 milestone. The SIPs require multi-year averaging from 2004 to 2017. In 2003, no averaging was done because only one year of data was available. From 2005 to 2017, a three-year average (which includes the reporting year and the two previous years) will be calculated to compare with the milestone.

The 2003 adjusted emissions were 330,679 tons. The 2004 adjusted emissions were 337,970 tons. The average of the two years' emissions is 334,325 tons, which is less than the 2004 adjusted milestone of 448,259 tons.

5.0 Enforcement Milestone Adjustments

The SIPs require that each state report on proposed milestone adjustments that are due to enforcement actions which affect baseline year emissions. The purpose of this adjustment is to remove emissions that occurred above the allowable level in the baseline year from the baseline and the annual milestones. The enforcement milestone adjustments require an approved SIP revision before taking effect (See Section 51.309(h)(1)(v) of the Regional Haze Rule).

Enforcement Milestone Adjustment

New Mexico reported a potential pending adjustment for the Navajo Refining Company's Artesia Refinery. This facility is currently operating under a consent decree entered into with the state of New Mexico and the U.S. EPA. New Mexico is currently in the process of evaluating a potential enforcement milestone adjustment for this facility. The potential adjustment will not affect the 2004 emissions milestones.

6.0 Smelter Milestone Adjustments

Smelter Adjustment Scenarios

There are two general milestone adjustment scenarios for smelters in the 309 SIPs and 40 CFR 51.309(h)(1)(ii). First, if either the BHP San Manuel (Arizona) or Phelps Dodge Hidalgo (New Mexico) smelter resumes operation, the milestones will be increased. Once the adjustments have been made for each smelter, the milestones would not be changed due to future suspensions or changes in plant operations, except as specifically provided in the regulations. At this point neither of these smelters has resumed operation, so this type of adjustment does not apply for the 2004 period.

The second type of adjustment applies to the operations at the remaining smelters. If one or both of the BHP San Manuel or Phelps Dodge Hidalgo smelters do not resume operation, the state or tribe will determine the amount of facility specific set-aside, if any, that will be added to the milestone to account for operational increases at the remaining smelters. This set-aside is only available for use if the annual sulfur input and emissions from the copper smelters are above the baseline levels listed in the applicable SIP. The increase to the milestone is based on a smelter's proportional increase above its baseline sulfur input.

2004 Smelter Adjustment

A comparison of smelter 2004 emissions to baseline levels in Table 3B of Section 51.309 is provided in Table 4, and shows that the Phelps Dodge Miami smelter in Arizona is the only operating smelter with reported 2004 SO₂ emissions above the baseline emissions.

Table 4
Smelter 2004 SO₂ Emissions and Baseline SO₂ Emissions

State	Source	Reported 2004 SO ₂ Emissions (tons)	SO ₂ Baseline Emissions (tons)
AZ	BHP San Manuel	0	16,000
AZ	Asarco Hayden	19,395	23,000
AZ	Phelps Dodge Miami	8,754	8,000
NM	Phelps Dodge Hurley	11*	16,000
NM	Phelps Dodge Hidalgo	0	22,000
UT	Kennecott Salt Lake	870	1,000

* Emissions from power plant operation. The smelter processes did not operate in 2004.

The sulfur throughput for the Phelps Dodge Miami smelter in 2004 was greater than the baseline throughput, triggering the smelter adjustment. The emissions and throughput comparisons and the smelter adjustment calculation for Phelps Dodge Miami are shown in Table 5. The adjustment is 1,356 tons, which is less than the available set-aside of 2,000 tons, and thus the entire adjustment is allowable per the Arizona SIP.

Table 5
Phelps Dodge Miami - Smelter Adjustment

<u>SO₂ Emission Comparison</u>	
2004 Reported Emissions.....	8,754 tons
Baseline Emissions	8,000 tons
Reported 2004 emissions are 754 tons greater than baseline emissions.	
<u>Sulfur Throughput Comparison</u>	
2004 Sulfur Throughput.....	244,063 tons
Baseline Sulfur Throughput*.....	208,700 tons
2004 throughput is 35,363 tons greater than baseline throughput.	
2004 Throughput Increase as a Percent of Baseline Throughput.....	17%
<u>Smelter Adjustment</u>	
2004 Calculated Adjustment (Baseline Emissions x Percent Throughput Increase)**	1,356 tons
Smelter Set-Aside*	2,000 tons
2004 Adjustment (The lesser of the Calculated Adjustment or Set-aside)**	1,356 tons

