



## 2016 Regional SO<sub>2</sub> Emissions and Milestone Report

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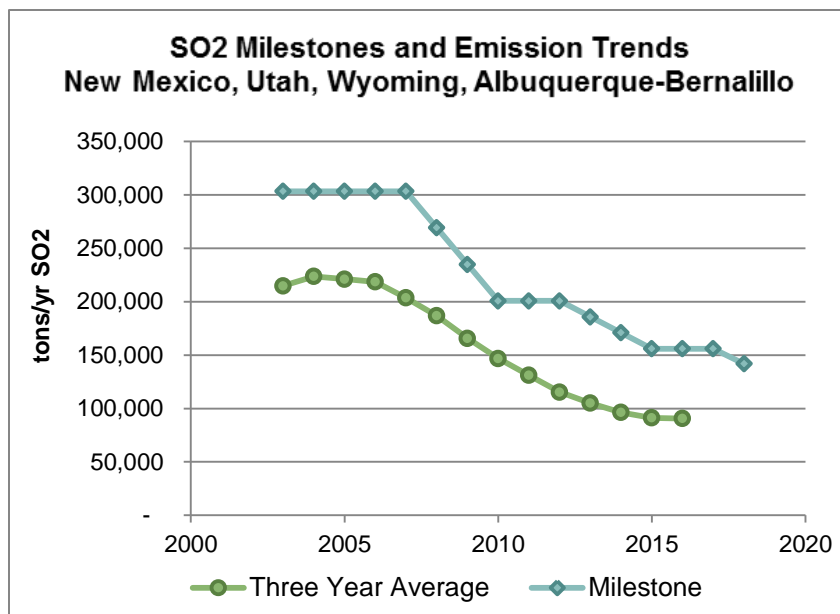
## 2016 Regional SO<sub>2</sub> Emissions and Milestone Report

### 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 areas on the Colorado Plateau. Five states – Arizona, New Mexico, Oregon, Utah, and Wyoming – and Albuquerque-Bernalillo County initially exercised this option by submitting plans to the Environmental Protection Agency (EPA) by December 31, 2003. Oregon elected to cease participation in the program in 2006 and Arizona elected to cease participation in 2010. The tribes were not subject to the deadline and still can opt into the program at any time. Under the Section 309 plans, the three participating states and Albuquerque-Bernalillo County have tracked the emissions of the applicable stationary sources as part of the pre-trigger portion of the SO<sub>2</sub> Milestone and Backstop Trading Program. The Western Regional Air Partnership (WRAP) is assisting these states and county with the implementation and management of the regional emission reduction program. As used in this document, “Section 309 states” means the states of New Mexico, Utah, and Wyoming and Albuquerque-Bernalillo County. (For CAA purposes, this report treats Albuquerque-Bernalillo County as a state because it has authority under federal and state law to administer the CAA separately from the rest of New Mexico).

As part of this program, the Section 309 states must submit an annual Regional Sulfur Dioxide (SO<sub>2</sub>) Emissions and Milestone Report that compares emissions to milestones. A milestone is a maximum level of annual emissions for a given year. The states submitted the first report in 2004 for the calendar year 2003. Over the course of the program, the states have consistently stayed below the milestones.

The regional milestone for 2016 is 155,940 tons. The states averaged the 2014, 2015, and 2016 adjusted emissions as required by Section 309 of the CAA. We compared this average to the 2016 milestone to determine whether the states met the milestone. The adjustments to reported emissions were required to allow the basis of current emission estimates to be comparable to the emissions monitoring or calculation method used in the most recent base year inventory.



As presented in Table ES-1, the Section 309 states reported 88,792 tons of SO<sub>2</sub> emissions for the calendar year 2016. The total emissions increased to 98,035 tons of SO<sub>2</sub> after making adjustments to account for changes in monitoring, calculation methods, and enforcement actions. The adjustments result in an additional 9,243 tons of SO<sub>2</sub> emissions. The adjusted emissions values for 2014 and 2015 were 92,284 and 81,454 tons, respectively. The average of 2014, 2015, and 2016 adjusted emissions was 90,591 tons.

Based on this average annual emissions estimate, the Section 309 states determined that emissions in 2016 were below the regional SO<sub>2</sub> milestone for 2016. The states' Section 309 plans contain provisions to adjust the milestones 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 plan requirements regarding adjustments to the milestones, no enforcement action adjustment is required.

The plans also require that the annual report identify, first, changes in the total number of sources from year to year and, second, significant changes in a source's emissions from year to year. The significant emission changes from 2015 to 2016 are included in Section 6 of this report. A list of facilities added to, or removed from, the list of subject sources in the original base year inventories is included in Appendix B.

