

# 2023 Regional SO2 Emissions and Milestone Report

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# 2023 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 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 SO2 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 New Mexico, Utah, 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, Section 309 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 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.

From 2003 to 2017 states compared the milestone to a three-year average of SO2 emissions as required by their State Implementation Plans (SIP). The states’ SIPs require them to compare the final 2018 regional milestone to 2018 emissions rather than the three-year average. The regional milestone for 2018 is 141,849 tons. Section 309 of the Regional Haze Rule requires that states continue showing compliance with the final 2018 milestone beyond the first Regional Haze implementation period. In this document, the states report the 2023 adjusted emissions as required by Section 309 of the CAA. We compared the adjusted 2023 emissions to the final 2018 milestone to determine whether the states continue to meet 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 41,420 tons of SO2 emissions for the calendar year 2023. The total emissions increased to 50,767 tons of SO2 after adjusting to account for changes in monitoring, calculation methods, and enforcement actions. The adjustments result in an additional 9,347 tons of SO2 emissions.

Based on this adjusted annual emissions estimate, Section 309 states determined that emissions in 2023 were below the regional SO2 milestone for 2018. 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 2022 to 2023 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 2023 Regional Milestones and Emissions for Section 309 Participating States

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| --- |
| **2018 Sulfur Dioxide Milestones**  Regional 2018 Milestone\* 141,849 tons  Adjusted 2018 Milestone 141,849 tons |
| **2023 Sulfur Dioxide Emissions**  Reported 2023 Emissions 41,420 tons  Adjustments\*\*  Emission Monitoring, Calculation Methods, and Enforcement Actions 9,347 tons  Adjusted 2023 Emissions (rounded number) 50,767 tons |
| **Comparison of Emissions to Milestone**  2023 Adjusted Emissions 50,767 tons  Adjusted Three-State 2018 Milestone 141,849 tons  Difference (Negative Value = Emissions < Milestone) -91,081 tons  2023 Emissions as Percent of 2018 Milestone 35.8% |

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

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

# 2023 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 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 SO2 Milestone and Backstop Trading Program by not resubmitting a SIP under 309. 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 SO2 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 SO2 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 twenty-first 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 2023. Based on the last twenty years of data, 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 prevent any future, and remedy any existing, visibility impairment from anthropogenic air pollution in certain national parks and wilderness areas. 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 SO2 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 SO2 related elements of the Section 309 process for the participating Section 309 states:

1. Section 309(d)(4)(i) requires SO2 milestones in the SIP and includes provisions for adjusting 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 SO2 emissions to ensure the SO2 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 require assessments of the state’s progress in 2013 and 2018.
4. Section 309(d)(4)(vi)(A) requires that unless and until a revised implementation plan is submitted in accordance with § 51.308(f) and approved by EPA, the implementation plan shall prohibit emissions from covered stationary sources in any year beginning in 2018 that exceed the year 2018 milestone.

This report responds to Item 2, above, and provides the annual report that compares the 2023 emissions against the milestones for the states and city 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 emissions monitoring or calculation methods; or
* Enforcement actions or settlement agreements as a result of enforcement actions.

1. As applicable, average adjusted emissions for the last three years (which are compared to the regional milestone). Per requirements in the Section 309 SIPs, it is understood that a single year of emissions are used in the report beginning in 2018.

##### How Is Compliance with the SO2 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 SO2 milestone is either met or exceeded for that year. Each state submits the draft determination for public review and comment, in accordance with its SIP.

## 1.2 Report Organization

This report presents the regional SO2 emissions and milestone information required by the 309 SIPs for the states that opted into the program. The report is divided into the following sections, including two appendices:

* Reported SO2 Emissions in 2023;
* Emissions Adjustments Related to Monitoring Methodology or Enforcement Actions;
* 2023 Adjusted Emissions;
* Enforcement Milestone Adjustments;
* Quality Assurance (Including Source Change Information);
* Milestone Determination;
* Appendix A -- Facility Emissions and Emissions Adjustments; and
* Appendix B -- Changes to SO2 Emissions and Milestone Source Inventory.

