

# 2021 Regional SO2 Emissions and Milestone Report

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# 2021 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 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 (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 2021 adjusted emissions as required by Section 309 of the CAA. We compared the adjusted 2021 emissions to the final 2018 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 50,730 tons of SO2 emissions for the calendar year 2021. The total emissions increased to 60,011 tons of SO2 after adjusting to account for changes in monitoring, calculation methods, and enforcement actions. The adjustments result in an additional 9,282 tons of SO2 emissions.

 Based on this adjusted annual emissions estimate, the Section 309 states determined that emissions in 2021 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 2020 to 2021 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 2021 Regional Milestones and Emissions for Section 309 Participating States

|  |
| --- |
| **2018 Sulfur Dioxide Milestones**Regional 2018 Milestone\* 141,849 tonsAdjusted 2018 Milestone 141,849 tons |
| **2021 Sulfur Dioxide Emissions**Reported 2021 Emissions 50,730 tonsAdjustments\*\* Emission Monitoring, Calculation Methods, and Enforcement Actions 9,282 tonsAdjusted 2021 Emissions (rounded number) 60,011 tons |
| **Comparison of Emissions to Milestone**2021 Adjusted Emissions 60,011 tonsAdjusted Three-State 2018 Milestone 141,849 tonsDifference (Negative Value = Emissions < Milestone) -81,837 tons2021 Emissions as Percent of 2018 Milestone 42% |

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

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

# 2021 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 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 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 nineteenth 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 2021. Based on the last eighteen 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 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 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 in order 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 provide for 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 2021 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, during the first part of 2023, culminating in a final report sent to EPA by March 31, 2023.

## 1.2 Report Organization

 This report presents the regional SO2 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 SO2 Emissions in 2021;
* Emissions Adjustments Related to Monitoring Methodology or Enforcement Actions;
* 2021 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 2021

 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 2021 reported SO2 emissions for each applicable source are in Appendix A, Table A-1.

Table 1. Reported 2021 SO2 Emissions by State

|  |  |
| --- | --- |
| **State** | **Reported 2021 SO2 Emissions (tons/year)** |
| Albuquerque-Bernalillo | 82 |
| New Mexico | 3,374 |
| Utah | 10,422 |
| Wyoming | 36,852 |
| TOTAL | 50,730 |

## 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 1,277 tons from the reported 2021 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 2021 SO2 Emissions (tons)** | **Adjusted 2021 SO2 Emissions (tons)** | **Monitoring Methodology Adjustment****(tons)** | **Enforcement Action Adjustment (tons)** | **Description** |
| UT | Chevron Products Co. -- Salt Lake Refinery | 41 | 811 | 770 | -- | 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 | 56 | 206 | 151 | -- | Now using CEM data |
| UT | PacifiCorp -- Carbon Power Plant | 0 | 8,005 | -- | 8,005 | A 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 | Materion Natural resources - Delta Mill (was Brush Resources) | 1 | 0 | -1 | -- | Increased mobile emissions from Routine Mill and TSF2 construction |
| UT | Holcim-Devil's Slide Plant | 113 | 470 | 357 | -- | Now using CEM data |

## 4.0 2021 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 2021 emissions with the 2018 milestone. The adjusted emissions for 2021 are 60,011 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 action related milestone adjustments reported for 2021.

## 6.0 Quality Assurance

 The states provided 2021 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.

 Table 3 provides explanations for the emissions variations from applicable sources from 2020 – 2021 that are greater than 20%. Plants with variations greater than 20% but reported emissions of less than 20 tons in both 2020 and 2021, are not included in Table 3. 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 this and previous reporting years.

