6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2025-3821; FRL-13144-01-R9]

Air Plan Approval; Arizona; Attainment Plan for the Hayden SO_2 Nonattainment Area for the 1971 and 2010 Sulfur Dioxide National Ambient Air Quality Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve revisions to the Arizona state implementation plan (SIP) for attaining the 1971 and 2010 sulfur dioxide (SO_2) national ambient air quality standards (NAAQS or "standards") in the Hayden SO_2 nonattainment area. These SIP revisions, collectively referred to as the "Hayden SO_2 Plan" or "Plan," include Arizona's attainment demonstration and other elements required under Clean Air Act (CAA or "Act") sections 110, 172, 191, and 192. In addition to an attainment demonstration, the revisions address the requirements for meeting reasonable further progress (RFP) toward attainment of the NAAQS, reasonably available control measures and reasonably available control technology (RACM/RACT), base-year and projection-year emissions inventories, nonattainment new source review (NSR), emissions limitations necessary to provide for attainment, and contingency measures. The EPA is proposing to approve the SIP revisions as meeting the CAA requirements. This action is being taken under the CAA. We are taking comments on this proposal and plan to follow with a final action.

DATES: Comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2025-3821, at *https://www.regulations.gov*. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed

from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets*. If you need assistance in a language other than English or if you are a person with a disability who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Ashley Graham, Geographic Strategies and Modeling Section (AIR-2-2), EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105; telephone number: (415) 972-3877; email address: *graham.ashleyr@epa.gov*.

SUPPLEMENTARY INFORMATION: Throughout this document, "we," "us," and "our" refer to the EPA.

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I. Background

Under section 109 of the CAA, the EPA has established primary and secondary NAAQS for certain pervasive air pollutants (referred to as "criteria pollutants") and conducts periodic reviews of the NAAQS to determine whether they should be revised or whether new NAAQS should be established. The primary NAAQS represent ambient air quality standards the attainment and maintenance of which the EPA has determined are requisite to protect public health with an adequate margin of safety. The secondary NAAQS represent ambient air quality standards the attainment and maintenance of which the EPA has determined are requisite to protect public welfare from any known or anticipated adverse effects associated with the presence of such an air pollutant in the ambient air.

Under the CAA, the EPA must establish NAAQS for criteria pollutants, including SO_2. SO_2 is released to the atmosphere primarily through the burning of fossil fuels by power generation and certain industrial processes. Short-term exposure to SO_2 can damage the human respiratory system and increase breathing difficulties. Small children and people with respiratory conditions, such as asthma, are more sensitive to the effects of SO_2. Sulfur oxides at high concentrations in ambient air can also react with compounds to form small particulates (fine particulate matter) that can penetrate deeply into the lungs and cause health problems.

The EPA first established primary SO_2 standards in 1971.[1] The short-term (24-hour) standard of 0.140 parts per million (ppm) was not to be exceeded more than once per calendar year. The long-term standard specifies an annual arithmetic mean not to exceed 0.030 ppm. The

[1] 36 FR 8186 (April 30, 1971). See 40 CFR 50.4.

level of the secondary SO_2 NAAQS is 0.5 ppm over a 3-hour averaging period (not to be exceeded more than once per year).[2]

On March 3, 1978, for lack of a state recommendation, the EPA designated Pinal County as a primary SO_2 nonattainment area based on monitored violations of the primary SO_2 NAAQS in the county between 1975 and 1977.[3] At the request of the Arizona Department of Environmental Quality (ADEQ), the nonattainment area was subsequently reduced to nine townships in and around Hayden, Arizona.[4]

On the date of enactment of the 1990 CAA Amendments, SO_2 areas meeting the conditions of section 107(d) of the Act were designated nonattainment for the SO_2 NAAQS by operation of law. Section 107(d) of the CAA describes the processes by which nonattainment areas are designated, including the pre-existing SO_2 nonattainment areas. Thus, the Hayden area remained nonattainment for the primary SO_2 NAAQS following enactment of the 1990 CAA Amendments on November 15, 1990.

On June 22, 2010, the EPA promulgated a new 1-hour primary SO_2 NAAQS of 75 parts per billion (ppb).[5] This standard is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations does not exceed 75 ppb, as determined in accordance with Appendix T of 40 CFR part 50.[6] The EPA provided that the 24-hour and annual standards established in 1971 were to remain in place for those areas designated nonattainment for the 2010 SO_2 NAAQS until such time that the state submits, and the EPA approves, an implementation plan providing for attainment of the 2010

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[2] See 40 CFR 50.5. The 1971 final rule also included a secondary annual standard of 0.02 ppm and a 24-hour SO_2 standard of 0.1 ppm (not to be exceeded more than once per year) as a guide to be used in assessing implementation plans to achieve the annual standard. In 1973, the secondary 3-hour SO_2 standard was retained without revision and the secondary annual SO_2 standard was revoked (38 FR 25678, September 14, 1973).
[3] 43 FR 8962 (March 3, 1978).
[4] 44 FR 21261 (April 10, 1979). The nonattainment area is composed of the following townships in southern Gila County and northeastern Pinal County: T4S, R14E; T4S, R15E; T4S, R16E; T5S, R14E; T5S, R15E; T5S, R16E; T6S, R14E; T6S, R15E; and T6S, R16E. The following townships were designated "cannot be classified:" T4S, R13E; T4S, R17E; T5S, R13E; T5S, R17E; T6S, R13E; and T6S, R17E.
[5] 40 CFR 50.17(a).
[6] 75 FR 35520 (June 22, 2010), codified at 40 CFR 50.17(a) and (b).

SO_2 NAAQS.[7]

Under CAA section 107(d)(1), the EPA is required to designate areas as "nonattainment," "attainment," or "unclassifiable" within two years of establishing a new standard or revising an existing standard. The Hayden nonattainment area for the 2010 SO_2 NAAQS was established effective October 4, 2013.[8] The dominant source of SO_2 emissions in the Hayden SO_2 nonattainment area is the Hayden copper smelter ("Hayden Smelter" or "Smelter"), owned and operated by ASARCO LLC ("Asarco").[9] This final area designation triggered a requirement for Arizona to submit by April 4, 2015 (within 18 months per CAA section 191(a)), a SIP revision with an attainment plan for how the Hayden SO_2 nonattainment area would attain the 2010 SO_2 NAAQS as expeditiously as practicable, but no later than October 4, 2018, per CAA section 192(a) in accordance with CAA sections 110(a), 172(c), 191, and 192.

As required by CAA section 110(k)(1)(B), the EPA published a final rule on March 18, 2016, finding that Arizona had failed to submit the required SO_2 nonattainment area plan by the submittal deadline.[10] This finding initiated a deadline under CAA section 179(a) for the potential imposition of new source and highway funding sanctions. Additionally, under CAA section 110(c), the finding triggered a requirement that the EPA promulgate a Federal implementation plan (FIP) within two years of the effective date of the finding unless by that time the State had made the necessary complete submittal and the EPA had approved the submittal as meeting applicable requirements.

In response to the requirement for SO_2 nonattainment area plan submittals, ADEQ submitted a SIP revision on March 9, 2017, titled "Arizona State Implementation Plan Revision: Hayden Sulfur Dioxide Nonattainment Area for the 2010 SO_2 NAAQS" ("2017 Hayden SO_2 Plan"). The emission limits that were intended to provide for attainment of the 2010 SO_2

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[7] See 40 CFR 50.4(e). 75 FR 35520, 35581 (June 22, 2010).
[8] 78 FR 47191 (August 5, 2013), codified at 40 CFR part 81, subpart C.
[9] ASARCO LLC was organized in 1899 as the American Smelting And Refining COmpany.
[10] 81 FR 14736 (March 18, 2016).

NAAQS for the Hayden area were codified in the Arizona Administrative Code (AAC), Title 18, Chapter 2, Article 13, section R18-2-B1302 ("Limits on SO_2 Emissions from the Hayden Smelter") ("Rule B1302"). ADEQ submitted Rule B1302 to the EPA on April 6, 2017.[11] The EPA issued letters dated July 17, 2017, and September 26, 2017, finding the submittals complete and stopping the sanctions clocks under CAA section 179(a).[12]

On November 5, 2020, the EPA finalized a limited approval and limited disapproval of Arizona Rule B1302,[13] and on November 10, 2020, the EPA finalized a partial approval and partial disapproval of the 2017 Hayden SO_2 Plan.[14] The EPA finalized a limited disapproval of Rule B1302 because we found that some of the rule provisions conflicted with the requirements of CAA sections 110 and 172(c)(6), including that the rule did not contain any numeric emissions limit(s) or ongoing monitoring requirements corresponding to the levels of fugitive emissions that were modeled in the 2017 Hayden SO_2 Plan.[15] The EPA finalized a partial disapproval of the 2017 Hayden SO_2 Plan because we found that the plan did not meet the attainment demonstration, RACM/RACT, enforceable emission limitations, RFP, and contingency measure requirements of the CAA for the 2010 SO_2 NAAQS.[16] The final limited disapproval of Rule B1302 and partial disapproval of the 2017 Hayden SO_2 Plan became effective on December 7, 2020, and December 10, 2020, respectively, and initiated deadlines under CAA section 179(a) for the imposition of new source review offset and highway funding

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[11] Letter dated March 8, 2017, from Timothy S. Franquist, Director, Air Quality Division, ADEQ, to Alexis Strauss, Acting Regional Administrator, EPA Region IX, Subject: "Submittal of the State Implementation Plan Revision, Sulfur Dioxide National Ambient Air Quality Standards, Hayden Nonattainment Area," (submitted electronically on March 9, 2017); and letter dated April 6, 2017, from Timothy S. Franquist, Director, Air Quality Division, ADEQ, to Alexis Strauss, Acting Regional Administrator, EPA Region IX, Subject: "RE: Submittal of the Final Rules for the State Implementation Plans for Hayden Sulfur Dioxide Nonattainment Area, Hayden Lead Nonattainment Area, and Miami Sulfur Dioxide Nonattainment Area," (submitted electronically on April 6, 2017).