## 2.0 Reported SO2 Emissions in 2023

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 SO2 emissions. Table 1 summarizes the annual reported emissions from applicable sources in each state. The 2023 reported SO2 emissions for each applicable source are in Appendix A, Table A-1.

Table 1. Reported 2023 SO2 Emissions by State

|  |  |
| --- | --- |
| **State** | **Reported 2023 SO2 Emissions (tons/year)** |
| Albuquerque-Bernalillo | 87 |
| New Mexico | 905 |
| Utah | 5,046 |
| Wyoming | 35,382 |
| TOTAL | 41,420 |

## 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 1,342 tons from the reported 2023 emissions.

Utah adjusted the emissions from the Carbon Power Plant due to an enforcement action. As part of Utah’s BART alternative for NOx, they required that the Carbon Power Plant shut down. Though there is an actual emissions reduction of 8,005 tons of SO2 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 SO2 Milestone program and the BART alternative controls. Therefore, an additional 8,005 tons of SO2 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 2023 SO2 Emissions (tons)** | **Adjusted 2023 SO2 Emissions (tons)** | **Monitoring Methodology Adjustment**  **(tons)** | **Enforcement Action Adjustment (tons)** | **Description** |
| UT | Holcim-Devil's Slide Plant | 129 | 464 | 335 |  | Now using CEM data |
| UT | PacifiCorp -- Carbon Power Plant | 0 | 8,005 |  | 8,005 | An Utah Enforceable Commitment SIP resolves that SO2 emissions reductions from the closure of the Carbon plant will not be counted as part of achieving the SO2 Milestones and as part of the Alternative to BART SIP for NOx. Therefore, 8,005 tons of SO2 are included in the emissions totals. |
| UT | Chevron Products Co. -- Salt Lake Refinery | 34 | 880 | 846 |  | Increase in Adjusted SO2 Emissions is due to a correction in the calculation of Adjusted SO2 Emissions. The previous formula used to calculate SO2 included flowmeters and engineering judgement etc. The current formula for calculating now incorporates CEM data. |
| UT | Big West Oil Company - Flying J Refinery | 70 | 231 | 162 |  | Now using CEM data |

## 4.0 2023 Adjusted Emissions

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. For this milestone report the SIPs require a comparison of 2023 emissions with the 2018 milestone. The adjusted emissions for 2023 are 50,767 tons. The following report sections describe the adjusted milestone determination.

## 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 actions related to milestone adjustments reported for 2023.

## 6.0 Quality Assurance

The states provided 2023 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 SO2 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 ± 20% from the previous year.

Appendix B provides a list of all sources added or removed from the program inventory in this and previous reporting years.

Table 3 provides explanations for the emissions variations from applicable sources from 2022 – 2023 that are greater than 20%. Plants with variations greater than 20% but reported emissions of less than 20 tons in both 2022 and 2023, are not included in Table 3. Information on these plants is provided in Appendix A.