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

| **State**  | **County FIPS** | **State Facility Identifier** | **Plant Name** | **Reported 2020 SO2 Emissions (tons)** | **Reported 2021 SO2 Emissions (tons)** | **% Change** | **Description Change > ±20%2020 to 2021** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ABQ NM | 1 | 3500100008 | GCC Rio Grande Inc. - Portland Cement Manufacturer | 103 | 82 | -21% | GCC Rio Grande installed a new baghouse and stack and 2015 and began conducting annual stack tests in 2016. Each year, GCC updates its emission factor by incorporating the latest stack test results into the calculation. The emission factor used to determine the facility's 2021 SO2 emissions includes 2016-2021 stack test results and is lower than the emission factor used to determine its 2020 SO2 emissions, which only included 2016-2020 stack test results. The facility also produced less clinker in 2021 than it did in 2020, contributing to the decrease in emissions. |
| NM | 15 | 350150024 | Agave Energy Co./Agave Dagger Draw Gas Plant | 2 | 30 | 1466% | The emission unit is the Acid Gas Flare which did not operate in 2020. In April 2021, the plant was started up to test the AGI well resulting in flaring of the Amine Still Overhead Stream which averages ~38% H2S when sour gas is coming into the plant. This concentration yields high SO2 emissions in a short time when combusted which is why we see the increase in 2021 vs. 2020. |
| NM | 25 | 350250060 | VERSADO GAS PROCESSORS, LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT] | 485 | 241 | -50% | The redundant AGI compressor added at Eunice GP in 2020 continues to reduce the SO2 emissions. In the past AGI downtime caused excessive SO2 emissions at the acid gas flare.  |
| NM | 25 | 350250004 | Frontier Field Services/Maljamar Gas Plant | 80 | 36 | -55% | Maljamar had a significant decrease in use of acid gas flare. It decreased the overall facility SO2 emissions. |
| NM | 45 | 350450902 | Public Service Co of New Mexico/San Juan Generating Station | 1,355 | 936 | -31% | The sulfur weighted average for the coal at San Juan Generating Station decreased between years 2020 and 2021. Therefore, the reduction in SO2 emission from 2020 to 2021 was due to the change in coal quality |
| NM | 25 | 569 | Regency Field Services/Jal #3 [Old Name Southern Union Gas] /Jal #3 | 618 | 755 | 22% | The main cause of the increase in SO2 emissions from 2020 to 2021 reporting year is an increase in acid gas flare (approximately 279.2 tons SO2 increase) operation.  |
| NM | 25 | 350250061 | Versado Gas Processors, LLC / Monument Plant [Old name(s) TARGA MIDSTREAM SERVICES LP, WARREN PETROLEUM/MONUMENT PLANT] | 117 | 89 | -24% | During normal operations, the acid gas is routed to the acid gas injection (AGI) well. There were less periods of acid gas flaring this year. |
| NM | 25 | 350250063 | Versado Gas Processors, LLC/Saunders Plant [Old name(s): TARGA MIDSTREAM SERVICES, LP, WARREN PETROLEUM/SAUNDERS PLANT] | 26 | 0 | -100% | Shutdown in 2021 |
| NM | 31 | 350310032 | Tri-State Gen & Transmission/Escalante Station | 399 | 0 | -100% | Closed |
| NM | 25 | 350250113 | ConocoPhillips-Midland Office / East Vacuum Liquid Recovery and CO2 Plant | 25 | 17 | -32% | In February 2021, the Propane Recovery System experienced significant freeze damaged during the Uri Storm and was out of service for the year. This reduced production from the plant and reduced the associated SO2 emissions. |
| UT | 29 | 10007 | Holcim-Devil's Slide Plant | 337 | 113 | -67% | SO2 values are directly from the CEMS and can change depending on the combination of raw materials used to make clinker and cement. |