[12] Letter dated July 17, 2017, from Elizabeth J. Adams, Acting Director, Air Division, EPA Region IX, to Timothy S. Franquist, Director, Air Quality Division, ADEQ; and letter dated September 26, 2017, from Elizabeth J. Adams, Acting Director, Air Division, EPA Region IX, to Timothy S. Franquist, Director, Air Quality Division, ADEQ.

[13] 85 FR 70483 (November 5, 2020).

[14] 85 FR 71547 (November 10, 2020). As part of our November 10, 2020 final action, the EPA approved the emissions inventory element of the plan and affirmed that the State had met the new source review requirements for the area.

[15] 85 FR 70483, 70484 (November 5, 2020).

[16] 85 FR 71547, 71552 (November 10, 2020).

sanctions unless the State had made the necessary complete submittal and the EPA approved the submittal as meeting applicable requirements prior to those deadlines.[17]

On January 31, 2022, the EPA determined that the Hayden SO_2 nonattainment area failed to attain the 2010 1-hour primary SO_2 NAAQS by the October 4, 2018 applicable attainment date, which triggered a requirement under CAA section 179(d) for Arizona to submit a revised SIP by January 31, 2023, that provides for expeditious attainment of the 2010 SO_2 NAAQS in the Hayden SO_2 nonattainment area by January 31, 2027.[18]

The remainder of this document describes the requirements that nonattainment area plans must meet to obtain EPA approval, provides a review of the Hayden SO_2 Plan with respect to these requirements, and describes the EPA's proposed action on the Plan.

II. Requirements for SO_2 Attainment Plans

Nonattainment area SO_2 SIPs must meet the applicable requirements of the CAA, specifically CAA sections 110, 172, 191, and 192. The EPA's regulations governing nonattainment area SIP submissions are set forth at 40 CFR part 51, with specific procedural requirements and control strategy requirements residing at subparts F and G, respectively. Soon after Congress enacted the 1990 amendments to the CAA, the EPA issued comprehensive guidance on SIP revisions in the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990" ("General Preamble").[19] Among other things, the General Preamble addressed SO_2 SIP submissions and fundamental principles for SIP control strategies.[20] On April 23, 2014, the EPA issued guidance and recommendations for meeting the statutory requirements in SO_2 SIP submissions, in a document titled, "Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions" ("2014 SO_2 Guidance").[21] In the 2014 SO_2 Guidance, the

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[17] On June 7, 2022, offset sanctions were imposed in the Hayden SO_2 nonattainment area, and on December 7, 2022, highway sanctions were imposed in the area.
[18] 87 FR 4805 (January 31, 2022).
[19] 57 FR 13498 (April 16, 1992).
[20] Id. at 13548–13549, 13567–13568.
[21] Available at *https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf*.

EPA described the statutory requirements for the elements of a nonattainment area plan as listed at CAA section 172(c), which include an accurate emissions inventory of current emissions for all sources of SO_2 within the nonattainment area; an attainment demonstration; a demonstration of RFP; implementation of RACM (including RACT); emission limitations and control measures necessary to provide for attainment; nonattainment NSR; and adequate contingency measures. This guidance supplements the EPA's 1994 "SO_2 Guideline Document," which remains applicable unless specifically altered by the 2014 SO_2 Guidance.[22]

In general, the EPA's duties in reviewing state attainment plans are described in CAA sections 110(k) and 110(l). The EPA is first required to determine whether a SIP submission meets certain minimum criteria for completeness. Once a SIP submission has been determined to be complete, the EPA is required to approve the submission, as a whole, if it meets all applicable requirements of the CAA. State attainment plans are approved by the EPA as meeting the minimum requirements of the CAA if they fully address the requirements of CAA sections 110, 172, 191, and 192, and the EPA's regulations at 40 CFR part 51.

Also, under CAA section 110(l), the EPA may not approve a SIP revision that would interfere with any applicable requirement concerning NAAQS attainment and RFP, or any other applicable requirement. Further, under CAA section 193, no control requirement in effect before November 15, 1990 (or required to be adopted by an order, settlement, agreement, or plan in effect before November 15, 1990), in any area that is a nonattainment area for any air pollutant, may be modified in any manner unless the modification insures equivalent or greater emission reductions of such air pollutant.

CAA sections 172(c)(1) and 172(c)(6) direct states with areas designated as nonattainment to demonstrate that the submitted plan and its emissions limitations and control measures provide for attainment of the NAAQS. The EPA's regulations at 40 CFR part 51,

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[22] 2014 SO_2 Guidance, p. 2.

subpart G further delineate the control strategy requirements that plans must meet, and that all SIPs and control strategies reflect the four fundamental principles of quantification, enforceability, replicability, and accountability.[23] SO_2 nonattainment area plans must consist of two components: (1) enforceable emission limits and other control measures that assure implementation of permanent, enforceable, and necessary emission controls, and (2) a modeling analysis that meets the requirements of 40 CFR part 51, appendix W and demonstrates that these emission limits and control measures provide for timely attainment of the primary SO_2 NAAQS as expeditiously as practicable, but by no later than the attainment date for the affected area. In all cases, the emission limits and control measures must be accompanied by appropriate methods and conditions to determine compliance with the respective emission limits and control measures and must be quantifiable (i.e., a specific amount of emission reduction can be ascribed to the measures), fully enforceable (i.e., specifying clear, unambiguous, and measurable requirements for which compliance can be practicably determined), replicable (i.e., the procedures for determining compliance are sufficiently specific and non-subjective so that two independent entities applying the procedures would obtain the same result), and accountable (i.e., source specific limits must be permanent and must reflect the assumptions used in the plan demonstrations).

The EPA's 2014 SO_2 Guidance recommends that the emission limits established for an attainment demonstration be expressed as short-term average limits (e.g., addressing emissions averaged over one hour consistent with the averaging time of the 1-hour SO_2 NAAQS), but also describes the option to utilize emission limits with longer averaging times of up to 30 days so long as the limit is demonstrated by the state to assure comparable stringency to a 1-hour average limit that demonstrates attainment of the 1-hour SO_2 NAAQS. The 2014 SO_2 Guidance includes suggested criteria and procedures for making this demonstration.[24] The 2014 SO_2 Guidance

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[23] See General Preamble, 13567–13568 (April 16, 1992).
[24] See 2014 SO_2 Guidance, pp. 22–39.

recommends that, should states and sources utilize longer averaging times, the longer-term average limit should be set at an adjusted level that reflects a stringency comparable to the 1-hour average limit at the critical emission value shown to provide for attainment.

The 2014 SO_2 Guidance provides an extensive discussion of the EPA's rationale for concluding that appropriately set, comparable stringent limitations based on averaging times as long as 30 days can be found to provide for attainment of the 2010 SO_2 NAAQS. In evaluating this option, the EPA considered the nature of the standard, conducted detailed analyses of the effect of 30-day average limits on the prospects for attaining the standard, and carefully reviewed how best to achieve an appropriate balance among the various factors that warrant consideration in judging whether a state's plan provides for attainment.[25]

As specified in 40 CFR 50.17(b), the 1-hour primary SO_2 NAAQS is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations is less than or equal to 75 ppb. In a year with 365 days of valid monitoring data, the 99th percentile would be the fourth highest daily maximum 1-hour value. Because the standard has this form, a single hourly exceedance of the 75 ppb NAAQS level does not by itself result in a violation of the standard. Instead, at issue is whether a source operating in compliance with a properly set longer-term average could cause multiple hourly exceedances over multiple days in a year, and if so, the resulting frequency and magnitude of such exceedances, and in particular, whether the EPA can have reasonable confidence that a properly set longer-term average limit will provide that the 3-year average of annual fourth highest daily maximum hourly values will be at or below 75 ppb. A synopsis of how the EPA evaluates whether such plans "provide for attainment," based on modeling of projected allowable emissions and in light of the form of the SO_2 NAAQS for determining attainment at monitoring sites, follows.

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[25] Id. at 22–39, and Appendices B, C, and D.

For SO_2 attainment plans based on 1-hour emission limits, the standard approach is to conduct modeling using fixed 1-hour emission rates. The maximum modeled emission rate that results in attainment is labeled the "critical emission value" (CEV). The modeling process for identifying this CEV inherently considers the numerous variables that affect ambient concentrations of SO_2, such as meteorological data, background concentrations, and topography. In the standard approach, the state would then provide for attainment by setting a continuously applicable 1-hour emission limit for each stationary SO_2 source at this CEV.