Table 3. Sources with an Emissions Change of > ±20% from the Previous Year

| **State** | **County FIPS** | **State Facility Identifier** | **Plant Name** | **Reported 2022 SO2 Emissions (tons)** | **Reported 2023 SO2 Emissions (tons)** | **% Change** | **Description Change > ±20% 2022 to 2023** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| NM | 15 | 350150024 | Agave Energy Co./Agave Dagger Draw Gas Plant AI211 | 926 | 299 | -68% | The decrease in emissions was related to reducing flaring on the amine waste gas system. Redundant acid gas injection compressors were put online at the plant to ensure if one unit went down on an automated shutdown, that the redundant unit would pick up the load and continue injecting acid gas into the disposal well rather than having the system overpressure and route to flare. |
| NM | 15 | 350150002 | Frontier Field Services /Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant; BP America Production] AI 191 | 142 | 186 | 31% | An increase in the volume of flared gas in 2023 versus 2022. The H2S content of the gas went down slightly in 2023, but the volumes were up 34%, resulting in an overall 31% SO2 emissions increase. |
| NM | 15 | 350150011 | DCP Midstream/Artesia Gas Plant | 21 | 35 | 67% | Valve on the acid gas injection pump failure. |
| NM | 25 | 350250035 | DCP Midstream/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT] | 36 | 10 | -73% | H2S concentration in the fuel gas was reduced in 2023. |
| NM | 25 | 350250060 | VERSADO GAS PROCESSORS, LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT] AI 609 | 150 | 87 | -42% | The reduction is due to less acid gas flaring year over year at the Eunice Gas Plant. |
| NM | 25 | 350250004 | Frontier Field Services/Maljamar Gas Planta 565 | 72 | 112 | 55% | The increase in production causes pipeline/field to run at high pressure causing automated shutdown of equipment leading to increased flaring. |
| NM | 15 | 350150010 | Navajo Refining Co/Artesia Refinery AI 198 | 42 | 70 | 67% | The increase in SO2 TPY in 2023 was mainly due to flaring events from unit shutdowns caused by planned TAR (turnaround/shutdown), power outages, malfunctions, and other maintenance activities. |
| NM | 45 | 350450902 | Public Service Co of New Mexico/San Juan Generating Station AI 1421 | 604 | - | -100% | Plant shut down |
| NM | 25 | 569 | Regency Field Services/Jal #3 [Old Name Southern Union Gas] /Jal #3 | 72 | 5 | -93% | In late 2022 we installed redundant acid gas injection compression which allowed for a significant reduction in acid gas flaring. |
| NM | 25 | 350250061 | Versado Gas Processors, LLC / Monument Plant [Old name(s): TARGA MIDSTREAM SERVICES LP, WARREN PETROLEUM/MONUMENT PLANT] | 45 | 70 | 54% | Various equipment failures contributed to an increase of acid gas with residue quality fuel being routed to the flare. |
| NM | 25 | 350250075 | ConocoPhillips-Midland Office / MCA Tank Battery No. 2AI 624 | 113 | 0 | -100% | The company made efforts to reduce emissions and improve maintenance of the equipment. |
| NM | 25 | 350250113 | ConocoPhillips-Midland Office / East Vacuum Liquid Recovery and CO2 Plant | 7 | 31 | 335% | The plant experienced lower dips and bad weather that caused the plant to go to flare. |
| UT | 7 | 10096 | Sunnyside Cogeneration Associates -- Sunnyside Cogeneration Facility | 472 | 362 | -23% | The decrease in SO2 in 2023 is due to the plant being offline for two months through September and most of October. |
| UT | 15 | 10237 | PacifiCorp -- Hunter Power Plant | 3,274 | 1,940 | -41% | This facility was operating at lower loads than they maybe ever have historically. The decrease in load is why we see a decrease in SO2 emissions. Coal supply was an issue in 2023, in addition to Hunter and Huntington being dispatched down to accommodate wind and solar loads. |
| UT | 15 | 10238 | PacifiCorp -- Huntington Power Plant | 2,518 | 1,057 | -58% | This facility was operating at lower loads than they maybe ever have historically. The decrease in load is why we see a decrease in SO2 emissions. Coal supply was an issue in 2023, in addition to Hunter and Huntington being dispatched down to accommodate wind and solar loads. |