| UT | 7 | 10096 | Sunnyside Cogeneration Associates -- Sunnyside Cogeneration Facility | 373 | 461 | 23% | Emissions change is proportional to throughput change. |
| UT | 15 | 10237 | PacifiCorp -- Hunter Power Plant | 2,957 | 3,848 | 30% | 10237 uses CEMS to calculate their two boiler SO2 emissions, which are also the largest of their SO2 sources. The coal sulfur content was slightly higher for 2021. |
| UT | 15 | 10238 | PacifiCorp -- Huntington Power Plant | 1,626 | 2,690 | 65% | 10238 uses CEMS to calculate their two boiler SO2 emissions, which are also the largest of their SO2 sources. Emissions followed throughput increases; unit one throughput increased by 37% and unit two throughput increased by 45%. |
| UT | 35 | 10346 | Kennecott Utah Copper Corp. -- Smelter & Refinery | 429 | 643 | 50% | Units 13969 and 14180 had lower emissions in 2020 because the smelter was offline for 6 months for a planned maintenance shutdown and projects required following the earthquake in March 2020. The emission factor for 13969 is lower than other years because the smelter stack was still operating, or registering flow, even though the smelter was not operating. The emission factor is an average of the entire year's CEMS measurements, so because there was no product in the smelter for part of the year, the SO2 average lbs/hour was lower. Units 13969 and 14180 are the two largest sources of SO2 at the facility. |
| WY | 5 | 146 | Black Hills Corporation - Wygen 1 | 426 | 265 | -38% | Extended outage in late Q3 through most of Q4 Caused a Significant reduction of SO2 this year |
| WY | 5 | 281 | Black Hills Corporation - Wygen III | 316 | 163 | -49% |   |
| WY | 13 | 28 | Burlington Resources -- Lost Cabin Gas Plant | 337 | 2,093 | 521% | Facility reconstruction and maintenance completed; normal operations resumed. |
| WY | 41 | 9 | Chevron USA -- Carter Creek Gas Plant | 86 | 37 | -58% | No emergency shutdown of facility compared to last year leads to reduction in escaped emissions. |
| WY | 5 | 225 | Cheyenne Light Fuel and Power Company – Wygen II | 206 | 125 | -39% | A lower demand for load caused a decrease in generation which in turn resulted in a decrease in emissions over 2020. |
| WY | 37 | 48 | Tronox Alkali Wymoing Corporation -- Green River Sodium Products (Westvaco facility) | 1,269 | 1,685 | 33% | Increased Hours of operation |
| WY | 23 | 1 | Exxon Mobil Corporation -- Labarge Black Canyon Facility | 34 | 24 | -30% | Less well work in 2021 which resulted in reduced SO2 emissions from flaring at Black Canyon |
| WY | 23 | 13 | Exxon Mobil Corporation -- Shute Creek | 2,249 | 1,305 | -42% | Decreased throughput for the cogeneration turbines and reduced flaring as a result of fewer unavoidable equipment malfunctions than in 2020 |
| WY | 21 | 1 | Holly Frontier Oil & Refining Company -- Cheyenne Refinery | 120 | 0 | -100% | Units shut down due to operating changes. |
| WY | 29 | 7 | Marathon Oil Co -- Oregon Basin Gas Plant | 309 | 230 | -25% | Reduction in flaring compared to 2020 |
| WY | 1 | 2 | Mountain Cement Company -- Laramie Plant | 135 | 97 | -28% | Reduced operating hours |
| WY | 37 | 49 | Tronox Alkali Wyoming Corporation -- Granger Soda Ash Plant | 35 | 0 | -100% | Facility temporarily shut down last year and remains shut down |
| WY | 29 | 12 | Vanguard Operating, LLC -- Elk Basin Gas Plant | 660 | 505 | -24% | Decrease in flaring |
| WY | 56043 | 397 | Washakie Midstream Services - Worland Gas Plant (WMS) | 40 | 19 | -53% | Significantly less pigging of the acid gas line, as well as less lengthy maintenance of the compressors |
| WY | 45 | 1 | Wyoming Refining -- Newcastle Refinery | 91 | 8 | -91% |   |