**Table ES-1  
Overview of 2016 Regional Milestones and Emissions for Section 309 Participating States**

<b><u>2016 Sulfur Dioxide Milestones</u></b>	
Regional 2016 Milestone*	155,940 tons
Adjusted 2016 Milestone	155,940 tons
<b><u>2016 Sulfur Dioxide Emissions</u></b>	
Reported 2016 Emissions	88,792 tons
Adjustments**	
Emission Monitoring, Calculation Methods, and Enforcement Actions	9,243 tons
Adjusted 2016 Emissions (rounded number)	98,035 tons
<b><u>Average Sulfur Dioxide Emissions (2014, 2015, 2016)</u></b>	
Adjusted 2016 Emissions	98,035 tons
Adjusted 2015 Emissions	81,454 tons
Adjusted 2014 Emissions	92,284 tons
Average of 2014, 2015, & 2016 Adjusted Emissions	90,591 tons
<b><u>Comparison of Emissions to Milestone</u></b>	
Average of 2014, 2015, 2016 Adjusted Emissions	90,591 tons
Adjusted Three-State 2016 Milestone	155,940 tons
Difference (Negative Value = Emissions < Milestone)	-65,349 tons
2014 – 2016 Emissions Average as Percent of 2016 Milestone	58%

\* See the Regional Milestones section of each state's 309 plan.

\*\* See the Annual Emissions Report section of each state's 309 plan.

## 2016 Regional SO<sub>2</sub> 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 State Implementation Plans (SIPs) to reduce regional haze emissions that impair visibility at 16 Class I areas on the Colorado Plateau. Five states — Arizona, New Mexico, Oregon, Utah, and Wyoming — and Albuquerque-Bernalillo County exercised this option by submitting SIPs to the EPA by December 1, 2003. In October 2006, when EPA modified Section 309, Oregon elected to cease participation in the SO<sub>2</sub> Milestone and Backstop Trading Program by not resubmitting a Section 309 SIP. In 2010, Arizona elected to cease participation in the program. The tribes were not subject to this deadline and still can opt into the program at any time.

Under the Section 309 SIPs, these three states and one local air agency have been tracking emissions under the pre-trigger requirements of the SO<sub>2</sub> Milestone and Backstop Trading Program since 2003. 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, Section 309 states have established annual SO<sub>2</sub> emissions targets (from 2003 to 2018). These voluntary emissions reduction targets represent reasonable progress in reducing 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 fourteenth 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 2016. Based on the first thirteen years, the voluntary milestone phase of the program is meeting its reasonable progress targets, 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 EPA issued regulations to address regional haze in 156 national parks and wilderness areas across the country. EPA published these regulations 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 six decades, and requires states to adopt implementation plans.

The 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. States must show that these strategies 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 nine western states and tribes can also use the same strategies to protect the other Class I areas within their own jurisdictions.

The EPA revised the RHR on July 6, 2005 (70 FR 39104), and again on October 13, 2006 (71 FR 60612) in response to two legal challenges. The October 13, 2006 revisions modified Section 309 to provide a methodology consistent with the Court's decision for evaluating the equivalence of alternatives to Best Available Retrofit Technology (BART), such as the alternative Section 309 strategy based on the GCVTC recommendations.

### **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 SO<sub>2</sub> emissions, five states originally submitted Section 309 SIPs to EPA. These states were Arizona, New Mexico, Oregon, Utah, and Wyoming. In addition, Albuquerque-Bernalillo County also submitted a Section 309 SIP. Due to legal challenges, EPA did not approve the initial SIP submittals. EPA did, however, fully approve the regional milestone and backstop trading program in 2012.

Oregon and Arizona have opted out of submitting a revised Section 309 SIP under the modified RHR, which leaves three participating states and Albuquerque-Bernalillo County. 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 RHR.

The following summarizes SO<sub>2</sub> related elements of the Section 309 process for the participating Section 309 states:

1. Section 309(d)(4)(i) requires SO<sub>2</sub> milestones in the SIP and includes provisions for making adjustments to these milestones, if necessary. The milestones must provide for steady and continuing emission reductions through 2018 and greater reasonable progress than BART.
2. Section 309(d)(4)(iii) requires monitoring and reporting of stationary source SO<sub>2</sub> emissions in order to ensure the SO<sub>2</sub> milestones are met. The SIP must commit to reporting to the WRAP as well as to EPA.

3. Section 309(d)(4)(iv) requires that a SIP contain criteria and procedures for activating the trading program within five years if an annual milestone is exceeded. A Section 309 SIP must also provide for assessments of the state's progress in 2013 and 2018.

This report responds to Item 2, above, and provides the annual report that compares the 2016 emissions against the milestones for the states and city that have submitted Section 309 SIPs to EPA.

### **What Elements Must the Regional SO<sub>2</sub> 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 SO<sub>2</sub> emissions (tons/year).
2. Adjustments to account for:
  - 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). Per requirements in the Section 309 SIPs, 2014, 2015, and 2016 emissions are averaged.

### **How Is Compliance with the SO<sub>2</sub> Milestone Determined?**

While the WRAP assists with the preparation of this report, each Section 309 state reviews the information in the report and proposes a draft determination that the regional SO<sub>2</sub> milestone is either met or exceeded for that year. Each state submits the draft determination for public review and comment during the first part of 2018, culminating in a final report sent to EPA by March 31, 2018.