The EPA recognizes that some SO_2 sources have highly variable emissions, for example due to variations in fuel sulfur content and operating rate, that can make it extremely difficult, even with a well-designed control strategy, to ensure in practice that emissions for any given hour do not exceed the CEV. The EPA also acknowledges the concern that longer-term emission limits can allow short periods with emissions above the CEV, which, if coincident with meteorological conditions conducive to high SO_2 concentrations, could in turn create the possibility of an hourly NAAQS exceedance occurring on a day when an exceedance would not have occurred if emissions were continuously controlled at the level corresponding to the CEV. However, for several reasons, the EPA believes that the approach recommended in its guidance document suitably addresses this concern.

First, from a practical perspective, the EPA expects the actual emission profile of a source subject to an appropriately set longer-term average limit to be similar to the emission profile of a source subject to an analogous 1-hour average limit. The EPA expects this similarity because it has recommended that the longer-term average limit be set at a level that is comparably stringent to the otherwise applicable 1-hour limit (reflecting a downward adjustment from the CEV) and that takes the source's emissions profile (and inherent level of emissions variability) into account. As a result, the EPA expects either form of emission limit to yield comparable air quality.

Second, from a more theoretical perspective, the EPA has compared the likely air quality with a source having maximum allowable emissions under an appropriately set longer-term limit, to the likely air quality with the source having maximum allowable emissions under the comparable 1-hour limit. In this comparison, in the 1-hour average limit scenario, the source is presumed at all times to emit at the CEV, and in the longer-term average limit scenario, the source is presumed occasionally to emit more than the CEV, but on average, and presumably at most times, to emit well below the CEV. In an "average year,"[26] compliance with the 1-hour limit is expected to result in three exceedance days (i.e., three days with maximum hourly values above 75 ppb) and a fourth day with a maximum hourly value at 75 ppb. By comparison, with the source complying with a longer-term limit, it is possible that additional hourly exceedances would occur that would not occur in the 1-hour limit scenario (if emissions exceed the CEV at times when meteorology is conducive to poor air quality). However, this comparison must also factor in the likelihood that exceedances that would be expected in the 1-hour limit scenario would not occur in the longer-term limit scenario. This result arises because the longer-term limit requires lower emissions most of the time (because the limit is set below the CEV), so a source complying with an appropriately set longer-term limit is likely to have lower emissions at critical times than would be the case if the source were emitting as allowed with a 1-hour limit.

To illustrate this point, the EPA conducted a statistical analysis using a range of scenarios using actual plant data. This analysis is described in Appendix B of the EPA's 2014 SO_2 Guidance. Based on the analysis described in the 2014 SO_2 Guidance, the EPA expects that an emission profile with maximum allowable emissions under an appropriately set, comparably stringent 30-day average limit is likely to have the net effect of having a lower number of hourly exceedances and better air quality than an emission profile with maximum allowable emissions

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[26] An "average year" is used to mean a year with average air quality. While 40 CFR part 50, appendix T, provides for averaging three years of annual 99th percentile daily maximum hourly values (e.g., the fourth highest maximum daily hourly concentration in a year with 365 days with valid data), this discussion and the example discussed herein uses a single "average year" in order to simplify the illustration of relevant principles.

under a 1-hour emission limit at the CEV. This result provides a compelling policy rationale for allowing the use of a longer averaging period, in appropriate circumstances where the facts indicate this result can be expected to occur.

The 2014 SO_2 Guidance offers specific recommendations for determining an appropriate longer-term average limit. The recommended method starts with determination of the 1-hour emission limit that would provide for attainment (i.e., the CEV), and applies an adjustment factor to determine the (lower) level of the longer-term average emission limit that would be estimated to have a stringency comparable to the otherwise necessary 1-hour emission limit. This method uses a database of continuous emission data reflecting the type of control that the source will be using to comply with the plan's emission limits, which (if compliance requires new controls) may require use of an emission database from another source. The recommended method involves using these data to compute a complete set of emission averages, computed according to the averaging time and averaging procedures of the prospective emission limitation (i.e., using 1-hour historical emission values from the emissions database to calculate 30-day average emission values). In this recommended method, the ratio of the 99th percentile among these longer-term averages to the 99th percentile of the 1-hour values represents an adjustment factor that may be multiplied by the candidate 1-hour emission limit CEV to determine a longer-term average emission limit that may be considered comparably stringent.[27]

The 2014 SO_2 Guidance also addresses a variety of related topics, including the potential utility of setting supplemental emission limits, such as mass-based limits or work practice requirements for the operation of SO_2 control equipment, to reduce the likelihood and/or magnitude of elevated emission levels that might occur under the longer-term emission rate limit.

Preferred air quality models for use in regulatory applications are described in Addendum

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[27] For example, if the CEV is 1000 pounds of SO_2 per hour, and a suitable adjustment factor is determined to be 70 percent, the recommended longer-term average limit would be 700 lb/hr.

A of the EPA's "Guideline on Air Quality Models" ("Appendix W").[28] In 2005, the EPA promulgated the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) as the Agency's preferred near-field dispersion model for a wide range of regulatory applications addressing stationary sources (e.g., in estimating SO_2 concentrations) in all types of terrain based on an extensive developmental and performance evaluation. Supplemental guidance on modeling for purposes of demonstrating attainment of the SO_2 standard is provided in Appendix A of the 2014 SO_2 Guidance. Appendix A provides extensive guidance on the modeling domain, the source inputs, assorted types of meteorological data, and background concentrations. Consistency with the recommendations in the 2014 SO_2 Guidance would generally ensure that the attainment demonstration offers adequately reliable assurance that the plan provides for attainment.

Attainment demonstrations for the 2010 1-hour primary SO_2 NAAQS must demonstrate future attainment and maintenance of the NAAQS in the entire area designated as nonattainment (i.e., not just at the violating monitor) by using air quality dispersion modeling (see Appendix W) to show that the mix of sources and enforceable control measures and emission rates in an identified area will not lead to a violation of the SO_2 NAAQS. For a short-term (i.e., 1-hour) standard, the EPA believes that dispersion modeling, using allowable emissions and addressing stationary sources in the affected area (and in some cases those sources located outside the nonattainment area that may affect attainment in the area) is technically appropriate, efficient, and effective in demonstrating attainment in nonattainment areas because it takes into consideration combinations of meteorological and emission source operating conditions that may contribute to peak ground-level concentrations of SO_2.

The meteorological data used in the analysis should generally be processed with the most recent version of AERMET. AERMET is a meteorological data preprocessor that incorporates

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[28] 40 CFR part 51, appendix W.

air dispersion based on planetary boundary layer turbulence structure and scaling concepts. Estimated concentrations should include ambient background concentrations, should follow the form of the standard, and should be calculated as described in section 2.6.1.2 of the August 23, 2010, clarification memo on "Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard."[29]

Finally, CAA section 123(a) provides that the degree of emission limitation required for control of any air pollutant under an applicable implementation plan shall not be affected in any manner by so much of the stack height of any source as exceeds good engineering practice (GEP) (as determined under regulations promulgated by the Administrator). The EPA's regulations implementing section 123 reside at 40 CFR 51.118 to 51.119, and in a series of definitions at 40 CFR 51.100(ff) to (nn). GEP stack height is defined as the greatest among three values, based on three defined approaches for determining GEP stack height. As relevant here, under the third approach the creditable stack height is defined in 40 CFR 51.100(ii)(3) as "[t]he height demonstrated by a fluid model . . . which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features." "Nearby" is defined in 40 CFR 51.100(jj)(2) as not greater than 0.8 kilometers (km) (1/2 mile) with a set of exceptions applying to terrain features. "Excessive concentrations" is defined in 40 CFR 51.100(kk)(1), which also specifies that, "[t]he allowable emission rate to be used in making demonstrations under this part shall be prescribed by the new source performance standard that is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible." Since this demonstration must rely on allowable emissions, the SIP must include the appropriate limit, either the new source performance standard (NSPS) limit

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[29] Memorandum dated August 23, 2010, from Tyler Fox, Leader, Air Quality Modeling Group, C439-01, to Regional Air Division Directors, Subject: "Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard." Available at *https://www.epa.gov/sites/default/files/2020-10/documents/clarificationmemo_appendixw_hourly-so2-naaqs_final_08-23-2010.pdf*.

or an alternative limit if the NSPS limit is infeasible, as an adopted part of the plan.[30]

III. Review of Arizona's SIP Submissions

Arizona submitted the "Final SIP Revision: 2023 Hayden Sulfur Dioxide Nonattainment Area for the 1971 and 2010 SO_2 NAAQS" ("2023 Hayden SO_2 Plan") to the EPA as a revision to the Arizona SIP on October 3, 2023.[31] The 2023 Hayden SO_2 Plan includes a copy of Significant Permit Revision No. 96410, Attachment "I" Hayden Smelter Site-Specific SIP Requirements ("Hayden SO_2 Permit Revision"), which includes numerical fugitive emissions limits, work practice standards, and recordkeeping/reporting requirements to ensure attainment of the SO_2 NAAQS in the Hayden SO_2 nonattainment area. ADEQ's letter adopting and submitting the 2023 Hayden SO_2 Plan for inclusion in the Arizona SIP clarifies that the SIP revision is intended to satisfy the CAA requirements for the Hayden SO_2 planning area for both the 1971 and 2010 SO_2 NAAQS.[32] The October 3, 2023 submittal became complete by operation of law on April 3, 2024. On May 2, 2024, the EPA issued a completeness letter, determining that Arizona's October 3, 2023 submittal includes all SIP elements required as a result of the January 31, 2022 finding of failure to attain and that the submittal meets the minimum completeness criteria in 40 CFR part 51, appendix V.[33]

On December 8, 2025, ADEQ submitted for parallel processing the proposed "SIP Revision: Rules Incorporating Hayden Smelter Permit Conditions to Supplement Arizona's 2023

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[30] See 67 FR 22168, 22209 to 22218 (May 2, 2002) (explaining that the EPA's stack height regulations require sources that wish to obtain above-formula stack height credit to have a SIP limit that is no higher than the NSPS limit used in modeling) and *Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174, 1187–1188 (9th Cir. 2012) (upholding this interpretation).