## 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 69% of the region's reported emissions in 2021. 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 one source. The source whose reported emissions did not match EPA’s data is in Table 4.

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **State** | **Facility Name** | **Facility ID (ORISPL)** | **Year** | **2021 Acid Rain Database Emissions (tons SO2)** | **2021 Reported Emissions (tons SO2)** |
| WY | Laramie River | 6204 | 2021 | 5,401 | 7,716 |

## 7.0 Milestone Determination

 The Section 309 regional 2018 milestone is 141,849 tons SO2. The 2021 adjusted emissions are 60,011 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 WRAP website.

[Insert summary of comments here.]

# Appendix A

Table A-1

2021 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 2021 SO2 Emissions (tons)** | **Adjusted 2021 SO2 Emissions (tons)** | **2021 General New Monitoring Calculation Method Adjustment (tons)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ABQ NM | 1 | 3500100008 |   | GCC Rio Grande Inc. - Portland Cement Manufacturer | 3241 | 327310 | 82 | 82 | 0 |
| NM | 15 | 350150024 |   | Agave Energy Co./Agave Dagger Draw Gas Plant | 1311 | 21112 | 30 | 30 | 0 |
| NM | 15 | 350150002 |   | Frontier Field Services /Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant; BP America Production] | 1321 | 21113 | 18 | 18 | 0 |
| NM | 15 | 350150011 |   | DCP Midstream/Artesia Gas Plant | 1321 | 211112 | 1 | 1 | 0 |
| NM | 25 | 350250044 |   | DCP Midstream/Eunice Gas Plant [Old name: GPM GAS EUNICE GAS PLANT] | 1321 | 21113 | 442 | 442 | 0 |
| NM | 25 | 350250035 |   | DCP Midstream/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT] | 1321 | 21113 | 5  | 5  | 0 |
| NM | 15 | 350150138 |   | Duke -- Magnum/Pan Energy -- Burton Flats | 1321 | 211112 | NA | NA | 0 |
| NM | 15 | 350150285 |   | Duke Energy/Dagger Draw Gas Plant | 1321 | 211112 | NA | NA | 0 |
| NM | 25 | 350250060 | 609 | VERSADO GAS PROCESSORS, LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT] | 1321 | 21113 | 241 | 241 | 0 |
| NM | 25 | 350250004 |   | Frontier Field Services/Maljamar Gas Plant | 1321 | 21113 | 36 | 36 | 0 |
| NM | 31 | 350310008 |   | Western Refining Southwest Inc-Gallup Refinery {Old names:Western Refinery/Ciniza Refinery (Gallup) and GIANT REFINING/CINIZA] | 2911 | 236220 | 15 | 15 | 0 |
| NM | 25 | 350250007 |   | Davis Gas Processing/Denton Plant | 1311 | 21113 | 633 | 633 | 0 |
| NM | 15 | 350150008 |   | OXY USA WTP Limited Partnership - Indian Basin Gas Plant [Old Name -Marathon Oil/Indian Basin Gas Plant] | 1321 | 211112 | 2 | 2 | 0 |
| NM | 15 | 350150010 |   | Navajo Refining Co/Artesia Refinery | 2911 | 32411 | 47 | 47 | 0 |
| NM | 45 | 350450902 | 2451 | Public Service Co of New Mexico/San Juan Generating Station | 4911 | 221112 | 936 | 936 | 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 | 755  | 755  | 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 | 89 | 89 | 0 |
| NM | 25 | 350250063 |   | Versado Gas Processors, LLC/Saunders Plant [Old name(s): TARGA MIDSTREAM SERVICES, LP, WARREN PETROLEUM/SAUNDERS PLANT] | 1321 | 21113 | 0 | 0 | 0 |
| NM | 31 | 350310032 | 87 | Tri-State Gen & Transmission/Escalante Station | 4911 | 221112 | 0 | 0 | closed |
| NM | 45 | 350450247 |   | CCI San Juan, LLC /San Juan River Gas Plant | 1321 | 21113 | 0 | 0 | 0 |