#### ***1.2 Report Organization***

This report presents the regional SO<sub>2</sub> emissions and milestone information required by the 309 SIPs for the Section 309 states. The report is divided into the following sections, including two appendices:

- Reported SO<sub>2</sub> Emissions in 2016;
- Emissions Adjustments Related to Monitoring Methodology or Enforcement Actions;
- Three-Year Average Emissions;
- Enforcement Milestone Adjustments;
- Quality Assurance (Including Source Change Information);
- Milestone Determination;
- Appendix A -- Facility Emissions and Emissions Adjustments; and
- Appendix B -- Changes to SO<sub>2</sub> Emissions and Milestone Source Inventory.

#### ***2.0 Reported SO<sub>2</sub> Emissions in 2016***

The Section 309 SIPs require all stationary sources with reported emissions of 100 tons or more per year in the year 2000, or any subsequent year, to report annual SO<sub>2</sub> emissions. Albuquerque-Bernalillo County reported that they have no emissions sources over 100 tons per

year. Table 1 summarizes the annual reported emissions from applicable sources in each state. The 2016 reported SO<sub>2</sub> emissions for each applicable source are in Appendix A, Table A-1.

**Table 1. Reported 2016 SO<sub>2</sub> Emissions by State**

State	Reported 2016 SO <sub>2</sub> Emissions (tons/year)
New Mexico	11,675
Utah	12,960
Wyoming	64,157
TOTAL	88,792

### *3.0 Emissions Adjustments Related to Monitoring Methodology or Enforcement Actions*

The annual emissions reports for each state include proposed emissions adjustments to ensure consistent comparison of emissions to the milestone. Each state adjusted the reported emissions levels so that they are comparable to the levels that would result if the state used the same emissions monitoring or calculation method used in the base year inventory (2006). The net impact throughout the region, because of adjustments related to the monitoring methodology, is an increase of 1,238 tons from the reported 2016 emissions.

Utah adjusted the emissions from the Carbon Power Plan due to an enforcement action. As part of Utah's Alternative to BART for NO<sub>x</sub>, they required that the Carbon Power Plant shut down. Though there is an actual emissions reduction of 8,005 tons of SO<sub>2</sub> per year, the Utah Air Quality Board approved a Commitment SIP stating that the emissions reductions from the closure will not be counted for both the SO<sub>2</sub> Milestone program and the Alternative to BART controls. Therefore, an additional 8,005 tons of SO<sub>2</sub> are included in the calculations for this milestone report. Table 2 summarizes the emissions adjustments made for changes in monitoring methodology or enforcement actions.

**Table 2. Adjustments for Changes in Monitoring Methodology or Enforcement Actions**

State	Source	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	Monitoring Methodology Adjustment (tons)	Enforcement Action Adjustment (tons)	Description
UT	Chevron Products Co. -- Salt Lake Refinery	34	879	845	--	Increase in Adjusted SO <sub>2</sub> Emissions is due to a correction in the calculation of Adjusted SO <sub>2</sub> Emissions. The previous formula used to calculate SO <sub>2</sub> included flowmeters and engineering judgement etc. The current formula for calculating now incorporates CEM data.
UT	Big West Oil Company - Flying J Refinery	33	177	144	--	Now using CEM data
UT	Holcim-Devil's Slide Plant	183	432	249	--	Facility changed emissions calculation methodology from stack tests to CEM.
UT	PacifiCorp -- Carbon Power Plant	0	8,005	--	8,005	An Utah Enforceable Commitment SIP resolves that SO <sub>2</sub> emissions reductions from the closure of the Carbon plant will not be counted as part of achieving the SO <sub>2</sub> Milestone and as part of the Alternative to BART SIP for NO <sub>x</sub> .



#### 4.0 *Three-Year Average Adjusted Emissions (2014, 2015, and 2016)*

The SIPs require multi-year averaging of emissions from 2004 to 2017 for the milestone comparison. From 2005 to 2017, states compare a three-year average (which includes the reporting year and the two previous years) with the milestone. The average of the three years' emissions from 2014 to 2016 is 90,951 tons. Table 3 shows the adjusted emissions for each year and three-year average emissions. The following report sections describe the adjusted milestone determination.

**Table 3. Average Adjusted SO<sub>2</sub> Emissions (2014, 2015, & 2016)**

Year	Adjusted SO <sub>2</sub> Emissions (tons/year)
2014	94,284
2015	81,454
2016	98,035
Three-Year Average (2014, 2015, 2016)	90,591

#### 5.0 *Enforcement Milestone Adjustments*

The SIPs require that each state report on proposed milestone adjustments 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 EPA-approved SIP revision before taking effect. There were no proposed enforcement action related milestone adjustments reported for 2016.

#### 6.0 *Quality Assurance*

The states provided 2016 emissions data based on their state emissions inventories. States used additional quality assurance (QA) procedures for this report 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.