| UT | 27 | 10313 | Graymont Western US Inc. -- Cricket Mountain Plant | 17 | 29 | 70% | The measured concentration during the 2023 stack test was 4.36 lb/hr, which, while significantly below the limit at 93% compliance, represents an increase by a factor of six from the 0.72 lb/hr measured in 2022. |
| UT | 27 | 10327 | Intermountain Power Service Corporation -- Intermountain Generation Station | 1,667 | 848 | -49% | The decrease in SO2 emissions at IPP was due to several factors including changes in coal quality (a lower % sulfur in the coal burned in 2023 than 2022) and a reduction in load (IPP produced fewer megawatts/burned less coal in 2023 than in 2022). |
| UT | 35 | 10346 | Kennecott Utah Copper Corp. -- Smelter & Refinery | 642 | 430 | -33% | The SO2 emissions decreased because the facility had an extended shutdown last year. For about 4 months, the facility didn’t smelt any copper, reducing the average SO2 emissions for the year. |
| WY | 13 | F000532 | Contango Resources LLC -- Lost Cabin Gas Plant | 1,482 | 2,020 | 36% | The 2022 Train 3 Flare (FLR002) emissions decreased by 110% from 2021. Flaring from Bighorn wells prior to the startup and difficulties during startup contributed significantly to the 2021 flaring emissions. 2022 sulfur tank emissions decreased by 40% from 2021. INC004 emissions decreased by 26% from 2021. Used lower emission factor in 2022 |
| WY | 41 | F000191 | Hilcorp Energy Company -- Carter Creek Gas Plant | 152 | 379 | 150% | The 2022 SO2 emissions reflect a 313.13% increase as the Plant experienced an Unavoidable Equipment Malfunction event that spanned over several days, which was documented with the WDEQ, in December 2022. |
| WY | 23 | F000329 | Exxon Mobil Corporation -- Labarge Black Canyon Dehydration Facility | 63 | 0 | -100% | Major SO2 contributing events for BC in 2022 were on August 6th through August 8th. The highest volume event occurred on August 8th, 2022, when a failed O-ring at the facility led us to shut down and de-inventory to make repairs. This single event accounted for 48.82 tons of SO2 which is 78% of the 62.7 tons of SO2 reported via the Black Canyon SO2 Emissions Inventory. This unavoidable equipment malfunction caused most of the piping infrastructure to depressurize which led to elevated SO2 emissions. |
| WY | 23 | F000327 | Exxon Mobil Corporation -- Shute Creek Treating Facility | 1,911 | 1,114 | -42% | Major SO2 contributing events for the SCF were due to variety of equipment malfunctions mainly at the end of March, end of May, middle of August and end of December. The highest volume event in 2022 occurred on March 29th through April 1st due to the loss of instrument air which caused a total plant shutdown and resulted in 846.43 |
| WY | 29 | F000539 | Merit Energy Company -- Oregon Basin Gas Plant | 263 | 344 | 31% | The SO2 emissions for our Oregon Basin field is all from our flares. Our flares act as emergency control devices when our VRUs go down for various reasons in the field. Because they are emergency flares and not process flares, this means that the volumes that can end up going to them can vary significantly year to year. For instance, we had a lot of issues with our Battery 3 south in 2022, and so why the emissions increased so much. While at other batteries, emissions decreased because of a lessening of emergency situations. We do permit each of our facilities to have an amount of VRU downtime (when we would be flaring) for these emergency instances and we track these volumes and emissions to ensure that we do not go over the permitted amount. |
| WY | 9 | F000644 | Pacificorp - Dave Johnston Plant | 7,292 | 5,501 | -25% | Reduction in SO2 emissions correlate directly with the overall operation hours and load of these units. |
| WY | 1 | F000832 | University of Wyoming - Heat Plant | 82 | 7 | -92% | SO2 emissions in 2022 were higher due to a scheduled increase of coal consumption. |
| WY | 56043 | F026405 | Contango Resources, LLC -- Worland Gas Plant (WMS) | 34 | 42 | 23% | In 2022, there were more engine maintenance activities required. Furthermore, there was a frozen discharge line that required pigging. In 2022, there were multiple maintenance and parts replacements for Units 1 and 2 throughout the year. Furthermore, the plant was shut down and needed multiple attempts to be started back up. |