| NM | 45 | 350450023 |   | Western Refining Southwest Inc./Bloomfield Products Terminal [Old name: GIANT INDUSTRIES/BLOOMFIELD REF] | 2911 | 42471 | 0 | 0 | 0 |
| NM | 25 | 350250075 |   | ConocoPhillips-Midland Office / MCA Tank Battery No. 2 | 1311 | 21113 | 106 | 106 | 0 |
| NM | 25 | 350250113 |   | ConocoPhillips-Midland Office / East Vacuum Liquid Recovery and CO2 Plant | 1311 | 21112 | 17 | 17 | 0 |
| UT | 29 | 10007 |   | Holcim-Devil's Slide Plant | 3241 | 327310 | 113 | 470 | 357 |
| UT | 37 | 10034 |   | Paradox Midstream, LLC (was 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 | 461 | 461 | 0 |
| UT | 11 | 10119 |   | Chevron Products Co. -- Salt Lake Refinery | 2911 | 324110 | 41 | 811 | 770 |
| UT | 11 | 10122 |   | Big West Oil Company - Flying J Refinery | 2911 | 324110 | 56 | 206 | 151 |
| UT | 11 | 10123 |   | Holly Refining and Marketing Co. -- Phillips Refinery | 2911 | 324110 | 17 | 17 | 0 |
| UT | 15 | 10237 | 6165 | PacifiCorp -- Hunter Power Plant | 4911 | 221112 | 3,848 | 3,848 | 0 |
| UT | 15 | 10238 | 8069 | PacifiCorp -- Huntington Power Plant | 4911 | 221112 | 2,690 | 2,690 | 0 |
| UT | 27 | 10311 |   | Materion Natural resources - Delta Mill (was Brush Resources) | 1099 | 212299 | 1 | 0 | -1 |
| UT | 27 | 10313 |   | Graymont Western US Inc. -- Cricket Mountain Plant | 1422 | 212312 | 7 | 7 | 0 |
| UT | 27 | 10327 | 6481 | Intermountain Power Service Corporation -- Intermountain Generation Station | 4911 | 221112 | 2,415 | 2,415 | 0 |
| UT | 35 | 10335 |   | Tesoro West Coast -- Salt Lake City Refinery | 2911 | 324110 | 24 | 24 | 0 |
| UT | 35 | 10346 |   | Kennecott Utah Copper Corp. -- Smelter & Refinery | 3331 | 331410 | 643 | 643 | 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 | 106 | 106 | 0 |
| UT | 49 | 10790 |   | Brigham Young University -- Main Campus | 8221 | 611310 | 0 | 0 | 0 |
| WY | 11 | 2 |   | American Colloid Mineral Co -- Colony East & West Plants | 1459 | 212325 | 17 | 17 | 0 |
| WY | 5 | 45 | 56609 | Basin Electric -- Dry Fork Station | 4911 | 22112 | 908 | 908 | 0 |
| WY | 31 | 1 | 6204 | Basin Electric -- Laramie River Station | 4911 | 221112 | 7,716 | 7,716 | 0 |
| WY | 3 | 12 |   | Big Horn Gas Proc -- Big Horn/Byron Gas Plant | 1311 | 22121 | 0 | 0 | 0 |
| WY | 5 | 2 | 4150 | Black Hills Corporation - Neil Simpson I | 4911 | 22112 | 0 | 0 | 0 |
| WY | 5 | 63 | 7504 | Black Hills Corporation - Neil Simpson II | 4911 | 22112 | 374 | 374 | 0 |
| WY | 45 | 5 | 4151 | Black Hills Corporation - Osage Plant | 4911 | 22112 | 0 | 0 | 0 |
| WY | 5 | 146 | 55479 | Black Hills Corporation - Wygen 1 | 4911 | 22112 | 265 | 265 | 0 |
| WY | 5 | 281 | 56596 | Black Hills Corporation - Wygen III | 4911 | 221112 | 163 | 163 | 0 |
| WY | 13 |  0009 |   | Burlington Resources -- Bighorn Wells | 1300 |  21111 | 0 | 0 | 0 |
| WY | 13 | 28 |   | Burlington Resources -- Lost Cabin Gas Plant | 1311 | 211111 | 2,093 | 2,093 | 0 |
| WY | 41 | 9 |   | Chevron USA -- Carter Creek Gas Plant | 1311 | 211111 | 37 | 37 | 0 |
| WY | 37 |  0177 |   | Chevron USA -- Table Rock Field | 1300 |  21111 | 0 | 0 | 0 |
| WY | 37 | 14 |   | Chevron USA -- Table Rock Gas Plant (Formerly Anadarko E&P Co LP) | 1321 | 211111 | 0 | 0 | 0 |
| WY | 41 |  0008 |   | Chevron USA -- Whitney Canyon/Carter Creek Wellfield | 1300 |  21111 | 0 | 0 | 0 |
| WY | 5 | 225 | 56319 | Cheyenne Light Fuel and Power Company – Wygen II | 4911 | 22112 | 125 | 125 | 0 |
| WY | 37 | 48 |   | Tronox Alkali Wymoing Corporation -- Green River Sodium Products (Westvaco facility) | 2812 | 327999 | 1,685 | 1,685 | 0 |