##### 6.1 *Source Change Report*

The SIPs require that this annual SO<sub>2</sub> emissions and milestone report include a description of source changes or exceptions report to identify the following:

- 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.
- 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.
- An explanation for emissions variations at any applicable source that exceeds  $\pm 20\%$  from the previous year.

Table 4 provides explanations for the emissions variations from applicable sources from 2015 – 2016 that are greater than 20%. Plants with variations greater than 20%, but reported emissions of less than 20 tons in both 2015 and 2016, are not included in Table 4. Information on these plants is provided in Appendix A.

Appendix B provides a list of all sources added or removed from the program inventory in previous reporting years. The states have not added any sources since the 2012 report.

**Table 4. Sources with an Emissions Change of > ±20% from the Previous Year**

State	County FIPS	State Facility Identifier	Plant Name	Reported 2015 SO <sub>2</sub> Emissions (tons)	Reported 2016 SO <sub>2</sub> Emissions (tons)	Description Change > ±20% 2015 to 2016
NM	15	350150024	Agave Energy Co./Agave Dagger Draw Gas Plant	69	1	The decrease is due to the plant operating at steady-state conditions, that is, the previous turnaround conditions have been corrected and flaring decreased significantly.
NM	15	350150002	Frontier Field Services /Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant; BP America Production]	459	271	Decrease due to operating scenario 2 (permitted), where the facility is a natural gas compressor station that receives gas at its low-pressure inlet, dehydrates it, then routes it through pipelines to the Maljamar Gas Plant for processing.
NM	15	350150011	DCP Midstream/Artesia Gas Plant	346	25	Decrease due to addition of a compressor to decrease flaring volume, and upgraded instrumentation.
NM	25	350250035	DCP Midstream/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT]	493	106	Decrease due to the plant not experiencing any upsets in 2016 as it did in 2015. The plant process producers utilized gas that was lower in H <sub>2</sub> S due to market conditions. The low H <sub>2</sub> S gas stream in flaring emits less SO <sub>2</sub> .
NM	25	350250060	VERSADO GAS PROCESSORS, LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT]	115	23	The decrease was due to a decrease in the number of upsets and SSM events.
NM	25	350250004	Frontier Field Services/Maljamar Gas Plant	291	213	The decrease is due to the addition of a second AGI well, 2 compressors, and a pump. The combination has decreased flaring of H <sub>2</sub> S and CO <sub>2</sub> .

State	County FIPS	State Facility Identifier	Plant Name	Reported 2015 SO <sub>2</sub> Emissions (tons)	Reported 2016 SO <sub>2</sub> Emissions (tons)	Description Change > ±20% 2015 to 2016
NM	15	350150008	OXY USA WTP Limited Partnership - Indian Basin Gas Plant [Old Name - Marathon Oil/Indian Basin Gas Plant]	17	51.29	The increase is due to a planned maintenance/overhaul in the acid gas compressor that resulted in an increase in flaring. The flared gas (40.38 tpy) caused the increase from 2015 to 2016 of SO <sub>2</sub> .
NM	25	350250061	Versado Gas Processors, LLC / Monument Plant [Old name(s):TARGA MIDSTREAM SERVICES LP, WARREN PETROLEUM/MONUMENT PLANT]	378	1953	The increase in SO <sub>2</sub> emissions was due to a leak in the casing at the Acid Gas well. Acid gas had to be flared while a new well was drilled.
NM	45	350450247	CCI San Juan, LLC /San Juan River Gas Plant	297	143	The incinerator (I-100) was removed from the NSR permit on September 8, 2016 and subsequently removed from service. In summary, the incinerator ran the majority of 2015 until it was brought to idle service and remained idle until it was removed from the permit and service in late 2016.
NM	25	350250113	ConocoPhillips-Midland Office / East Vacuum Liquid Recovery and CO <sub>2</sub> Plant	41	92	Increase due to the addition of a second train (flare) to accommodate associated produced gas.
UT	11	10119	Chevron Products Co. -- Salt Lake Refinery	24	34	Increase in SO <sub>2</sub> emissions were due to higher SO <sub>2</sub> readings from the CEM at the Sulfur Plant #1.
UT	11	10122	Big West Oil Company - Flying J Refinery	47	33	Decrease in SO <sub>2</sub> emissions was due to a decrease in Plant Gas SO <sub>2</sub> Emission Factor and a slight decrease in throughput at TGU Incinerator.