## 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 67% of the region's reported emissions in 2023. We compared Acid Rain Program power plant emission data from EPA's Clean Air Markets Program Data 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 except for three sources. The sources whose reported emissions did not match EPA’s data are in Table 4. The difference between the Acid Rain Program data and reported emissions for this report for sources in Wyoming is due to emissions factors required by Wyoming Air Quality Standards and Regulations Chapter 14 Section 3 (d).

Table 4. Reported facility emissions that do not match information in the Acid Rain Database

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **State** | **Facility Name** | **Facility ID (ORISPL)** | **Year** | **2023 Acid Rain Database Emissions (tons SO2)** | **2023 Reported Emissions (tons SO2)** |
| WY | Pacificorp -- Naughton Plant | 4162 | 2023 | 1437 | 1,439 |
| WY | Pacificorp - Dave Johnston Plant | 4158 | 2023 | 5500 | 5,501 |
| WY | Basin Electric -- Laramie River Station | 6204 | 2023 | 6630 | 8,451 |

## 7.0 Milestone Determination

The Section 309 regional 2018 milestone is 141,849 tons SO2. The 2023 adjusted emissions are 50,767 tons SO2; therefore, the participating states met the 141,849 tons SO2 milestone.

## 8.0 Public Comments

New Mexico, Albuquerque-Bernalillo, Utah, and Wyoming each published a draft of this report for public review and comment. The draft was also available on the WESTAR-WRAP website at <https://westar.org/regional-haze/>. No public comments were submitted.