[31] Letter dated October 3, 2023, from Daniel Czecholinski, Director, Air Quality Division, ADEQ, to Martha Guzman, Regional Administrator, EPA Region 9, Subject; "RE: Submittal of the Arizona Department of Environmental Quality's SIP revision: 2023 Hayden Sulfur Dioxide Nonattainment Area for the 1971 and 2010 SO_2 NAAQS," with enclosures (submitted electronically on October 3, 2023).

[32] Id.

[33] Letter dated May 2, 2024, from Matthew Lakin, Director, Air and Radiation Division, EPA Region IX, to Karen L. Peters, Cabinet Executive Officer, ADEQ, Subject: "Re: Completeness Finding for the State Implementation Plan (SIP) Submission for the Hayden Nonattainment Area for the 1971 and 2010 Sulfur Dioxide (SO_2) National Ambient Air Quality Standards (NAAQS)."

SO_2 SIP" as a supplement to the 2023 Hayden SO_2 Plan ("Hayden SO_2 Supplement").[34] In addition to addressing attainment planning requirements, the Hayden SO_2 Supplement includes revisions to Rule B1302 and AAC Title 18, Chapter 2, Appendix 14 ("Procedures for Sulfur Dioxide and Lead Fugitive Emissions Studies for the Hayden Smelter") ("Appendix 14") that establish certain enforceable control requirements that are relied upon in the attainment demonstration. ADEQ's December 5, 2025 letter accompanying the Hayden SO_2 Supplement explains that the rule revisions "replace the existing references to the Hayden Smelter permitting conditions in Permit No. 39945 (as amended by Significant Permit Revision No. 92168 and Significant Permit Revision No. 96410) with direct incorporation by reference of the equivalent requirements now codified in the A.A.C.," and that where the 2023 Hayden SO_2 Plan referred to the conditions in the permit, ADEQ now requests that EPA instead refer to the applicable rules.[35] These rule revisions have been adopted under State law.[36] However, ADEQ notes that the State is requesting parallel processing of these submissions to help facilitate timely EPA action on the 2023 Hayden SO_2 Plan, given the additional administrative steps required before codification of the rule revisions in the AAC.

Parallel processing refers to a process where the state submits a SIP revision prior to actual adoption by the state.[37] The EPA reviews the proposed SIP revision and prepares a notice of proposed rulemaking under Federal law. Any final rule action by the EPA will occur only after the state formally adopts and submits its final submission to the EPA.

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[34] Letter dated December 5, 2025, from Daniel Czecholinski, Director, Air Quality Division, ADEQ, to Michael Martucci, Acting Regional Administrator, U.S. EPA, Region 9 (submitted electronically on December 8, 2025).
[35] The Hayden SO_2 Supplement further clarifies that ADEQ intends to withdraw the previously submitted Hayden SO_2 Permit Revision from the 2023 Hayden SO_2 Plan now that they have incorporated the relevant permit conditions into state rule. Hayden SO_2 Supplement, p. 1.
[36] On December 10, 2025, ADEQ submitted an updated version of the Hayden SO_2 Supplement, which noted in Exhibit A-II that "[o]n December 2, 2025, the Arizona Governor's Regulatory Review Council (Arizona GRRC) approved the Hayden Pb and SO_2 rulemaking. Accordingly, the Arizona GRRC-approved Notice of Final Rulemaking (NFRM) package was submitted to the Arizona Secretary of State (SOS) on December 9, 2025." The NFRM was published in the Arizona Administrative Register on January 2, 2026 (Vol. 32, Issue 1, p. 93) with an effective date of February 7, 2026. However, the codified version of the rules has not yet been published in the AAC.
[37] 40 CFR part 51, appendix V, section 2.3.

Section 110(k)(1)(B) of the CAA requires the EPA to determine whether a SIP submission is complete within 60 days of receipt. This section also provides that if the EPA has not affirmatively determined a SIP submission to be complete or incomplete, it will become complete by operation of law six months after the date of submission. The EPA's SIP completeness criteria are found in 40 CFR part 51, appendix V. The EPA has reviewed the Hayden SO_2 Supplement and finds that it fulfills the completeness criteria of appendix V, with the exception of the requirements of paragraphs 2.1(e)–2.1(h), which do not apply to plans submitted for parallel processing.

CAA sections 110(a)(1) and (2) and 110(l) require each state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submission of a SIP submission to the EPA. To meet this requirement, a state's SIP submission must include evidence that the state provided adequate public notice and an opportunity for a public hearing, consistent with the EPA's implementing regulations in 40 CFR 51.102. However, because ADEQ submitted the Hayden SO_2 Supplement for parallel processing, this initial submission is exempt from this requirement pursuant to 40 CFR part 51, appendix V, section 2.3.1. ADEQ is required to meet these procedural criteria during the parallel processing period and prior to adopting and submitting the final SIP submission to the EPA. The EPA will evaluate whether the final submission meets these requirements at the time of any final action on the Hayden SO_2 Supplement.

In addition to the 2023 Hayden SO_2 Plan and Hayden SO_2 Supplement, ADEQ previously submitted amendments to AAC Title 18, Chapter 2, Article 13, section R18-2-715 ("Standards of Performance for Existing Primary Copper Smelters: Site-Specific Requirements") ("Rule 715") and section R18-2-715.01 ("Standards of Performance for Existing Primary Copper

Smelters; Compliance and Monitoring") ("Rule 715.01") on April 6, 2017.[38] We have not yet acted on these amendments to Rules 715 and 715.01, which are related to the revisions to Rule B1302. These amendments sunset Rule 715 and 715.01 requirements upon the approval and effective date of Rule B1302. Further details can be found in the technical support document (TSD) titled "Technical Support Document for Rule Revisions in the Hayden SO_2 Supplement to the 2023 Hayden SO_2 Plan" included in the docket for this proposed action.[39] On July 17, 2017, the EPA issued a completeness letter for Rules 715 and 715.01, finding that they fulfill the completeness criteria in 40 CFR part 51, appendix V.[40] In the December 5, 2025 letter submitting the revised rules for parallel processing, ADEQ requests that EPA act on the previously submitted Rules 715 and 715.01.

Table 1 lists the rules addressed by this proposal with the dates that they were adopted and submitted by ADEQ.

Table 1 – Submitted Rules

Rule #	Rule title	Effective date	Submitted
R18-2-715	Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements	May 7, 2017	April 6, 2017
R18-2-715.01	Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring	May 7, 2017	April 6, 2017
R18-2-B1302	Limits on SO_2 Emissions from the Hayden Smelter	February 7, 2026	December 8, 2025 (for parallel processing)
Appendix 14	Procedures for Sulfur Dioxide and Lead Fugitive Emissions Studies for the Hayden Smelter	February 7, 2026	December 8, 2025 (for parallel processing)

[38] Letter dated April 6, 2017, from Timothy S. Franquist, Director, Air Quality Division, ADEQ, to Alexis Strauss, Acting Regional Administrator, EPA Region IX, Subject: "RE: Submittal of the Final Rules for the State Implementation Plans for Hayden Sulfur Dioxide Nonattainment Area, Hayden Lead Nonattainment Area, and Miami Sulfur Dioxide Nonattainment Area," (submitted electronically on April 6, 2017).
[39] EPA Region IX, "Technical Support Document for Rule Revisions in the Hayden SO_2 Supplement to the 2023 Hayden SO_2 Plan," December 2025.
[40] Letter dated July 17, 2017, from Elizabeth J. Adams, Acting Director, Air Division, EPA Region IX, to Timothy S. Franquist, Director, Air Quality Division, ADEQ.

The remainder of this document discusses the EPA's review of and proposed action on the rules summarized in Table 1 and Arizona's Hayden SO_2 Plan for attaining the 1971 and 2010 SO_2 NAAQS.

IV. Review of Modeled Attainment Demonstration

ADEQ provided a summary of the modeled attainment demonstration in section 5 of the 2023 Hayden SO_2 Plan and section 2.2.1 of the Hayden SO_2 Supplement and provided more details in Appendix C ("Modeling Technical Support Document for the Hayden Sulfur Dioxide (SO_2) Nonattainment Area") of the Plan ("ADEQ's Modeling TSD"). The submission contains an air quality modeling analysis used to demonstrate that the emission limits in the plan will suffice to provide for timely attainment. This section discusses the EPA's review of the State's attainment demonstration. A more detailed discussion of our evaluation is contained in the EPA's modeling TSD for this proposed action, titled "Technical Support Document, EPA Evaluation of the Modeled Attainment Demonstration in the 2023 Hayden SO_2 Plan."[41]

A. Modeling Approach and Receptor Grid

ADEQ's attainment demonstration used AERMOD, the preferred model for this application. The State used AERMOD version 22112 ("v22112"), the regulatory version at the time it conducted its nonattainment planning, for all emission sources. For all emission sources, the State used regulatory default options. The EPA proposes to find this selection appropriate.