* See the Arizona SIP, Table 8-3 (Table 3 in the Model SIP)

** See Arizona SIP, Section 8.1.3(4)(e)

7.0 Quality Assurance

The states provided 2004 emissions data based on their state emissions inventories. For this report, additional quality assurance (QA) procedures were used to supplement the normal QA procedures the states follow for their emissions inventories. First, each state submitted a source change report, and second, the states compared their inventory data for utility sources against 40 CFR Part 75 Acid Rain Program monitoring data.

7.1 Source Change Report

Section 51.309(v) and the SIPs require that this annual SO₂ emissions and milestone report include a description of source changes or exceptions report to identify:

1. Any new sources that were not contained in the previous calendar year's emissions report, and an explanation of why the sources are now included in the program (Table 6);
2. 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 (Table 7); and
3. An explanation for emissions variations at any applicable source that exceeds ± 20 percent from the previous year (Table 8). Plants whose emissions variations were greater than 20 percent but less than 20 tons are not listed in Table 8, but are included in Appendix A.

Table 6
Sources Included in This Emissions Report Which Were Not in the 2003 Report

State	County FIP Code	State Facility ID	Facility Name	Reported 2004 SO ₂ Emissions (tons)	Reason for Change
AZ	019	2869	Arizona Portland Cement	107	No process or capacity change. Possible combustion variability.
WY	013		Devon Energy Corp. - Beaver Creek Gas Field	61	In previous years, this facility's emissions were included with Beaver Creek Gas Plant's emissions.

Table 7
Sources Removed from Program

State	County FIP Code	State Facility ID	Facility Name	Baseline Emissions (tons/year)	Reason for Change
AZ	021	15582	BHP - San Manuel Smelter	10,409	Facility is permanently closed.
UT	049	10796	Geneva Steel - Steel Manufacturing Facility	881	Plant is shut down and disassembled.
WY	023	0001	Astaris Production - Coking Plant	1,454	Plant is permanently shut down and dismantled.

Table 8
Sources with an Emissions Change of > ±20% from the Previous Year

State	County FIP Code	State Facility ID	Reported 2003 SO ₂ Emissions (tons)	Reported 2004 SO ₂ Emissions (tons)	Facility Name	Reason for Change
AZ	003	3532	7,899	2,920	AEPCO - Apache Generating Station	Decrease in coal sulfur content.
AZ	003	2148	0	126	CLC - Douglas Lime Plant	Facility back in operation after temporary shutdown.
AZ	001	4477	18,820	13,950	SRP - Coronado Generating Station	Combusted low sulfur coal and used backup scrubber for additional control.
NM	015	350150002	1,956	465	BP America Production/Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant]	In 2004, the facility decreased usage of the amine unit and increased usage of the emergency flares.
NM	015	350150008	1,228	2,565	Marathon Oil/Indian Basin Gas Plant	In 2004, the facility increased usage of the emergency (utility) flare.
NM	015	350150010	702	142	Navajo Refining Co/Artesia Refinery	A consent decree had some effect on lower SO ₂ emissions. However, the decrease is mainly attributed to an SO ₂ scrubber installed on the FCCU.
NM	015	350150285	180	0	Duke Energy/Dagger Draw Gas Plant	The facility did not operate in 2004.
NM	025	350250004	3,574	1,818	Frontier Field Services/Maljamar Gas Plant	The inlet concentration of H ₂ S has been dropping.
NM	025	350250007	1,158	535	J L Davis Gas Processing/Denton Plant	An NOV was issued for exceeding the SO ₂ emissions limit. Engines were replaced as required. Also, there was a short period when no engines operated (after the old engines were shut down and prior to the startup of the new engines), which contributed to lower SO ₂ emissions.
NM	025	350250008	1,360	1,665	Sid Richardson Gasoline/Jal #3	In 2004, the facility increased its usage of the treatment and inlet flares.

(cont.)

Table 8
Sources with an Emissions Change of > ±20% from the Previous Year (cont.)