State	County FIPS	State Facility Identifier	Plant Name	Reported 2015 SO <sub>2</sub> Emissions (tons)	Reported 2016 SO <sub>2</sub> Emissions (tons)	Description Change > ±20% 2015 to 2016
UT	11	10123	Holly Refining and Marketing Co. -- Phillips Refinery	144	91	Decrease in SO2 emissions was due to a lower CEM value at the SRU due to additional control of SO2 from New Wet Gas Scrubber.
UT	27	10327	Intermountain Power Service Corporation -- Intermountain Generation Station	3,768	2,785	Decrease in SO2 emissions was due to a decrease in fuel throughput and therefore lower CEM values.
UT	7	10081	PacifiCorp -- Carbon Power Plant	2,816	0	PacifiCorp Carbon Power Plant Shut Down Permanently in 2015.
UT	15	10237	PacifiCorp -- Hunter Power Plant	4,238	3,197	Decrease in SO2 emissions was due to a decrease in coal throughput and lower % Weight of SO2 in the coal.
UT	37	10034	CCI Paradox Midstream LLC (was Patara Midstream LLC, and was EnCana Oil & Gas (USA) Incorporated and Tom Brown Incorporated) - Lisbon Natural Gas Processing Plant	665	78	The mole % of H2S at the flare was much higher in 2015 due to acid gas (H2S) being routed from the reinjection well to the flare. Since this was not the case in 2016 the SO2 emissions were much lower.
UT	35	10335	Tesoro West Coast -- Salt Lake City Refinery	431	548	Increase in SO2 emissions due to increase in throughput at the FCUU Regenerator.
UT	43	10676	Utelite Corporation -- Shale processing	117	147	Increase in SO2 emissions was due to increased coal consumption at Kilns #1, #3, and #4.
WY	31	1	Basin Electric -- Laramie River Station	8,152	6,045	Increased Outage Period

State	County FIPS	State Facility Identifier	Plant Name	Reported 2015 SO <sub>2</sub> Emissions (tons)	Reported 2016 SO <sub>2</sub> Emissions (tons)	Description Change > ±20% 2015 to 2016
WY	13	28	Burlington Resources -- Lost Cabin Gas Plant	1,299	1,901	Train 1 @ 2 Flare increase due to upset events in 2016 vs 2015, Train 3 flare increased by 430.34 due to mechanical failures and operational issues.
WY	41	9	Chevron USA -- Carter Creek Gas Plant	206	130	Lower Due to Fewer Upset Events
WY	5	225	Cheyenne Light Fuel and Power Company -- Wygen II	173	240	Increase in Operating Time
WY	23	1	Exxon Mobil Corporation -- Labarge Black Canyon Facility	11	107	Higher so2 emissions due to turnaround form July-August
WY	23	13	Exxon Mobil Corporation -- Shute Creek	523	16,930	Higher Due to turnaround from July-August
WY	29	0010	Marathon Oil Co -- Oregon Basin Wellfield	2	77	
WY	1	2	Mountain Cement Company -- Laramie Plant	219	165	Changes due to variability in kiln operation
WY	5	46	PacifiCorp - Wyodak Plant	2,526	1,967	
WY	7	1	Sinclair Oil Company -- Sinclair Refinery	65	83	Higher Operating hours in 2016
WY	37	5	Solvay Chemicals -- Soda Ash Plant (Green River Facility)	25	64	Process change in the operation of the wet SO <sub>2</sub> scrubbers, as well as increase in operation.
WY	37	2	TATA Chemicals (Soda Ash Partners)- - Green River Plant (formerly General Chemical)	4,428	6,034	

State	County FIPS	State Facility Identifier	Plant Name	Reported 2015 SO <sub>2</sub> Emissions (tons)	Reported 2016 SO <sub>2</sub> Emissions (tons)	Description Change > ±20% 2015 to 2016
WY	1	5	University of Wyoming - Heat Plant	62	29	Switched Suppliers resulting in lower sulfur coal
WY	56043	397	Washakie Midstream Services - Worland Gas Plant (WMS)	14	31	<p>Acid Gas Flare: In 2016 there was much more maintenance performed on engines compared to 2015 as well as a needed shutdown in November.</p> <p>Process Flare: There were facility maintenance issues on engines, particularly in March through May and November and December. Furthermore, there was a needed shutdown in November and frozen lines in December.</p> <p>Safety Flare: 4 more compressor blowdown events in 2016 than in 2015, thus more gas sent to this flare.</p>
WY	45	1	Wyoming Refining -- Newcastle Refinery	47	14	Change caused by difference in data calculation, 2016 SO <sub>2</sub> tonnage using data from flare analyzers compared to ap-42 factors in 2015

## 6.2 *Part 75 Data*

Federal Acid Rain Program emissions monitoring data (required by 40 CFR Part 75) were used to check reported power plant emissions.

Sources in the region subject to Part 75 emitted 50% of the region's reported emissions in 2016. We compared Acid Rain Program power plant emission data from EPA's Data and Maps website to plant totals reported by each state. The SIPs require the use of Part 75 methods for Part 75 sources. The reported emissions matched EPA's emission data<sup>a</sup>.

## 7.0 *Milestone Determination*

The Section 309 regional 2016 milestone is 155,940 tons SO<sub>2</sub>, which represents the average regional emissions milestone for the years 2014, 2015, and 2016. The average of 2014, 2015, and 2016 adjusted emissions is 90,591 tons SO<sub>2</sub>; therefore, the participating states have met the 155,940 tons SO<sub>2</sub> milestone.