The modeling domain was centered on the Hayden Smelter facility and extended to the edges of the Hayden SO_2 nonattainment area. ADEQ used a grid spacing of 25 meters to resolve AERMOD model concentrations along the ambient air boundary surrounding the Smelter with increased grid spacing toward the edges of the nonattainment area. Receptors were placed outside the ambient air boundary, which is defined by the facility's physical fence line, except in

[41] EPA Region IX, "Technical Support Document, EPA Evaluation of the Modeled Attainment Demonstration in the 2023 Hayden SO_2 Plan," December 2025.

several segments where there is no fence, and the State inspected and concluded steep topography precludes public access. The area is further secured by regular security patrols. We propose to find this selection appropriate.

B. Meteorological Data

ADEQ conducted its modeling using five years of on-site surface meteorological data collected by the State, specifically 2015 to 2016 and 2018 to 2020 at a 10-meter tower located approximately 0.35 km south of the Smelter. The State provided audit reports for the years 2015, 2016, 2018, 2019, and 2020 for the monitoring station to document that the station's installation and data collection were consistent with the EPA's recommendations.[42,43] The anemometer and solar radiation sensor were found to be faulty in 2017 and 2021, respectively, leading to their replacement. These issues prevented both years from meeting the 90 percent data completeness requirement for regulatory modeling. The State used upper air data from the National Weather Service station in Tucson, Arizona (Weather Bureau Army Navy station number 23160), which is 100 km south of the Smelter. The State used AERMET v22112 to process meteorological data for use with AERMOD.

The State used AERSURFACE version 20060, relying on data from the onsite location to estimate the surface characteristics (i.e., albedo, Bowen ratio, and surface roughness). The State calculated the parameters for twelve compass sectors of 30 degrees each out to 1 km at a seasonal temporal resolution.

The State used the Auer (1978) land use method, with land cover data from the United States Geological Survey National Land Cover Data 1992 archives, to determine that the 3-km area around the Hayden Smelter is composed of 89.9 percent rural land types. Therefore, the State selected rural dispersion coefficients for modeling.

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[42] ADEQ's Modeling TSD, appendix G.
[43] EPA, "EPA Meteorological Monitoring Guidance for Regulatory Modeling Applications," Publication No. EPA–454/R–99–005 (February 2000).

Based on our review, the EPA proposes to find the selection and use of these meteorological inputs to be appropriate and in accordance with appendix W and the 2014 SO_2 Guidance.

C. Emissions Data

ADEQ developed a modeling emissions inventory for sources within the Hayden SO_2 nonattainment area and a 50 km buffer zone extending from the nonattainment area boundary based on the 2017 base year emission inventory data. In 2017, the Hayden Smelter emitted 20,498.8 tons of SO_2, accounting for more than 99.9 percent of SO_2 emissions in the nonattainment area. No other sources had SO_2 emissions greater than 25 tons per year (tpy) in the nonattainment area in 2017. The Freeport-McMoRan Miami Inc. (FMMI) copper smelter is located 46 km north of the Hayden Smelter and had 2017 SO_2 emissions of 3,930.3 tpy. The two smelters are separated by large mountains, making these two airsheds distinct. The State modeled the FMMI stack emissions and determined that the modeled concentrations from the source were negligible in the Hayden SO_2 nonattainment area. Additionally, the State determined that all other sources were sufficiently represented by background monitored concentrations.

The State evaluated the stack height of the main stack of the Hayden Smelter in section 5.3 ("Good Engineering Practice (GEP) Stack Height") of Appendix C of the 2023 Hayden SO_2 Plan. ADEQ relied upon fluid modeling performed in 1979 and an updated 2022 analysis based on the current stack height regulations to determine that the 1,000 foot stack remains an appropriate stack height, pursuant to 40 CFR 51.100(ii)(3). ADEQ also incorporated the NSPS limit for SO_2 of 0.065 percent by volume (applicable to all roasters, smelting furnaces and copper converters),[44] into Rule B1302.

Since 2014, Asarco has undertaken substantial upgrades to the Smelter facility that have reduced SO_2 emissions and has proposed several additional upgrades that have been incorporated

[44] 40 CFR 60.163(a).

into the Hayden SO_2 Permit Revision and revised Rule B1302 as required controls.[45] The State estimated post-upgrade maximum 1-hour SO_2 emissions and used those estimates to model facility sources subject to additional control. The State provided a justification for the control efficiencies assumed in the adjustments.[46] The State modeled all sources within the Smelter complex, including the main stack, anode furnace roof monitors, converter aisle roof monitors, flash furnace building roof monitors, and outdoor slag pouring. Additionally, the modeling included emissions from the acid plant preheater, anode boiler, and oxygen plant boiler as three non-trivial pieces of auxiliary equipment that collectively account for an additional 61.69 pounds per hour (lb/hr) of SO_2 emissions.[47]

The hourly emission rates used in the attainment modeling in the 2023 Hayden SO_2 Plan are shown in Table 2. The main stack CEV (1,518 lb/hr) was used to derive a 14-operating day average emission limit, as described in section IV.D of this document.

Table 2 – Projected Maximum Smelter SO_2 Emissions After Additional Controls

Source	SO_2 Emissions (lb/hr)
Main Stack	1,518
Slag Pouring	4.05
Anode Furnace	10.0
Converter Aisle	9.0
Flash Furnace	38.5
Acid Plant Preheater	0.12
Anode Boiler	0.002
Oxygen Plant Boiler	0.01
Total	1,580

Source: ADEQ's Modeling TSD, Table 5-1 and Table 8-4.

In addition to modeling the fugitive emission limits in Table 2, the State included additional modeling results in the Hayden SO_2 Supplement for a series of alternative fugitive emissions limit scenarios that vary emissions among the anode furnace, converter aisle, and flash

[45] ADEQ's Modeling TSD, section 5-1.
[46] See letter dated August 12, 2022, from William B. Jones, Blue Sky Modeling LLC., to Feng Mao, ADEQ, Subject: "Re: Response to ADEQ comments on ASARCO SO_2 SIP Modeling," included as Appendix D of ADEQ's Modeling TSD, Appendix F.
[47] ADEQ's Modeling TSD, Table 5-1 and Table 8-4.

furnace.[48] The State conducted modeling for these additional scenarios to account for a provision that ADEQ included in Rule B1302. Subsection (C)(3)(d) of Rule B1302 allows the owner or operator to apply for a significant permit revision to change the applicable fugitive emissions limits for the three fugitive sources to those of an alternative scenario. The alternative fugitive emissions limit scenarios and resulting modeled SO_2 concentrations are shown in Table 3 of this document. The modeled design values for these alternative scenarios are all below the NAAQS.

Table 3 – Alternative Emissions Limit Scenarios

Scenario	Flash Furnace (lb/hr)	Converter Aisle (lb/hr)	Anode Furnace (lb/hr)	Resulting AERMOD Concentrations ($\mu g/m^3$)*
1	37	10	10	195.8
2	35.5	10	11	195.3
3	34	10	12	194.8
4	36.5	11	9	195.3
5	35	11	10	194.8
6	34	11	11	195.8
7	32.5	11	12	195.3
8	35	12	9	195.8
9	33.5	12	10	195.3
10	32	12	11	194.9
11	30.5	12	12	194.7
12	33	13	9	194.9
13	32	13	10	195.8
14	30.5	13	11	195.7
15	29.1	13	12	195.8

Source: Hayden SO_2 Supplement, Table 1-2.
*Modeled values have been rounded to the nearest tenth.

The State asserts that the emission limit for the main stack and limits for each of the fugitive emission limit scenarios will adequately regulate emissions from the Hayden Smelter facility.[49] We propose to find the selection and use of these emissions inputs to AERMOD to be appropriate and in accordance with Appendix W and the 2014 SO_2 Guidance. The EPA also proposes to find that the State adequately characterized source parameters for the emissions described above, as well as the Hayden Smelter's building layout and location in its modeling.

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[48] Hayden SO_2 Supplement, section 2.2.1.
[49] Id. at 6.

Where appropriate, the AERMOD component Building Profile Input Program for Plume Rise Model Enhancements was used to assist in addressing building downwash. We propose to find the selection and use of these emissions inputs to AERMOD to be appropriate and in accordance with Appendix W and the 2014 SO_2 Guidance.

D. Emission Limits

Section 172(c)(6) of the CAA requires that a state's attainment plan include enforceable emission limitations, and such other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment of the standard in the area by the applicable attainment date.[50] Part of the review of a state's attainment plan must address the use of these limits, both with respect to the general suitability of using such limits for the purpose of meeting the requirements of CAA section 172(c)(6) and with respect to whether the particular limits included in the plan have been suitably demonstrated to provide for attainment. As specified in sections 172(c)(6) and 110(a)(2)(A) of the CAA and in the preamble to the EPA's final rule establishing the 2010 1-hour SO_2 NAAQS,[51] emission limitations, control measures, and other elements in the SIP must be enforceable by the state and the EPA.