State	County FIP Code	State Facility ID	Reported 2003 SO ₂ Emissions (tons)	Reported 2004 SO ₂ Emissions (tons)	Facility Name	Reason for Change
NM	025	350250035	3,539	7,837	Duke Energy Field Services/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT]	A compliance order was issued for the flares. In 2004, the facility increased usage of amine units.
NM	025	350250044	1,598	8,023	Duke Energy Field Services/Eunice Gas Plant [Old name: GPM GAS EUNICE GAS PLANT]	A compliance order is in progress. In 2004, the facility increased usage of amine units and flares (inlet gas and plant acid gas) in 2004.
NM	025	350250060	1,109	1,933	Dynegy Midstream Services/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT]	In 2004, the facility increased usage of the acid gas (zink) and emergency flares.
NM	025	350250061	872	2,416	Dynegy Midstream Services/Monument Plant [Old name: WARREN PETROLEUM/MONUMENT PLANT]	In 2004, the facility increased usage of the sulfur incinerator and emergency flare.
OR	007	0004	1,434	878	Fort James Operating Company	The decrease in SO ₂ emissions appears to be due to a decrease in production activity.
OR	009	1849	2,496	1,636	Boise Cascade Corporation	The decrease in SO ₂ emissions appears to be due to a decrease in production activity.
OR	043	3501	231	528	Pope & Talbot, Inc.	The increase in SO ₂ emissions appears to be due to an increase in production activity.
OR	005	2145	380	516	West Linn Paper Company	The increase in SO ₂ emissions appears to be due to an increase in production activity.
UT	035	10335	700	893	Tesoro West Coast - Salt Lake City Refinery	CEM emissions increased for sulfur recovery unit and FCU/CO boiler.

Table 8
Sources with an Emissions Change of > ±20% from the Previous Year (cont.)

State	County FIP Code	State Facility ID	Reported 2003 SO ₂ Emissions (tons)	Reported 2004 SO ₂ Emissions (tons)	Facility Name	Reason for Change
UT	029	10007	58	228	Holcim-Devil's Slide Plant	The kiln ran more hours and different fuels were used. The current stack test increased the emission rate.
UT	027	10313	345	418	Graymont Western US Inc. - Cricket Mountain Plant	Kilns 1, 2, and 3 ran more hours than in 2003. The amount of coal used in 3 and propane in 1 increased significantly.
UT	037	10034	1,224	795	EnCana Oil & Gas (USA) Incorporated (was Tom Brown Incorporated) - Lisbon Natural Gas Processing Plant	New gas injection process reduced incinerator emissions.
WY	037		187	255	Anadarko E&P Co LP - Table Rock Gas Plant	Natural process variation: Increased flaring in 2004 due to power failures & equipment malfunction.
WY	005	0146	432	523	Black Hills Corporation - Wygen 1	Natural process variation: Increased hours of operation & coal use in 2004.
WY	041	0012	6,165	4,284	BP America Production Company - Whitney Canyon Gas Plant	Natural process variation: Decreased SO ₂ emissions from 2003 due to decreases from the main tail gas stack; fuel use at this source decreased proportionately; production decreased by 30% from 2003.
WY	013		3,284	2,163	Burlington Resources - Bighorn Wells	Natural process variation: Reduced flaring in 2004 - different wells are completed in different years.
WY	013	0028	1,332	2,230	Burlington Resources - Lost Cabin Gas Plant	Natural process variation: Increased Train 3 operation & more upsets in 2004.
WY			232	0	Chevron USA - Table Rock Field	Natural process variation: Reduced flaring in 2004 - different wells are completed in different years.

(cont.)

Table 8
Sources with an Emissions Change of > ±20% from the Previous Year (cont.)

State	County FIP Code	State Facility ID	Reported 2003 SO ₂ Emissions (tons)	Reported 2004 SO ₂ Emissions (tons)	Facility Name	Reason for Change
WY	013	0008	70	37	Devon Energy Corp. - Beaver Creek Gas Plant	Natural process variation: Increased operation & more upsets in 2004.
WY	023		241	46	Exxon Mobil Corporation - Black Canyon Dehy	Natural process variation: Increased flaring in 2004 due to equipment malfunction.
WY	043	0003	161	115	Hiland Partners, LLC - Hiland Gas Plant	Natural process variation: Decreased SO ₂ emissions from 2003 due to fewer plant upsets & reduced flaring.
WY	025	0005	1,165	870	Sinclair Oil Company - Casper Refinery	Natural process variation: Decreased SO ₂ emissions from 2003 due to reduced fuel oil use in heaters (better market for asphalt), installation of a tail gas scrubber system on the SRU, & lower emissions from the FCCU due to a crude slate feedstock difference, including increased use of syncrude.
WY	001	0005	159	204	University of Wyoming - Heat Plant	Natural process variation: Increased SO ₂ due to increased 2004 coal sulfur content (0.45%) from 2003 (0.35%).