| WY | 13 |  0007 |   | Devon Energy Production Co., L.P. -- Beaver Creek Gas Field |  1300 |  21111 | 0 | 0 | 0 |
| WY | 13 | 8 |   | Devon Gas Services, L.P. -- Beaver Creek Gas Plant | 1311 | 211111 | 0 | 0 | 0 |
| WY | 23 | 1 |   | Exxon Mobil Corporation -- Labarge Black Canyon Facility | 1300 |  21111 | 24 | 24 | 0 |
| WY | 23 | 13 |   | Exxon Mobil Corporation -- Shute Creek | 1311 | 211111 | 1,305 | 1,305 | 0 |
| WY | 43 | 3 |   | Hiland Partners, LLC -- Hiland Gas Plant | 1321 | 48621 | 0 | 0 | 0 |
| WY | 21 | 1 |   | Holly Frontier Oil & Refining Company -- Cheyenne Refinery | 2911 | 32411 | 0 | 0 | 0 |
| WY | 29 | 7 |   | Marathon Oil Co -- Oregon Basin Gas Plant | 1321 | 211112 | 230 | 230 | 0 |
| WY | 29 |  0010 |   | Marathon Oil Co -- Oregon Basin Wellfield |  1300 |  21111 | 115 | 115 | 0 |
| WY | 37 | 8 |   | Merit Energy Company - Brady Gas Plant (formerly Anadarko E&P Co LP) | 1321 | 211112 | 0 | 0 | 0 |
| WY | 29 |   |   | Merit Energy Company - Shoshone Unit Battery |   | 211112 | 0 | 0 | 0 |
| WY | 29 |   |   | Merit Energy Company - Frannie Unit Battery No 1 |   | 211112 | 0 | 0 | 0 |
| WY | 29 |   |   | Merit Energy Company - Cody Battery |   | 211112 | 0 | 0 | 0 |
| WY | 29 |   |   | Merit Energy Company - Frannie 2 Battery |   | 211112 | 0 | 0 | 0 |
| WY | 41 |  0002 |   | Merit Energy Company -- Whitney Canyon WellField | 1300 |  21111 | 0 | 0 | 0 |
| WY | 41 | 12 |   | Merit Energy Company -- Whitney Facility | 1311 | 211111 | 0 | 0 | 0 |
| WY | 1 | 2 |   | Mountain Cement Company -- Laramie Plant | 3241 | 23571 | 97 | 97 | 0 |
| WY | 37 | 3 |   | P4 Production, L.L.C. -- Rock Springs Coal Calcining Plant | 3312 | 331111 | 731 | 731 | 0 |
| WY | 9 | 1 | 4158 | Pacificorp - Dave Johnston Plant | 4911 | 221112 | 6,328 | 6,328 | 0 |
| WY | 37 | 1002 | 8066 | Pacificorp -- Jim Bridger Plant | 4911 | 221112 | 8,226 | 8,226 | 0 |
| WY | 23 | 4 | 4162 | Pacificorp -- Naughton Plant | 4911 | 221112 | 1,640 | 1,640 | 0 |
| WY | 5 | 46 | 6101 | Pacificorp -- Wyodak Plant | 4911 | 221112 | 1,674 | 1,674 | 0 |
| WY | 37 | 22 |   | Simplot Phosphates LLC -- Rock Springs Plant | 2874 | 325312 | 633 | 633 | 0 |
| WY | 7 | 1 |   | Sinclair Oil Company -- Sinclair Refinery | 2911 | 32411 | 88 | 88 | 0 |
| WY | 25 | 5 |   | Sinclair Wyoming Refining Company -- Casper Refinery | 2911 | 32411 | 134 | 134 | 0 |
| WY | 37 | 5 |   | Solvay Chemicals -- Soda Ash Plant (Green River Facility) | 1474 | 325181 | 58 | 58 | 0 |
| WY | 37 | 2 |   | TATA Chemicals (Soda Ash Partners)-- Green River Plant (formerly General Chemical) | 1474 | 327999 | 1,601 | 1,601 | 0 |
| WY | 15 | 1 |   | The Western Sugar Cooperative -- Torrington Plant | 2063 | 311313 | 0 | 0 | 0 |
| WY | 37 | 49 |   | Tronox Alkali Wyoming Corporation -- Granger Soda Ash Plant | 1474 | 212391 | 0 | 0 | 0 |
| WY | 1 | 5 |   | University of Wyoming - Heat Plant | 8221 | 61131 | 53 | 53 | 0 |
| WY | 29 | 12 |   | Vanguard Operating, LLC -- Elk Basin Gas Plant | 1311 | 211111 | 505 | 505 | 0 |
| WY | 56043 | 397 |   | Washakie Midstream Services - Worland Gas Plant (WMS) | 1321 | 211112 | 19 | 19 | 0 |
| WY | 45 | 1 |   | Wyoming Refining -- Newcastle Refinery | 2911 | 32411 | 8 | 8 | 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 means 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 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, this facility was removed from the inventory.