## 8.0 *Public Comments*

New Mexico, Utah, Wyoming, and Albuquerque-Bernalillo County each published a draft of this report for public review and comment. The draft was also available on the WRAP website. No comments were received.

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<sup>a</sup> The reported emissions for the San Juan Generating Station in NM contain an extra 16 tons of SO<sub>2</sub> emissions due to emission points that are not included in the acid rain data.



**Appendix A**

**Table A-1  
2016 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 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
NM	15	350150024		Agave Energy Co./Agave Dagger Draw Gas Plant	1311	211111	1	1	
NM	15	350150002		Frontier Field Services /Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant; BP America Production]	1321	211112	271	271	
NM	15	350150011		DCP Midstream/Artesia Gas Plant	1321	211112	25	25	
NM	25	350250044		DCP Midstream/Eunice Gas Plant [Old name: GPM GAS EUNICE GAS PLANT]	1321	211112	1434	1434	
NM	25	350250035		DCP Midstream/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT]	1321	211112	106	106	
NM	15	350150138		Duke -- Magnum/Pan Energy -- Burton Flats	1321	211112	0	0	
NM	15	350150285		Duke Energy/Dagger Draw Gas Plant	1321	211112	0	0	
NM	25	350250060		VERSADO GAS PROCESSORS, LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT]	1321	211112	23	23	

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
NM	25	350250004		Frontier Field Services/Maljamar Gas Plant	1321	211112	213	213	
NM	31	350310008		Western Refining Southwest Inc-Gallup Refinery (Old names:Western Refinery/Ciniza Refinery (Gallup) and GIANT REFINING/CINIZA]	2911	32411	33	33	
NM	25	350250007		Davis Gas Processing/Denton Plant	1311	211111	952	952	
NM	15	350150008		OXY USA WTP Limited Partnership - Indian Basin Gas Plant [Old Name - Marathon Oil/Indian Basin Gas Plant]	1321	211112	51.29	51.29	
NM	15	350150010		Navajo Refining Co/Artesia Refinery	2911	32411	38	38	
NM	45	350450902	2451	Public Service Co of New Mexico/San Juan Generating Station	4911	221112	2923	2923	
NM	7	350070001		Raton Pub. Service/Raton Power Plant	4911	221112	0	0	
NM	25	350250008		Regency Field Services/Jal #3 [Old Name Southern Union Gas] /Jal #3	1321	211112	1968	1968	
NM	25	350250051		Versado Gas Processors, LP/Eunice South Gas Plant	1321	211112	0	0	
NM	25	350250061		Versado Gas Processors, LLC / Monument Plant [Old name(s):TARGA MIDSTREAM SERVICES LP, WARREN PETROLEUM/MONUMENT PLANT]	1321	211112	1953	1953	

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
NM	25	350250063		Versado Gas Processors, LLC/Saunders Plant [Old name(s): TARGA MIDSTREAM SERVICES, LP, WARREN PETROLEUM/SAUNDERS PLANT]	1321	211112	417	417	
NM	31	350310032	87	Tri-State Gen & Transmission/Escalante Station	4911	221112	899	899	
NM	45	350450247		CCI San Juan, LLC /San Juan River Gas Plant	1321	211112	143	143	
NM	45	350450023		Western Refining Southwest Inc./Bloomfield Products Terminal [Old name: GIANT INDUSTRIES/BLOOMFIELD REF]	2911	32411	0.20	0.20	
NM	25	350250075		ConocoPhillips-Midland Office / MCA Tank Battery No. 2	1311	211111	184	184	
NM	25	350250113		ConocoPhillips-Midland Office / East Vacuum Liquid Recovery and CO2 Plant	1311	211111	92	92	
UT	49	10790		Brigham Young University -- Main Campus	8221	611310	137	137	
UT	11	10119		Chevron Products Co. -- Salt Lake Refinery	2911	324110	34	879	845
UT	11	10122		Big West Oil Company - Flying J Refinery	2911	324110	33	177	144
UT	27	10313		Graymont Western US Inc. -- Cricket Mountain Plant	1422	212312	16	16	
UT	29	10007		Holcim-Devil's Slide Plant	3241	327310	183	432	249