7.2 Part 75 Data

Federal Acid Rain Program emissions monitoring data (required by 40 CFR Part 75) were used to check reported power plant emissions, and whether or not a monitoring method adjustment was required for changes in Part 75 quality assurance procedures as described in section 3.1 of this report.

Sources in the region subject to Part 75 emitted about two thirds of the region's reported emissions in 2004. EPA's Data and Maps website was queried to obtain power plant SO₂ emissions in the five states which were then compared to totals reported by each state for those plants. The regional haze rule requires the use of Part 75 methods for Part 75 sources, so the reported emissions should match.

EPA's database for the Acid Rain Program also was queried to obtain the flow reference method used in the RATAs reported by the plants since the 1999 baseline year. This information was used to check if there had been a change in flow reference methods since the 1999 baseline year.

8.0 Milestone Determination

The average of 2003 and 2004 adjusted emissions were determined to be 334,325 tons. Therefore, the participating states have met the adjusted regional 2004 milestone of 448,259 tons.

The 2004 milestone for the five participating states was determined as provided in Section 51.309(h)(1) of the rule and the Section 309 SIPs. First, the 682,000 ton milestone in Table 1 (column 3) of the rule is adjusted for states and tribes that have not yet opted to participate in the 309 program by subtracting the amount, as provided in Section 51.309(h)(1)(i), Table 2, for each state or tribe. Then, the milestone is adjusted to account for both changes in smelter operations and certain enforcement actions. This results in an adjusted milestone of 448,259 tons. Table 8 shows each element of the 2004 milestone calculation.

9.0 Public Comments

Each of the states published a draft of this report for public review and comment. One comment was received during the comment period. EnCana Oil and Gas (USA) Incorporated notified the Utah Division of Air Quality that the 2004 SO₂ emissions for the Lisbon Natural Gas Processing Plant in Utah had been miscalculated. The emissions for the plant were revised from 1212 tons in the draft report to 795 tons. The revision also resulted in a greater than 20% change from the plant 2003 emissions. The emissions change occurred due to a new gas injection process which reduced incinerator emissions.

Table 9
Regional 2004 SO₂ Emissions Milestone for the Five States

Base Regional 2004 Milestone*	682,000 tons
Milestone Adjustments**	
States and Tribes not participating in the backstop program:	
California	-37,343 tons
Colorado	-98,897 tons
Idaho	-18,016 tons
Nevada	-20,187 tons
Shoshone-Bannock Tribe of the Fort Hall Reservation	-4,994 tons
Navajo Nation.....	-53,147 tons
Ute Indian Tribe of the Uintah and Ouray Reservation	-1,129 tons
Wind River Reservation	-1,384 tons
Smelter Set-Aside***	1,356 tons
Enforcement	0 tons
Adjusted 5-State 2004 Milestone	
(Arizona, New Mexico, Oregon, Utah, Wyoming)	448,259 tons

* See 40 CFR 51.309(h)(1), Table 1, Column 3, and the Regional Milestones section of each state's 309 SIP (applies if neither the BHP San Manuel nor the Phelps Dodge smelter facilities resume operation).