The first subsection that follows addresses the enforceability of the limits in the Plan and the second subsection that follows addresses in particular the longer-term 14-operating day average limit.

1. Enforceability

The emission limits for the main stack and fugitive emissions sources (i.e., the flash furnace, converter aisle, and anode furnace) of the Asarco Hayden Smelter are codified in revisions to section (C) of Rule B1302. ADEQ submitted the revised rule to the EPA for

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[50] See General Preamble, 13567–13568 (April 16, 1992).
[51] 75 FR 35520 (June 22, 2010).

incorporation into the Arizona SIP via parallel processing on December 8, 2025. We are proposing to approve Rule B1302 as part of this action and we intend to finalize action on the rule prior to or contemporaneously with our final action on the Hayden SO_2 Plan.

Rule B1302's 14-operating day average emission limit of 1,069.1 lb/hr applies to emissions vented to the Smelter's main stack from several control devices, including the acid plant, secondary and tertiary converter ventilation gas baghouses, vent gas baghouse, and anode furnace baghouses.[52] To ensure compliance with the main stack limit, the rule requires that continuous emissions monitoring systems be operated at the exit of each of the aforementioned control devices.[53] In addition, Rule B1302 requires the owner or operator to develop, keep current, and submit for ADEQ review and approval an operations and maintenance plan covering each of the emissions capture and control systems to ensure that these systems are functioning properly and are adequately maintained.[54]

To ensure compliance with the fugitive emissions limits, Rule B1302 requires that the owner or operator operate continuous emissions monitoring systems for continuous monitoring along the roofline of the flash furnace building and above the converter aisle and anode furnaces.[55] Rule B1302 also requires the owner or operator to develop and submit to ADEQ and the EPA for review and approval, within 90 days of smelter restart, a roofline monitoring system operations and maintenance plan to ensure the systems function properly and are maintained.[56] In addition, Rule B1302 subsection (C)(3)(e) makes clear that any alternative fugitive limits would apply only following approval into a permit revision.

Rule B1302 includes provisions for determining compliance with the emission limits, and the necessary monitoring, recordkeeping, and reporting requirements to ensure that the

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[52] 2023 Hayden SO_2 Plan, p. 58.
[53] Rule B1302, section (E).
[54] Id. at section (D).
[55] Id. at section (F).
[56] Id. at subsections (F)(4) and (F)(5).

regulation as a whole is enforceable.[57] Further discussion on the enforceability of Rule B1302 is included in a separate TSD for this proposed action titled "Technical Support Document for Rule Revisions in the Hayden SO_2 Supplement to the 2023 Hayden SO_2 Plan."[58]

In accordance with the EPA's guidance on the use of federally enforceable limits, we find that the limits in Rule B1302 will be enforceable upon our approval of the rule, are supportive of attainment, and are suitable for inclusion into the Arizona SIP. We also find that the 14-day average emission limit is set at a lower level than the shorter-term CEV used in the attainment demonstration; the relationship between these two values is discussed in more detail in the following section.

2. Longer-Term Average Limits

The State modeled emissions from the Hayden Smelter as described in section IV.C of this document to determine a 1-hour average CEV for the main stack of 1518 lb/hr. To derive a longer-term average emission limit, the State used hourly SO_2 data collected using continuous emission monitors from 2005–2007 and 2010 through early 2014, adjusted to account for facility upgrades, as a representative emission profile for the Smelter's forecasted configuration.[59] ADEQ used the forecasted hourly emissions data to calculate a corresponding distribution of longer-term emission averages, including 30-day, 14-day, and 24-hour averages. The 99th percentile of the 14-day and 1-hour SO_2 emission rates are 943.24 lb/hr and 1,339.27 lb/hr, respectively. The ratio of these two values (i.e., the computed adjustment factor) is 0.70.[60] The

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[57] Id. at sections (H), (I), (J), (K), and (L).
[58] EPA Region IX, "Technical Support Document for Rule Revisions in the Hayden SO_2 Supplement to the 2023 Hayden SO_2 Plan," December 2025.
[59] ASARCO_EMISSION_LIMIT_TSD_10222018.xlsx. Data available from prior to 2005 and from 2008–2009 were excluded because they were determined to not be fully representative of Smelter operations.
[60] Using the same technique, the State also computed the 99th percentile of the 30-day and 24-hour SO_2 emission rates, which are 929.91 lb/hr and 991.83 lb/hr, resulting in computed adjustment factors of 0.69 and 0.74, respectively. These values are within the range of the national average 30-day average adjustment factors (i.e., 0.63–0.79) and lower than the range of 24-hour average adjustment factors (i.e., 0.81–0.93) estimated for electrical generating units (EGUs) and listed in Table 1 of Appendix D of the 2014 SO_2 Guidance. Although the 24-hour average adjustment factor is outside of the range derived for EGUs, this is expected, as smelters exhibit a greater range of variability due to feed and operational variability. In general, we expect operations with large variability to require bigger adjustments (lower adjustment factors) and result in lower long-term average emissions limits relative to the 1-hour CEV.

adjustment factor was multiplied by the main stack CEV (i.e., 1,518 lb/hr) to derive a longer-term 14-day average emission limit of 1,069.1 lb/hr. ADEQ included an updated analysis to examine whether the forecasted hourly emissions reflect actual operating conditions post-upgrades. Based on this analysis, the State concludes that the forecasted emissions were a conservative estimate and that the existing 1069.1 lb/hr 14-day average limit remains appropriate and protective.

Based on a review of the State's submittal, the EPA proposes to find that the 14-day average limit for the main stack of the Hayden Smelter provides a suitable alternative to establishing a 1-hour average emission limit for the main stack. The State has used a suitable database in an appropriate manner and has thereby applied an appropriate adjustment factor, yielding an emission limit that has comparable stringency to the 1-hour average limit that the State determined would otherwise have been necessary to provide for attainment. While the 14-day average limit for the main stack allows occasions in which emissions may be higher than the level that would be allowed with the 1-hour limit, the State's limit compensates by requiring average emissions to be lower than the level that would otherwise have been required by a 1-hour average limit. For reasons described herein and explained in more detail in the EPA's 2014 SO_2 Guidance, the EPA has found that appropriately set longer-term average limits provide a reasonable basis by which nonattainment plans may provide for attainment. Based on our review of this general information as well as the particular information in ADEQ's plan, the EPA proposes to find that the 14-day average limit for the main stack of the Hayden Smelter, in combination with other emissions limitations in the State's plan, will provide for attainment of the NAAQS. The EPA is proposing to conclude that the modeling and comparably stringent longer-term emission limit in Arizona's plan adequately demonstrate that it, along with the 1-hour fugitive limits, provides for attainment of the 1971 and 2010 SO_2 NAAQS in the Hayden SO_2 nonattainment area.

E. Background Concentrations

The 2014 SO_2 Guidance recommends developing a uniform monitored background concentration based on monitored design values for the latest three-year period, regardless of the years of meteorological data used in the modeling. The guidance further states that in cases of nonattainment areas designated based on a monitor's data showing a NAAQS violation, it may be necessary to use a different representative monitor outside of the nonattainment area, particularly where the monitor has a high number of observations affected by modeled sources. The EPA's "Guidance on Developing Background Concentration for Use in Modeling Demonstrations"[61] provides guidance on the selection of nearby sources to explicitly model in the demonstration and the representativeness of the background concentration of sources not modeled explicitly.

ADEQ selected background SO_2 concentrations using ambient air measurements recorded for the years 2020 and 2021 at the Hayden Old Jail monitor (Air Quality System (AQS)[62] ID: 04-007-1001) following the start of the temporary shutdown at the Hayden Smelter facility. The Hayden Old Jail monitor is uniquely positioned to capture ambient SO_2 levels reflective of background conditions during the closure period, as it is the only AQS monitor in the nonattainment area and is located just to the west of the facility's ambient air boundary. This location ensures that the monitor is influenced by the same topographically driven diurnal flows governing ambient SO_2 concentrations throughout the nonattainment area. The shutdown period provides a dataset free from facility influence, as the Asarco Hayden Smelter is the sole major SO_2 source in the area. No hourly exceedances of the SO_2 NAAQS occurred during the temporary closure period, underscoring the reliability of these background concentrations for

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[61] EPA, "Guidance on Developing Background Concentrations for Use in Modeling Demonstrations" (November 2024). Publication No. EPA–454/R–24–003. Available at *https://www.epa.gov/system/files/documents/2024-11/background-concentrations.pdf*.

[62] The EPA maintains the AQS, a database that contains ambient air pollution data collected by the EPA, state, local, and tribal air pollution control agencies. The AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and its operator) and data quality assurance/quality control information. The AQS data are used to (1) assess air quality, (2) assist in attainment/non-attainment designations, (3) evaluate SIPs for non-attainment areas, (4) perform modeling for permit review analysis, and (5) prepare reports for Congress as mandated by the CAA. Access is through the website at *https://www.epa.gov/aqs*.

accurately representing ambient conditions in the absence of smelter emissions. The State calculated the 2-year averages of the 99th percentile of SO_2 concentrations for each hour of the day and season at the Hayden Old Jail site. The State chose to use these concentrations to establish temporally varying background concentrations of SO_2 to add to modeled design values.

The EPA is proposing to find that the State's specification of temporally varying SO_2 background concentrations provide for representative background SO_2 levels in the Hayden SO_2 nonattainment area and is appropriate and consistent with the modeling guidance.