# Appendix A

Table A-1

2023 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 2023 SO2 Emissions (tons)** | **Adjusted 2023 SO2 Emissions (tons)** | **2023 General New Monitoring Calculation Method Adjustment (tons)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ABQ | 1 | 3500100008 |  | GCC Rio Grande Inc. - Portland Cement Manufacturer | 3241 | | 327310 | 87 | 87 | 0 |
| NM | 15 | 350150024 |  | Agave Energy Co./Agave Dagger Draw Gas Plant AI211 | 1311 | | 21112 | 299 | 299 | 0 |
| NM | 15 | 350150002 |  | Frontier Field Services /Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant; BP America Production] AI 191 | 1321 | | 21113 | 186 | 186 | 0 |
| NM | 15 | 350150011 |  | DCP Midstream/Artesia Gas Plant | 1321 | | 211112 | 35 | 35 | 0 |
| NM | 25 | 350250044 |  | DCP Midstream/Eunice Gas Plant [Old name: GPM GAS EUNICE GAS PLANT] AI 595 | 1321 | | 21113 | - | - | 0 |
| NM | 25 | 350250035 |  | DCP Midstream/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT] | 1321 | | 21113 | 10 | 10 | 0 |
| NM | 15 | 350150138 |  | Duke -- Magnum/Pan Energy -- Burton Flats | 1321 | | 211112 | - | - | 0 |
| NM | 15 | 350150285 |  | Duke Energy/Dagger Draw Gas Plant | 1321 | | 211112 | - | - | 0 |
| NM | 25 | 350250060 | 609 | VERSADO GAS PROCESSORS, LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT] AI 609 | 1321 | | 21113 | 87 | 87 | 0 |
| NM | 25 | 350250004 |  | Frontier Field Services/Maljamar Gas Plant aI 565 | 1321 | | 21113 | 112 | 112 | 0 |
| NM | 31 | 350310008 |  | Western Refining Southwest Inc-Gallup Refinery {Old names: Western Refinery/Ciniza Refinery (Gallup) and GIANT REFINING/CINIZA] AI 888 | 2911 | | 236220 | - | - | 0 |
| NM | 25 | 350250007 |  | Davis Gas Processing/Denton Plant AI 568 | 1311 | | 21113 | - | - | 0 |
| NM | 15 | 350150008 |  | OXY USA WTP Limited Partnership - Indian Basin Gas Plant [Old Name -Marathon Oil/Indian Basin Gas Plant] --AI197 | 1321 | | 211112 | - | - | 0 |
| NM | 15 | 350150010 |  | Navajo Refining Co/Artesia Refinery AI 198 | 2911 | | 32411 | 70 | 70 | 0 |
| NM | 45 | 350450902 | 2451 | Public Service Co of New Mexico/San Juan Generating Station AI 1421 | 4911 | | 221112 | - | - | 0 |
| NM | 7 | 350070001 |  | Raton Pub. Service/Raton Power Plant | 4911 | | 221112 | - | - | 0 |
| NM | 25 | 569 |  | Regency Field Services/Jal #3 [Old Name Southern Union Gas] /Jal #3 | 1321 | | 21113 | 5 | 5 | 0 |
| NM | 25 | 350250051 |  | Versado Gas Processors, LP/Eunice South Gas Plant | 1321 | | 211112 | - | - | 0 |
| NM | 25 | 350250061 |  | Versado Gas Processors, LLC / Monument Plant [Old name(s):TARGA MIDSTREAM SERVICES LP, WARREN PETROLEUM/MONUMENT PLANT] | 1321 | | 21113 | 70 | 70 | 0 |
| NM | 25 | 350250063 |  | Versado Gas Processors, LLC/Saunders Plant [Old name(s): TARGA MIDSTREAM SERVICES, LP, WARREN PETROLEUM/SAUNDERS PLANT] | 1321 | | 21113 | - | - | 0 |
| NM | 31 | 350310032 | 87 | Tri-State Gen & Transmission/Escalante Station | 4911 | | 221112 | - | - | 0 |
| NM | 45 | 350450247 |  | CCI San Juan, LLC /San Juan River Gas Plant | 1321 | | 21113 | - | - | 0 |
| NM | 45 | 350450023 |  | Western Refining Southwest Inc./Bloomfield Products Terminal [Old name: GIANT INDUSTRIES/BLOOMFIELD REF] AI 1156 | 2911 | | 42471 | 0 | 0 | 0 |
| NM | 25 | 350250075 |  | ConocoPhillips-Midland Office / MCA Tank Battery No. 2AI 624 | 1311 | | 21113 | 0 | 0 | 0 |
| NM | 25 | 350250113 |  | ConocoPhillips-Midland Office / East Vacuum Liquid Recovery and CO2 Plant | 1311 | | 21112 | 31 | 31 | 0 |
| UT | 29 | 10007 |  | Holcim-Devil's Slide Plant | 3241 | | 327310 | 129 | 464 | 335 |
| UT | 37 | 10034 |  | Green Ventures, LLC (was Paradox Midstream LLC CCI Paradox Midstream LLC and Patara Midstream LLC and EnCana Oil & Gas (USA) Incorporated and Tom Brown Incorporated) - Lisbon Natural Gas Processing Plant | 2911 | | 211120 | 0 | 0 | 0 |