** See 40 CFR 51.309(h)(1)(i), and (ii), and (v)-(viii), and the Regional Milestones section of each state's 309 SIP.

*** The potential Smelter Set-Aside is 38,000 tons

**Table A-1
2004 Reported and Adjusted Emissions for Sources Subject to Section 309 - Regional Haze Rule**

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Part 75 Flow RATA Emission Adjustment (tons)	General New Monitoring Calculation Method Adjustment (tons)	Description/Comments
AZ	017	1807		Abitibi - Snowflake Pulp Mill	2621	322121	2,020	2,020			
AZ	003	3532	160	AEPCO - Apache Generating Station	4911	221112	2,920	2,935	15		Default wall effects adjustment determined using Method 2H table 2H-2. Current flow rate method is D2H. Flow adjustment determined by using side-by-side comparison of data from new and old flow reference methods during RATA test.
AZ	019	2869		Arizona Portland Cement	3241	32731	107	107			Source newly added to program. No capacity or process changes, possible combustion variability.
AZ	007	2435		ASARCO - Hayden Smelter	3331	331411	19,395	19,395			
AZ	021	15582		BHP - San Manuel Smelter	3331	331411	0	0			Facility has been shut down.
AZ	003	2148		CLC - Douglas Lime Plant	3274	32741	126	126			Facility back in operation since October 2004.
AZ	015	5992		CLC - Nelson Lime Plant	3274	32741	850	850			
AZ	007	5129		Phelps Dodge - Miami Smelter	3331	331411	8,754	8,754			
AZ	025	2393		Phoenix Cement	3241	32731	6	6			New kiln in operation.
AZ	017	447	113	Pinnacle West - Cholla Generating Station	4911	221112	18,241	18,241			
AZ	001	4477	6177	SRP - Coronado Generating Station	4911	221112	13,950	13,950			Combusted low sulfur coal.
AZ	019		126	TEP - Irvington Generating Station	4911	221112	3,297	3,297			
AZ	001	3222	8223	TEP - Springerville Generating Station	4911	221112	17,976	17,976			
NM	015	350150024		Agave Energy/Agave Gas Plant	1311	211111	2,320	2,320			
NM	015	350150002		BP America Production/Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant]	1321	211112	465	465			
NM	025	350150138		Duke - Magnum/Pan Energy - Burton Flats	1321	211112	0	0			In 2000, the facility removed the SRU.
NM	015	350150011		Duke Energy Field Services/Artesia Gas Plant	1321	211112	1,210	1,210			
NM	025	350250044		Duke Energy Field Services/Eunice Gas Plant [Old name: GPM GAS EUNICE GAS PLANT]	1321	211112	8,023	8,023			
NM	025	350250035		Duke Energy Field Services/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT]	1321	211112	7,837	7,837			

(cont.)

**Table A-1
2004 Reported and Adjusted Emissions for Sources Subject to Section 309 - Regional Haze Rule (cont.)**

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Part 75 Flow RATA Emission Adjustment (tons)	General New Monitoring Calculation Method Adjustment (tons)	Description/Comments
NM	015	350150285		Duke Energy/Dagger Draw Gas Plant	1321	211112	0	0			Facility did not operate in 2004.
NM	025	350250060		Dynegy Midstream Services/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT]	1321	211112	1,933	1,933			
NM	025	350250051		Dynegy Midstream Services/Eunice South Gas Plant	1321	211112	0	0			In June 2000, the facility removed the SRU and has operated as a compressor station since then.
NM	025	350250061		Dynegy Midstream Services/Monument Plant [Old name: WARREN PETROLEUM/MONUMENT PLANT]	1321	211112	2,416	2,416			
NM	025	350250063		Dynegy Midstream Services/Saunders Plant [Old name: WARREN PETROLEUM/SAUNDERS PLANT]	1321	211112	569	569			
NM	025	350250004		Frontier Field Services/Maljamar Gas Plant	1321	211112	1,818	1,818			
NM	001	00008		GCC Rio Grande Cement	3241	327310	17	1,103		1,086	Facility potential to emit was used for the baseline year calculation. Adjustment is equal to the difference between potential and reported emissions.
NM	031	350310008		Giant Industries/Ciniza Refinery [Old name: GIANT REFINING/CINIZA]	2911	32411	1,006	1,006			
NM	045	350450023		Giant Industries/San Juan Refinery (Bloomfield) [old name: GIANT INDUSTRIES/BLOOMFIELD REF]	2911	32411	364	364			
NM	025	350250007		J L Davis Gas Processing/Denton Plant	1311	211111	535	535			
NM	015	350150008		Marathon Oil/Indian Basin Gas Plant	1321	211112	2,565	2,565			
NM	015	350150010		Navajo Refining Co/Artesia Refinery	2911	32411	142	142			
NM	023	350230003		Phelps Dodge Hidalgo Smelter	3331	331411	0	0			Facility shut down since September 1999. Permit canceled.
NM	017	350170001		Phelps Dodge Hurley Smelter/Concentrator	3331	331411	11	11			Smelter was offline in 2004. Power generation still operational.
NM	045	350450902	2451	Public Service Co of New Mexico/San Juan Generating Station	4911	221112	16,198	18,788	2,590		Flow adjustment determined by comparing Method 2 to Method 2F results for units 1, 2, and 3.
NM	007	350070001		Raton Pub. Service/Raton Power Plant	4911	221112	196	196			

(cont.)