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
UT	11	10123		Holly Refining and Marketing Co. -- Phillips Refinery	2911	324110	91	91	
UT	27	10327	6481	Intermountain Power Service Corporation -- Intermountain Generation Station	4911	221112	2,785	2,785	
UT	35	10572		Kennecott Utah Copper Corp. -- Power Plant/Lab/Tailings Impoundment	1021	212234	2,152	2,152	
UT	35	10346		Kennecott Utah Copper Corp. -- Smelter & Refinery	3331	331411	735	735	
UT	27	10311		Materion Natural resources - Delta Mill (was Brush Resources)	1099	212299	0	0	
UT	7	10081	3644	PacifiCorp -- Carbon Power Plant	4911	221112	0	8,005	8,005
UT	15	10237	6165	PacifiCorp -- Hunter Power Plant	4911	221112	3,197	3,197	
UT	15	10238	8069	PacifiCorp -- Huntington Power Plant	4911	221112	2,364	2,364	
UT	37	10034		CCI Paradox Midstream LLC (was Patara Midstream LLC, and was EnCana Oil & Gas (USA) Incorporated and Tom Brown Incorporated) - Lisbon Natural Gas Processing Plant	2911	211111	78	78	
UT	7	10096		Sunnyside Cogeneration Associates -- Sunnyside Cogeneration Facility	4911	221112	460	460	
UT	35	10335		Tesoro West Coast -- Salt Lake City Refinery	2911	324110	548	548	
UT	43	10676		Utelite Corporation -- Shale processing	3295	212399	147	147	

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
WY	11	2		American Colloid Mineral Co -- Colony East & West Plants	1459	212325	107	107	
WY	5	45	56609	Basin Electric -- Dry Fork Station	4911	22112	912	912	
WY	31	1	6204	Basin Electric -- Laramie River Station	4911	221112	6,045	6,045	
WY	3	12		Big Horn Gas Proc -- Big Horn/Byron Gas Plant	1311	22121	0	0	
WY	5	2	4150	Black Hills Corporation - Neil Simpson I	4911	22112	0	0	
WY	5	63	7504	Black Hills Corporation - Neil Simpson II	4911	22112	387	387	
WY	45	5	4151	Black Hills Corporation - Osage Plant	4911	22112			
WY	5	146	55479	Black Hills Corporation - Wygen 1	4911	22112	343	343	
WY	5	281	56596	Black Hills Corporation - Wygen III	4911	221112	232	232	
WY	13	0009		Burlington Resources -- Bighorn Wells	1300	21111	2	2	
WY	13	28		Burlington Resources -- Lost Cabin Gas Plant	1311	211111	1,901	1,901	
WY	41	9		Chevron USA -- Carter Creek Gas Plant	1311	211111	130	130	
WY	37	0177		Chevron USA -- Table Rock Field	1300	21111	0	0	
WY	37	14		Chevron USA -- Table Rock Gas Plant (Formerly Anadarko E&P Co LP)	1321	211111	0	0	
WY	41	0008		Chevron USA -- Whitney Canyon/Carter Creek Wellfield	1300	21111	4	4	
WY	5	225	56319	Cheyenne Light Fuel and Power Company -- Wygen II	4911	22112	240	240	

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
WY	37	48		Tronox Alkali Wyoming Corporation -- Green River Sodium Products (Westvaco facility)	2812	327999	2,587	2,587	
WY	13	0007		Devon Energy Production Co., L.P. -- Beaver Creek Gas Field	1300	21111	0	0	
WY	13	8		Devon Gas Services, L.P. -- Beaver Creek Gas Plant	1311	211111	0	0	
WY	23	1		Exxon Mobil Corporation -- Labarge Black Canyon Facility	1300	21111	107	107	
WY	23	13		Exxon Mobil Corporation -- Shute Creek	1311	211111	16,930	16,930	
WY	43	3		Hiland Partners, LLC -- Hiland Gas Plant	1321	48621			
WY	21	1		Holly Frontier Oil & Refining Company -- Cheyenne Refinery	2911	32411	373	373	
WY	29	7		Marathon Oil Co -- Oregon Basin Gas Plant	1321	211112	290	290	
WY	29	0010		Marathon Oil Co -- Oregon Basin Wellfield	1300	21111	77	77	
WY	37	8		Merit Energy Company - Brady Gas Plant (formerly Anadarko E&P Co LP)	1321	211112	0	0	
WY	29			Merit Energy Company - Shoshone Unit Battery		211112	13	13	
WY	29			Merit Energy Company - Frannie Unit Battery No 1		211112	1	1	
WY	29			Merit Energy Company - Cody Battery		211112	11	11	

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
WY	29			Merit Energy Company - Frannie 2 Battery		211112	1	1	
WY	41	0002		Merit Energy Company -- Whitney Canyon WellField	1300	21111	0	0	
WY	41	12		Merit Energy Company -- Whitney Facility	1311	211111	1	1	
WY	1	2		Mountain Cement Company -- Laramie Plant	3241	23571	165	165	
WY	37	3		P4 Production, L.L.C. -- Rock Springs Coal Calcining Plant	3312	331111	629	629	
WY	9	1	4158	PacifiCorp - Dave Johnston Plant	4911	221112	8,527	8,527	
WY	37	1002	8066	PacifiCorp -- Jim Bridger Plant	4911	221112	9,227	9,227	
WY	23	4	4162	PacifiCorp -- Naughton Plant	4911	221112	4,070	4,070	
WY	5	46	6101	PacifiCorp -- Wyodak Plant	4911	221112	1,967	1,967	
WY	37	22		Simplot Phosphates LLC -- Rock Springs Plant	2874	325312	1,506	1,506	
WY	7	1		Sinclair Oil Company -- Sinclair Refinery	2911	32411	83	83	
WY	25	5		Sinclair Wyoming Refining Company -- Casper Refinery	2911	32411	152	152	
WY	37	5		Solvay Chemicals -- Soda Ash Plant (Green River Facility)	1474	325181	64	64	