| UT | 7 | 10081 | 3644 | PacifiCorp -- Carbon Power Plant | 4911 | | 221112 | 0 | 8,005 | 8,005 |
| UT | 7 | 10096 |  | Sunnyside Cogeneration Associates -- Sunnyside Cogeneration Facility | 4911 | | 221112 | 362 | 362 | 0 |
| UT | 11 | 10119 |  | Chevron Products Co. -- Salt Lake Refinery | 2911 | | 324110 | 34 | 880 | 846 |
| UT | 11 | 10122 |  | Big West Oil Company - Flying J Refinery | 2911 | | 324110 | 70 | 231 | 162 |
| UT | 11 | 10123 |  | Holly Refining and Marketing Co. -- Phillips Refinery | 2911 | | 324110 | 12 | 12 | 0 |
| UT | 15 | 10237 | 6165 | PacifiCorp -- Hunter Power Plant | 4911 | | 221112 | 1,940 | 1,940 | 0 |
| UT | 15 | 10238 | 8069 | PacifiCorp -- Huntington Power Plant | 4911 | | 221112 | 1,057 | 1,057 | 0 |
| UT | 27 | 10311 |  | Materion Natural resources - Delta Mill (was Brush Resources) | 1099 | | 212299 | 4 | 4 | 0 |
| UT | 27 | 10313 |  | Graymont Western US Inc. -- Cricket Mountain Plant | 1422 | | 212312 | 29 | 29 | 0 |
| UT | 27 | 10327 | 6481 | Intermountain Power Service Corporation -- Intermountain Generation Station | 4911 | | 221112 | 848 | 848 | 0 |
| UT | 35 | 10335 |  | Tesoro West Coast -- Salt Lake City Refinery | 2911 | | 324110 | 18 | 18 | 0 |
| UT | 35 | 10346 |  | Kennecott Utah Copper Corp. -- Smelter & Refinery | 3331 | | 331410 | 430 | 430 | 0 |
| UT | 35 | 10572 |  | Kennecott Utah Copper Corp. -- Power Plant/Lab/Tailings Impoundment | 1021 | | 212230 | 0 | 0 | 0 |
| UT | 43 | 10676 |  | Utelite Corporation -- Shale processing | 3295 | | 212325 | 110 | 110 | 0 |
| UT | 49 | 10790 |  | Brigham Young University -- Main Campus | 8221 | | 611310 | 1 | 1 | 0 |
| WY | 11 | F021196 |  | American Colloid Mineral Co -- Colony East & West Plants | 1459 | | 212325 | 0 | 0 | 0 |
| WY | 5 | F020818 | 56609 | Basin Electric -- Dry Fork Station | 4911 | | 22112 | 887 | 887 | 0 |
| WY | 31 | F000085 | 6204 | Basin Electric -- Laramie River Station | 4911 | | 221112 | 8,451 | 8,451 | 0 |
| WY | 3 |  |  | Big Horn Gas Proc -- Big Horn/Byron Gas Plant | 1311 | | 22121 | - | - | 0 |
| WY | 5 | F030139 | 4150, 7504, 55479, 56596, 56319 | Neil Simpson Complex - includes WYGEN I, WYGEN II, WYGEN III, Neil Simpson I, and Neil Simpson II | 4911 | | 22112 | 1068 | 1068 | 0 |
| WY | 45 |  | 4151 | Black Hills Corporation - Osage Plant | 4911 | | 22112 | - | - | 0 |
| WY | 13 | F022325 |  | Contango Resources LLC -- Bighorn 10-5 (Formerly Bighorn Wells) | 1300 | | 21111 | 0 | 0 | 0 |
| WY | 13 | F000532 |  | Contango Resources LLC -- Lost Cabin Gas Plant | 1311 | | 211111 | 2,020 | 2,020 | 0 |
| WY | 41 | F000191 |  | Hilcorp Energy Company -- Carter Creek Gas Plant | 1311 | | 211111 | 379 | 379 | 0 |
| WY | 37 |  |  | Chevron USA -- Table Rock Field | 1300 | | 21111 | - | - | 0 |
| WY | 37 |  |  | Chevron USA -- Table Rock Gas Plant (Formerly Anadarko E&P Co LP) | 1321 | | 211111 | - | - | 0 |
| WY | 41 | W000001 |  | Northshore Exploration & Production -- Whitney Canyon/Carter Creek Wellfield | 1300 | | 21111 | - | - | 0 |
| WY | 37 | F000349 |  | Genesis Alkali Wyoming LP -- Westvaco Facility | 2812 | | 327999 | 2,045 | 2,045 | 0 |
| WY | 13 | W000002 |  | Devon Energy Production Co., L.P. -- Beaver Creek Gas Field | 1300 | | 21111 | - | - | 0 |
| WY | 13 | F000058 |  | Denbury Onshore LLC -- Beaver Creek Compressor Station | 1311 | | 211111 | 0 | 0 | 0 |
| WY | 23 | F000329 |  | Exxon Mobil Corporation -- Labarge Black Canyon Dehydration Facility | 1300 | | 21111 | 0 | 0 | 0 |
| WY | 23 | F000327 |  | Exxon Mobil Corporation -- Shute Creek Treating Facility | 1311 | | 211111 | 1,114 | 1,114 | 0 |
| WY | 43 | F026405 |  | Hiland Partners, LLC -- Hiland Gas Plant | 1321 | | 48621 | - | - | 0 |