**Table A-1
2004 Reported and Adjusted Emissions for Sources Subject to Section 309 - Regional Haze Rule (cont.)**

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Part 75 Flow RATA Emission Adjustment (tons)	General New Monitoring Calculation Method Adjustment (tons)	Description/Comments
NM	025	350250008		Sid Richardson Gasoline/Jal #3	1321	211112	1,665	1,665			
NM	001	00145		Southside Water Reclamation Plant	4952	22132	17	120		103	2004 sulfur not reported from facility, but calculated with hours of operation and emission factors. Facility potential to emit was used for the baseline year calculation. Adjustment is equal to the difference between potential and reported emissions.
NM	031	350310032	87	Tri-State Gen & Transmission/Escalante Station	4911	221112	1,228	1,739	511		Flow adjustment determined using ratio of heat input/MW observed during the new vs. old flow rate method. Current method is 2FH.
NM	045	350450247		Western Gas Resources/San Juan River Gas Plant	1321	211112	428	428			
OR	045	0002	54612	Amalgamated Sugar Company, The	2063	311313	775	775			
OR	009	1849		Boise Cascade Corporation	2611	322121	1,636	1,636			
OR	007	0004		Fort James Operating Company	2621	322121	878	878			
OR	041	0005		Georgia-Pacific West, Inc.	2631	322130	418	418			
OR	065	0001		Northwest Aluminum Company, Inc.	3334	331312	0	0			
OR	051	1876		Owens-Brockway Glass Container Inc.	3221	327213	113	113			
OR	043	3501		Pope & Talbot, Inc.	2611	322121	528	528			
OR	049	0016	6106	Portland General Electric Company	4911	221121	12,392	12,392			
OR	071	6142		Smurfit Newsprint Corporation	2611	322122	507	507			
OR	005	2145		West Linn Paper Company	2621	322121	516	516			
OR	043	0471	54944	Weyerhaeuser Company	2621	322130	160	162		2	State emission factor changed since baseline EI. Methodology did not.
UT	049	10790		Brigham Young University - Main Campus	8221	611310	147	147			The percent of sulfur in the fuel changed.
UT	027	10311		Brush Resources Inc. - Delta Mill	1099	212299	0	0			Fuel changed from #5 fuel oil to natural gas and #2 diesel.
UT	011	10119		Chevron Products Co. - Salt Lake Refinery	2911	324110	1,365	1,365			The CEM emission factor changed. The heating value and sulfur content of fuel changed.
UT	037	10034		EnCana Oil & Gas (USA) Incorporated (was Tom Brown Incorporated) - Lisbon Natural Gas Processing Plant	2911	211111	795	795			
UT	011	10122		Flying J Refinery - (Big West Oil Company)	2911	324110	378	378			The CEM emission factor changed.

(cont.)