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2016 SO <sub>2</sub> Emissions (tons)	Adjusted 2016 SO <sub>2</sub> Emissions (tons)	2016 General New Monitoring Calculation Method Adjustment (tons)
WY	37	2		TATA Chemicals (Soda Ash Partners)-- Green River Plant (formerly General Chemical)	1474	327999	6,034	6,034	
WY	15	1		The Western Sugar Cooperative -- Torrington Plant	2063	311313	5	5	
WY	37	49		Tronox Alkali Wyoming Corporation -- Granger Soda Ash Plant	1474	212391	322	322	
WY	1	5		University of Wyoming - Heat Plant	8221	61131	29	29	
WY	29	12		Vanguard Operating, LLC -- Elk Basin Gas Plant	1311	211111	641	641	
WY	56043	397		Washakie Midstream Services - Worland Gas Plant (WMS)	1321	211112	31	31	
WY	45	1		Wyoming Refining -- Newcastle Refinery	2911	32411	14	14	



## Appendix B

**Table B-1**  
**Sources Added to the SO<sub>2</sub> Emissions and Milestone Report Inventory**

State	County FIP Code	State Facility ID	Facility Name	Report Year of Change
UT	043	10676	Utelite Corporation -- Shale processing	2003
WY	011	0002	American Colloid Mineral Company -- East Colony	2003
WY	011	0003	American Colloid Mineral Company -- West Colony	2003
WY	037	0014	Chevron USA (previously owned by Anadarko E&P Company LP) -- Table Rock Gas Plant	2003
WY	005	0146	Black Hills Corporation -- Wygen 1	2003
WY	041	0002	BP America Production Company -- Whitney Canyon Well Field	2003
WY	013	0009	Burlington Resources -- Bighorn Wells	2003
WY	037	0177	Chevron USA -- Table Rock Field	2003
WY	041	0008	Chevron USA -- Whitney Canyon/Carter Creek Wellfield	2003
WY	013	0008	Devon Energy Corp. -- Beaver Creek Gas Plant	2003
WY	035	0001	Exxon Mobil Corporation -- Labarge Black Canyon Facility (also identified as Black Canyon Dehy Facility)	2003
WY	013	0007	Devon Energy Corp. -- Beaver Creek Gas Field	2004
WY	005	0225	Cheyenne Light, Fuel and Power (a subsidiary of Black Hills Corporation) -- Wygen II	2008
WY	005	0281	Black Hills Corporation -- Wygen III	2010
WY	005	0045	Basin Electric -- Dry Fork Station	2011
NM	025	350250075	ConocoPhillips-Midland Office / MCA Tank Battery No. 2	2013
NM	025	350250113	ConocoPhillips-Midland Office / East Vacuum Liquid Recovery and CO2 Plant	2013

**Table B-2**  
**Sources Removed from the SO<sub>2</sub> Emissions and Milestone Report Inventory**

State	County FIP Code	State Facility ID	Facility Name	1998 Baseline Emissions (tons/year)	Reason for Change	Report Year of Change
WY	043	0001	Western Sugar Company -- Worland	154	Emissions did not meet 100 TPY program criteria.	2003
WY	017	0006	KCS Mountain Resources -- Golden Eagle	942	Emissions did not meet 100 TPY program criteria.	2003
WY	003	0017	KCS Mountain Resources -- Ainsworth	845	Closed since 2000.	2003
WY	017	0002	Marathon Oil -- Mill Iron	260	Emissions did not meet 100 TPY program criteria.	2003
UT	049	10796	Geneva Steel -- Steel Manufacturing Facility	881	Plant is shut down and disassembled.	2004
WY	023	0001	Astaris Production -- Coking Plant	1,454	Plant is permanently shut down and dismantled.	2004
ABQ* NM	001	00008	GCC Rio Grande Cement	1,103	Not subject to program after baseline revisions.**	2008
ABQ NM	001	00145	Southside Water Reclamation Plant	120	Not subject to program after baseline revisions.**	2008
NM	023	3502300 03	Phelps Dodge Hidalgo Smelter	16,000	Facility is permanently closed.	2008
NM	017	3501700 01	Phelps Dodge Hurley Smelter/Concentrator	22,000	Facility is permanently closed.	2008
WY	003	00012	Big Horn Gas Processing – Bighorn/Byron Gas Plant	605	Facility is permanently closed and dismantled.	2011

\* ABQ NM means Albuquerque-Bernalillo County.

\*\* 1998 baseline emissions were based on the facilities' potential to emit (PTE), and not actual emissions. Actual annual emissions have always been below 100 tons. Once the year 2006 baseline became effective, these facilities were removed from the inventory.