| WY | 21 | F030136 |  | Holly Frontier Cheyenne Refining-- Cheyenne Renewable Diesel Facility | 2911 | | 32411 | 0 | 0 | 0 |
| WY | 29 | F000539 |  | Merit Energy Company -- Oregon Basin Gas Plant | 1321 | | 211112 | 344 | 344 | 0 |
| WY | 29 | W000004 |  | Merit Energy Company -- Oregon Basin Wellfield | 1300 | | 21111 | - | - | 0 |
| WY | 37 | F000827 |  | North Shore Exploration & Production - Brady Gas Plant (formerly Merit Energy Company) | 1321 | | 211112 | - | - | 0 |
| WY | 29 | F026274 |  | Vaquero Big Horn, LLC - Shoshone Unit Battery |  | | 211112 | - | - | 0 |
| WY | 29 | F026853 |  | Vaquero Big Horn, LLC - Frannie Unit Battery No 1 |  | | 211112 | - | - | 0 |
| WY | 29 | F001075 |  | Vaquero Big Horn, LLC - Cody Unit Battery |  | | 211112 | - | - | 0 |
| WY | 29 | F001076 |  | Vaquero Big Horn, LLC - Frannie 2 Battery |  | | 211112 | - | - | 0 |
| WY | 41 | W000003 |  | Merit Energy Company -- Whitney Canyon WellField | 1300 | | 21111 | - | - | 0 |
| WY | 41 | F000053 |  | North Shore Exploration & Production -- Whitney Facility | 1311 | | 211111 | 1 | 1 | 0 |
| WY | 1 | F000587 |  | Mountain Cement Company -- Laramie Cement Plant | 3241 | | 23571 | 133 | 133 | 0 |
| WY | 37 | F000584 |  | P4 Production, L.L.C. -- Rock Springs Coal Calcining Plant | 3312 | | 331111 | 690 | 690 | 0 |
| WY | 9 | F000644 | 4158 | Pacificorp - Dave Johnston Plant | 4911 | | 221112 | 5,501 | 5,501 | 0 |
| WY | 37 | F000645 | 8066 | Pacificorp -- Jim Bridger Plant | 4911 | | 221112 | 6,668 | 6,668 | 0 |
| WY | 23 | F000647 | 4162 | Pacificorp -- Naughton Plant | 4911 | | 221112 | 1,439 | 1,439 | 0 |
| WY | 5 | F000646 | 6101 | Pacificorp -- Wyodak Plant | 4911 | | 221112 | 1,803 | 1,803 | 0 |
| WY | 37 | F000746 |  | Simplot Phosphates LLC -- Rock Springs Fertilizer Complex | 2874 | | 325312 | 550 | 550 | 0 |
| WY | 7 | F000758 |  | HF Sinclair Parco Refining LLC -- HF Sinclair Parco Refining LLC | 2911 | | 32411 | 94 | 94 | 0 |
| WY | 25 | F000531 |  | HF Sinclair Casper Refining LLC -- Casper Refinery | 2911 | | 32411 | 26 | 26 | 0 |
| WY | 37 | F000765 |  | American Soda LLC -- Green River Soda Ash Plant | 1474 | | 325181 | 41 | 41 | 0 |
| WY | 37 | F000361 |  | TATA Chemicals (Soda Ash) Partners-- Green River Works (formerly General Chemical) | 1474 | | 327999 | 1,592 | 1,592 | 0 |
| WY | 15 | F000389 |  | The Western Sugar Cooperative -- Torrington Plant | 2063 | | 311313 | - | - | 0 |
| WY | 37 | F000803 |  | Genesis Alkali Wyoming, LP -- Granger Soda Ash Plant | 1474 | | 212391 | 5 | 5 | 0 |
| WY | 1 | F000832 |  | University of Wyoming - Heat Plant | 8221 | | 61131 | 7 | 7 | 0 |
| WY | 29 | F000060 |  | Contango Resources, LLC -- Elk Basin Gas Plant | 1311 | | 211111 | 479 | 479 | 0 |
| WY | 56043 | F026405 |  | Contango Resources, LLC -- Worland Gas Plant (WMS) | 1321 | | 211112 | 42 | 42 | 0 |
| WY | 45 | F000980 |  | Wyoming Refining Company -- Newcastle Refinery | 2911 | | 32411 | 4 | 4 | 0 |

# Appendix B

Table B-1   
Sources Added to the SO2 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 Well field | 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 |
| ABQ\* NM | 001 | 3500100008 | GCC Rio Grande Inc. - Portland Cement Manufacturer | 2018 |

\* ABQ NM is Albuquerque-Bernalillo County.

Table B-2   
Sources Removed from the SO2 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 | 00145 | Southside Water Reclamation Plant | 120 | Not subject to program after baseline revisions. \*\* | 2008 |
| NM | 023 | 350230003 | Phelps Dodge Hidalgo Smelter | 16,000 | Facility is permanently closed. | 2008 |
| NM | 017 | 350170001 | 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 in 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, this facility was removed from the inventory.