**Table A-1
2004 Reported and Adjusted Emissions for Sources Subject to Section 309 - Regional Haze Rule (cont.)**

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Part 75 Flow RATA Emission Adjustment (tons)	General New Monitoring Calculation Method Adjustment (tons)	Description/Comments
UT	049	10796		Geneva Steel - Steel Manufacturing Facility	3312	331221	0	0			The source has closed down.
UT	027	10313		Graymont Western US Inc. - Cricket Mountain Plant	1422	212312	418	418			The AP42 emission factor changed.
UT	029	10007		Holcim - Devil's Slide Plant	3241	327310	228	228			The stack test emission factor changed due to a change in fuel.
UT	011	10123		Holly Refining and Marketing Co. - Phillips Refinery	2911	324110	474	452		-22	The company changed the estimation method from AP42 in 1998 to CEM.
UT	027	10327	6481	Intermountain Power Service Corporation - Intermountain Generation Station	4911	221112	3,848	3,867	19		Default wall effects adjustment determined using Method 2H table 2H-2. Current flow rate method is D2H. Flow adjustment determined by using side-by-side comparison of data from new and old flow reference methods during RATA test.
UT	035	10572		Kennecott Utah Copper Corp. - Power Plant/Lab/Tailings Impoundment	1021	212234	2,955	2,955			The stack test emission factor changed for one component.
UT	035	10346		Kennecott Utah Copper Corp. - Smelter & Refinery	3331	331411	870	870			
UT	007	10081	3644	PacifiCorp - Carbon Power Plant	4911	221112	5,642	6,530	888		The RATA method changed from method 2 in 1999 to method 2FH. The flow adjustment factor calculated is 1.17.
UT	015	10237	6165	PacifiCorp - Hunter Power Plant	4911	221112	5,726	6,592	866		Flow adjustment determined using ratio of heat input/MW observed during the new vs. old flow rate method.
UT	015	10238	8069	PacifiCorp - Huntington Power Plant	4911	221112	16,727	19,576	2,849		Flow adjustment determined using ratio of heat input/MW observed during the new vs. old flow rate method.
UT	007	10096		Sunnyside Cogeneration Associates - Sunnyside Cogeneration Facility	4911	221112	929	929			The percent of sulfur in the fuel changed.
UT	035	10335		Tesoro West Coast-Salt Lake City Refinery	2911	324110	893	858		-35	The reported emissions included SO ₃ in 2004. SO ₃ was not included in the 1998 emissions.
UT	043	10676		Utelite Corporation - Shale processing	3295		130	130			
WY	011	0002		American Colloid Mineral Co - East Colony	1459	212325	68	68			
WY	011	0003		American Colloid Mineral Co - West Colony	1459	212325	51	51			

(cont.)

**Table A-1
2004 Reported and Adjusted Emissions for Sources Subject to Section 309 - Regional Haze Rule (cont.)**

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Part 75 Flow RATA Emission Adjustment (tons)	General New Monitoring Calculation Method Adjustment (tons)	Description/Comments
WY	037	0008		Anadarko E&P Co LP - Brady Gas Plant	1321	211112	89	147		58	Thermal oxidizer used stack test and hours of operation in 1998; went to a CEM in 2002.
WY	037			Anadarko E&P Co LP - Table Rock Gas Plant	1321	211112	255	255			
WY	023	0001		Astaris Production - Coking Plant	2999	324199	0	0			Plant is permanently shut down.
WY	031	0001		Basin Electric - Laramie River Station	4911	221112	12,466	12,226	-240		Flow method changed for units 2 & 3 to M2H. Flow adjustment determined by using ratio of heat input/MW observed during the new vs. old flow rate method.
WY	003	0012		Big Horn Gas Proc - Big Horn/Byron Gas Plant	1311	22121	0	0			
WY	005	0002	4150	Black Hills Corporation - Neil Simpson I	4911	22112	1,083	1,174		91	Sulfur retention parameter for mass balance calculation adjusted post-2003.
WY	005	0063	7504	Black Hills Corporation - Neil Simpson II	4911	22112	532	532			
WY	045	0005	4151	Black Hills Corporation - Osage Plant	4911	22112	2,973	2,973			
WY	005	0146	55479	Black Hills Corporation - Wygen 1	4911	22112	523	523			
WY	041			BP America Production Company - Whitney Canyon Gas Field	1311	211111	0	0			
WY	041	0012		BP America Production Company - Whitney Canyon Gas Plant	1311	211111	4,284	4,284			2004 testing of the inlet field flare confirms essentially zero emissions as assumed in the base year calculations.
WY	013			Burlington Resources - Bighorn Wells	1311	211111	2,163	2,163			
WY	013	0028		Burlington Resources - Lost Cabin Gas Plant	1311	211111	2,230	2,230			
WY	041	0009		Chevron USA - Carter Creek Gas Plant	1311	211111	26	26			
WY	037			Chevron USA - Table Rock Field	1311	211111	150	150			
WY	041			Chevron USA - Whitney Canyon/Carter Creek Wellfield	1311	211111	812	812			
WY	013			Devon Energy Corp. - Beaver Creek Gas Field	1311	211111	61	61			Newly added to the program in 2004. In the past, emissions were combined with Beaver Creek Gas Plant.
WY	013	0008		Devon Energy Corp. - Beaver Creek Gas Plant	1311	211111	37	37			
WY	023			Exxon Mobil Corporation - Black Canyon Dehy	1311	211111	46	46			

(cont.)