F. Summary of Results

The State's modeling indicates that with CEVs of 1,518 lb/hr for the main stack, 38.5 lb/hr for the flash furnace fugitives, 10 lb/hr for the converter aisle fugitives, and 9 lb/hr for the anode furnace fugitives, the highest predicted 99th percentile daily maximum 1-hour concentration within the Hayden SO_2 nonattainment area would be 195.97 $\mu g/m^3$, which is below the 196.4 $\mu g/m^3$ (75 ppb) level of the 2010 1-hour SO_2 NAAQS.[63] Likewise the State's modeling indicates that with these CEVs, the controlling concentrations for the 1971 NAAQS would be 170.8 $\mu g/m^3$ (3-hour average), compared to the 3-hour secondary standard of 1300 $\mu g/m^3$ (0.5 ppm); 51.7 $\mu g/m^3$ (24-hour average), compared to the 24-hour primary standard of 512 $\mu g/m^3$ (0.14 ppm); and 11.9 $\mu g/m^3$ (annual average) compared to the annual primary standard of 80 $\mu g/m^3$ (0.03 ppm).[64] The modeled concentrations include the background concentration, slag pouring emissions, non-trivial equipment emissions, and fugitive emissions of SO_2. The modeling indicates that the Smelter facility upgrades, resulting 14-day emission limit of 1,069.1 lb/hr for the main stack, and fugitive emissions limits of 38.5 lb/hr for the flash furnace, 10 lb/hr for the converter aisle, and 9 lb/hr for the anode furnace, are sufficient for the Hayden SO_2 nonattainment area to attain the 1971 and 2010 SO_2 NAAQS. Additionally, the State's attainment modeling for the alternative fugitive emissions limit scenarios detailed in

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[63] 2023 Hayden SO_2 Plan, p. 82.
[64] Id.

Table 3 of this document indicates that each of the alternative scenarios, coupled with the 14-day limit for the main stack, would also provide for attainment of the 1971 and 2010 SO_2 NAAQS in the Hayden SO_2 nonattainment area.

The EPA is proposing to determine that the attainment modeling demonstration meets the technical requirements of Appendix W and the 2014 SO_2 Guidance.

V. Review of Emissions and Emission Controls

A. Emissions Inventory and the Quantification of Emissions

Section 172(c)(3) of the CAA requires that a state's attainment plan include a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in the area, including such periodic revisions as the Administrator may determine necessary to assure that the requirements of the CAA are met. Section 172(c)(4) of the CAA requires that a state's attainment plan expressly identify and quantify the emissions, if any, of any pollutant or pollutants that will be allowed, in accordance with section 173(a)(1)(B) of the CAA, from the construction and operation of major new or modified stationary sources in the area. Section 172(c)(4) of the CAA also requires the plan demonstrate that the quantified emissions are consistent with the achievement of RFP and will not interfere with attainment of the NAAQS by the attainment date.

The emissions inventory and source emission rate data for an area serve as the foundation for air quality modeling and other analyses that enable states to estimate the degree to which different sources within a nonattainment area contribute to violations within the affected area and assess the expected improvement in air quality within the nonattainment area due to the adoption and implementation of control measures. As noted above, the state must develop and submit to the EPA a comprehensive, accurate, and current inventory of actual emissions from all sources of SO_2 emissions in each nonattainment area, as well as any sources located outside the

nonattainment area that may affect attainment in the area.[65]

The ADEQ used 2017 as the base year for emissions inventory preparation. At the time of preparation of the Plan, 2017 reflected the most recent triennial National Emission Inventory (NEI) available for a year in which the Hayden Smelter was operational[66] and therefore is representative of a year with violations of the primary SO_2 NAAQS. Emissions in the year 2017 also reflect a time prior to implementation of the control strategy in the 2023 Hayden SO_2 Plan.

To develop the 2017 base year emissions inventory, ADEQ reviewed and compiled actual emissions information from all sources of SO_2 in the nonattainment area. The ADEQ used information from state and local permits and surveys to estimate emissions from point sources and derived nonpoint source emissions from the 2017 NEI. In addition to developing an emissions inventory of SO_2 emission sources within the nonattainment area, ADEQ provided an SO_2 emissions inventory for those emission sources within a 50 km buffer zone of the nonattainment area. Table 4 of this document summarizes 2017 base year SO_2 emissions inventory data for the nonattainment area, categorized by emission source type (rounded to the nearest whole number).

Table 4 – Base Year SO_2 Emissions Inventory for the Hayden SO_2 Nonattainment Area (tons per year)

Year	Point	Nonpoint	On-road Mobile	Non-road Mobile	Total
2017	20,499	5	<1	<1	20,504

Source: 2023 Hayden SO_2 Plan, Table 3-13.

As shown in Table 4, the majority of SO_2 emissions in the 2017 base year inventory can be attributed to the point source category. Emissions for this category are from the Hayden Smelter.

A projected attainment year emissions inventory should also be included in the SIP

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[65] See CAA section 172(c)(3) and the EPA's 2014 SO_2 Guidance.

[66] As discussed in the 2023 Hayden SO_2 Plan, on October 13, 2019, the Hayden Smelter "shut down due to the declaration of a work stoppage by the ASARCO bargaining unit." As of the writing of this document, the Hayden Smelter has not resumed operations.

submission according to the 2014 SO_2 Guidance. This emissions inventory should include, in a manner consistent with the attainment demonstration, estimated emissions for all SO_2 emission sources that were determined to have an impact on the affected nonattainment area for the projected attainment year. Table 5 of this document summarizes Arizona's projected 2026 SO_2 emissions inventory data for the nonattainment area, categorized by source type. The 2017 base year emissions, as well as the projected change between base year and projected year emissions (rounded to the nearest whole number), are also summarized in Table 5.

Table 5 – Projected 2026 Emissions Inventory for the Hayden SO_2 Nonattainment Area (tons per year)

Year	Point	Nonpoint	On-road Mobile	Non-road Mobile	Total
2017	20,499	5	<1	<1	20,504
2026	3,007	5	<1	<1	3,012
Change	–17,492	0	0	0	–17,492

Source: 2023 Hayden SO_2 Plan, Appendix B, Tables 5-6 and 7-6.

As shown in Table 5, the majority of SO_2 emissions in the projected 2026 emission inventory are attributed to the point source emissions category. Emissions for this category were estimated based on a potential to emit at maximum throughput or federally enforceable limits for the Hayden Smelter. These emission projections include emission reduction estimates from the capture efficiencies of control measures that have already been implemented, or are required to be implemented under the Hayden SO_2 Permit Revision and revised Rule B1302.

The EPA has evaluated ADEQ's 2017 base year inventory and projected 2026 emissions inventory for the Hayden SO_2 nonattainment area and finds these inventories and the methodologies used for their development to be consistent with EPA guidance. As a result, the EPA is proposing to determine that the emissions inventories in the 2023 Hayden SO_2 Plan satisfy the requirements of CAA section 172(c)(3) and (4) for the Hayden SO_2 nonattainment area for the 1971 and 2010 SO_2 NAAQS.

B. Reasonably Available Control Measures/Reasonably Available Control Technology

CAA section 172(c)(1) states that nonattainment plans should "provide for the

implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the [NAAQS]." In this case, pursuant to CAA section 179(d)(3), following the EPA's determination that the Hayden SO_2 nonattainment area failed to attain by the October 4, 2018 attainment date, Arizona's revised plan must provide for attainment by January 31, 2027.[67]

ADEQ's control strategy for attaining the 1971 and 2010 SO_2 NAAQS in the Hayden SO_2 nonattainment area is based on implementation of the controls in the 2017 Hayden SO_2 Plan and the 2023 Hayden SO_2 Plan at the Hayden Smelter. The controls implemented as part of the 2017 Hayden SO_2 Plan include the replacement of five converter units with three larger units; the installation of more extensive, efficient, and effective fugitive gas control ducting around the converters; and the installation of additional process gas controls before venting to the main stack. Installation of these controls, collectively referred to as the "Converter Retrofit Project," was completed in May 2018.

In the 2017 Hayden SO_2 Plan, ADEQ compared controls at the Hayden Smelter with those at eight other facilities and determined that the Smelter's use of an acid plant, the Converter Retrofit Project, and dry lime scrubbing were comparable to SO_2 control measures employed by similar sources.[68] Thus, ADEQ concluded that the controls for the Hayden Smelter, including the Converter Retrofit Project, were representative of RACM/RACT level control.

The State's updated RACM/RACT analysis can be found in section 4.5.2.2 of the 2023 Hayden SO_2 Plan. ADEQ conducted the RACM/RACT analysis by comparing the requirements at the Hayden Smelter with controls for SO_2 and particulate matter at twelve facilities across the U.S. that (1) have similar control technologies as the Hayden Smelter; and (2) have been

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[67] 87 FR 4805 (January 31, 2022).
[68] 85 FR 31118, 31122 (May 22, 2020).

determined to meet the requirements for best available control measures for prevention of significant deterioration permitting purposes. The State chose to examine a diversity of sources because of the small number of primary copper smelting facilities operating in the United States. ADEQ compared the projected control efficiencies for the proposed control measures for the Hayden Smelter with the control efficiencies for the measures identified at the other large sources and, based on the efficiency of these sources as provided in the EPA's RACT/BACT/LAER Clearinghouse,[69] ADEQ reaffirmed its prior finding that the control technology implemented by Asarco as part of the Converter Retrofit Project is achieving similar or higher control efficiencies as those used by other industries. Thus, ADEQ concluded that these control technologies are representative of RACM/RACT level of control.