**Table A-1
2004 Reported and Adjusted Emissions for Sources Subject to Section 309 - Regional Haze Rule (cont.)**

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Part 75 Flow RATA Emission Adjustment (tons)	General New Monitoring Calculation Method Adjustment (tons)	Description/Comments
WY	023	0013		Exxon Mobil Corporation - Shute Creek	1311	211111	1,237	1,237			New equipment installed in 2004 is not a change in methodology.
WY	037	0048		FMC Corp - Green River Sodium Products	2812	327999	5,387	5,387			
WY	037	0049		FMC Wyoming Corporation - Granger Soda Ash Plant	1474	212391	0	0			
WY	021	0001		Frontier - Cheyenne Refinery	2911	32411	1,565	1,557			-8 Source 43 coker flare used stack test & coke cycle time for hours in 1998; went to permitted limit and ratio of actual to permitted throughput in 2001.
WY	037	0002		General Chemical - Green River Plant	1474	327999	4,750	4,750			
WY	043	0003		Hiland Partners, LLC - Hiland Gas Plant	1321	48621	115	115			
WY	029	0012		Howell Petroleum Corp - Elk Basin Gas Plant	1311	211111	1,396	1,396			
WY	029	0007		Marathon Oil Co - Oregon Basin Gas Plant	1321	211112	371	371			Oregon Basin went to a mass CEM in 2002, but used a mass balance calculation in the base year. They no longer keep adequate records of inlet gas concentration to utilize the mass balance method.
WY	001	0002		Mountain Cement Company - Laramie Plant	3241	23571	197	197			
WY	037	0003		P4 Production, L.L.C. - Rock Springs Plant	3312	331111	955	955			New stack test results used for emission calculations do not represent a change in methodology.
WY	009	0001	4158	Pacificorp - Dave Johnston Plant	4911	221112	18,816	21,905	3,089		Flow adjustment determined using ratio of heat input/MW observed during the new vs. old flow rate method. Current flow rate methods are 2F and 2FH.
WY	037	1002	8066	Pacificorp - Jim Bridger Plant	4911	221112	22,795	25,547	2,752		Flow adjustment determined using ratio of heat input/MW observed during the new vs. old flow rate method. Current flow rate methods are 2F and 2FH.
WY	023	0004	4162	Pacificorp - Naughton Plant	4911	221112	21,173	23,525	2,352		Flow adjustment determined using ratio of heat input/MW observed during the new vs. old flow rate method. Current flow rate methods are 2F and 2GH.

(cont.)

**Table A-1
2004 Reported and Adjusted Emissions for Sources Subject to Section 309 - Regional Haze Rule (cont.)**

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2004 SO ₂ Emissions (tons)	Adjusted 2004 SO ₂ Emissions (tons)	Part 75 Flow RATA Emission Adjustment (tons)	General New Monitoring Calculation Method Adjustment (tons)	Description/Comments
WY	005	0046	6101	Pacificorp - Wyodak Plant	4911	221112	7,862	8,306	444		Flow adjustment determined using ratio of heat input/MW observed during the new vs. old flow rate method. Current flow rate method is 2F.
WY	037	0022		Simplot Phosphates - Rock Springs Plant	2874	325312	2,236	2,236			
WY	025	0005		Sinclair Oil Company - Casper Refinery	2911	32411	870	870			
WY	007	0001		Sinclair Oil Company - Sinclair Refinery	2911	32411	2,749	3,645		896	FCC unit used stack test and hours of operation in 1998; went to a CEM in 2004.
WY	037			Solvay Minerals - Soda Ash Plant	1474	212391	53	99		46	Coal boilers used stack test and hours of operation in 1998; went to a CEM post-2001.
WY	015	0001		The Western Sugar Cooperative - Torrington	2063	311313	99	99			
WY	001	0005		University of Wyoming - Heat Plant	8221	61131	204	204			Change in assumed natural gas heat content (Btu/CF) results in negligible change in emissions.
WY	045	0001		Wyoming Refining - Newcastle Refinery	2911	32411	886	886			