Because the requirements in the 2017 Hayden SO_2 Plan did not ultimately provide for attainment of the 2010 1-hour primary SO_2 NAAQS by the original October 4, 2018 attainment date, ADEQ included additional controls for the Hayden Smelter in the 2023 Hayden SO_2 Plan to provide for attainment by the January 31, 2027 applicable attainment date. These controls include three projects aimed at reducing fugitive emissions during peak processing periods:

- The "Uptake Improvement Project" involves the addition of a partial enclosure around the flash furnace to improve emissions capture during matte tapping and slag skimming activities;
- The "Fuming Ladle Capture Project" involves the addition of a hood and retaining walls to capture emissions from "fuming" ladles; and
- The "Anode Furnace Secondary Hood System" involves the addition of secondary hooding around the anode furnaces to improve capture during operations.

Arizona's Hayden SO_2 Permit Revision and revised Rule B1302 require compliance with the Uptake Improvement Project (also known as the "Flash Furnace Area Capture

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[69] Available at *https://cfpub.epa.gov/rblc/index.cfm?action=Home.Home*.

Improvements"), Fuming Ladle Capture Project (also known as the "Converter and Material Transfer Area Capture Improvements"), and Anode Furnace Secondary Hood System within 180 days of smelter restart. Arizona has determined that these measures, in combination with the Converter Retrofit Project and a redesigned acid plant preheater,[70] will suffice to provide for timely attainment. The EPA concurs and proposes to conclude that the State has satisfied the requirement in CAA section 172(c)(1) to adopt and submit all RACM as needed to attain the standards as expeditiously as practicable.

C. Nonattainment New Source Review

Section 172(c)(5) of the CAA requires that a state's attainment plan provisions shall require permits for the construction and operation of new or modified major stationary sources anywhere in the nonattainment area, in accordance with CAA section 173.

On November 2, 2015, the EPA published a final limited approval and limited disapproval of revisions to ADEQ's new source review (NSR) rules.[71] On May 4, 2018, the EPA approved rule revisions to address many of the deficiencies identified in the 2015 action,[72] and on June 16, 2021, the EPA approved additional rule revisions and determined that all outstanding deficiencies identified in the 2015 action had been corrected.[73] On April 3, 2024, the EPA approved further rule revisions submitted by ADEQ governing the issuance of permits for stationary sources in accordance with changes that the EPA had made to its NSR program regulations under the CAA.[74] Collectively, these rule revisions ensure that ADEQ's rules provide for appropriate NSR for SO_2 sources undergoing construction or major modification in the Hayden SO_2 nonattainment area without need for further modification. The EPA has already

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[70] In April 2018, Asarco commissioned a new acid plant preheater to reduce acid plant SO_2 emissions. Asarco subsequently discovered a malfunction at the preheater that resulted in loss of some process gas to the preheater exhaust stream and some exceedances of the 1-hour SO_2 NAAQS. Asarco redesigned and replaced the preheater to correct the issue. 2023 Hayden SO_2 Plan, pp. 49, 100.
[71] 80 FR 67319 (November 2, 2015).
[72] 83 FR 19631 (May 4, 2018).
[73] 86 FR 31927 (June 16, 2021).
[74] 89 FR 22963 (April 3, 2024).

concluded that the NSR requirement has been met for this area,[75] and we are not reopening that determination in this proposed action. We note that Rule B1302, section (M) ("Preconstruction review") indicates that the smelter emission limits contained in the rule are determined to be SO_2 RACT for purposes of minor NSR requirements. This provision does not interfere with or adversely affect existing nonattainment NSR rules.

D. Reasonable Further Progress

Section 172 of the CAA requires that attainment plans include provisions to address RFP. As discussed in the EPA's 2014 SO_2 Guidance, this requirement is more practically relevant and important for NAAQS pollutants affected by emissions from numerous and diverse sources, where the relationship between any individual source and overall air quality is not easily discernable, and where NAAQS attainment may require inventory-wide emissions reductions. The relationship between ambient SO_2 concentrations and SO_2 emission sources is more directly quantifiable as compared to other NAAQS pollutants, and there is frequently only one (or few) primary source of SO_2 emissions responsible for poor air quality in a nonattainment area. Consequently, full progress to attainment is achieved as soon as the one (or few) emission source is subject to an enforceable emission limitation. Therefore, for SO_2 SIP submittals that address a small number of affected sources, requiring expeditious compliance with attainment emission limits is sufficient to address the RFP requirement. CAA section 192(a) requires that SO_2 attainment plans provide for future attainment of the NAAQS as expeditiously as practicable, but no later than five years from the effective date of the area's designation as nonattainment. As discussed earlier in this document, following the EPA's determination that the Hayden SO_2 nonattainment area failed to attain by the October 4, 2018 attainment date, Arizona's plan must provide for attainment by January 31, 2027.[76]

ADEQ discusses the State's RFP demonstration, including the compliance schedule for

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[75] 85 FR 71547, 71552 (November 10, 2020).
[76] 87 FR 4805 (January 31, 2022).

the Hayden Smelter's operational controls and emission limits, in section 5.5 of the 2023 Hayden SO_2 Plan.

As discussed in section V.B of this document, ADEQ's control strategy for attaining the SO_2 NAAQS includes the implementation of the Converter Retrofit Project, the Uptake Improvement Project, the Fuming Ladle Capture Project, and the Anode Furnace Secondary Hood System, as well as compliance with the emissions limits for the main stack and fugitive emissions sources. The Converter Retrofit Project was completed in 2018.[77] The operational controls and limitations associated with the Uptake Improvement Project, Fuming Ladle Capture Project, and Anode Furnace Secondary Hood System are generally required to be implemented upon smelter restart, with some specific operational controls to be implemented by later deadlines specified in Rule B1302, section (D) ("Operational Standards").[78] The SO_2 emission limits for the main stack and fugitive emissions sources are to be effective 60 days after the Hayden Smelter achieves maximum production after restart or 180 days after smelter restart, whichever occurs first.[79]

ADEQ finds that the 2023 Hayden SO_2 Plan requires affected sources to implement appropriate control measures as expeditiously as practicable to ensure attainment of the standards by the applicable attainment date.[80] ADEQ concludes that the Plan provides for RFP in accordance with the approach to RFP described in the EPA's 2014 SO_2 Guidance.[81] The EPA proposes to conclude that Arizona has satisfied the requirement in CAA section 172(c)(2) to provide for RFP toward attainment of the 1971 and 2010 SO_2 NAAQS in the Hayden SO_2 nonattainment area.

E. Contingency Measures

Section 172(c)(9) of the CAA requires that a state's attainment plan include additional

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[77] 2023 Hayden SO_2 Plan, p. 83.
[78] Id.
[79] Id.
[80] Id. at 70.
[81] Id. at 83.

measures, called contingency measures, that will take effect if the area fails to meet RFP or fails to attain the NAAQS by the attainment date. The EPA's 2014 SO_2 Guidance describes special features of SO_2 attainment planning that influence the suitability of alternative means of addressing the requirement in CAA section 172(c)(9) for contingency measures for SO_2.[82] That is, SO_2 control measures are based on what is directly and quantifiably necessary to attain the SO_2 NAAQS, and consequently, an area that implements such control measures would be unlikely to fail to attain the NAAQS.[83] Therefore, the EPA's longstanding approach is that an appropriate means of satisfying the contingency measures requirement for the SO_2 NAAQS is for the state to have a comprehensive enforcement program that identifies sources of violations of the SO_2 NAAQS and for the state to undertake aggressive follow-up for compliance and enforcement.

ADEQ explains its rationale for concluding that the Plan meets the requirement for contingency measures in section 6 of the 2023 Hayden SO_2 Plan. Specifically, ADEQ relies on the approach outlined in the 2014 SO_2 Guidance of having a comprehensive program to identify sources of violations of the SO_2 NAAQS and, as needed, of undertaking an aggressive follow-up for compliance and enforcement of applicable emission limitations. ADEQ states in the 2023 Hayden SO_2 Plan that it has such an enforcement program pursuant to State law in Arizona Revised Statutes (ARS) sections 49-461, 49-402, 49-404, and 49-406.[84] ADEQ also describes the process under State law to apply contingency measures for failure to make RFP and/or for failure to attain the SO_2 NAAQS by the attainment date and concludes that ADEQ's Plan satisfies contingency measure requirements.[85]

We note that the EPA has approved ARS 49-402, 49-404, 49-406, and 49-461 into the Arizona SIP.[86] In addition, we have approved ARS 49-422(A) ("Powers and Duties"), which

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[82] 2014 SO_2 Guidance, pp. 41–42.
[83] See 75 FR 35520, 35576 (June 22, 2010) and the 2014 SO_2 Guidance.
[84] 2023 Hayden SO_2 Plan, p. 85.
[85] Id. at sections 6.1 and 6.2.
[86] 40 CFR 52.120(e), Table 3.

authorizes ADEQ to require sources of air contaminants to "monitor, sample or perform other studies to quantify emissions of air contaminants or levels of air pollution that may reasonably be attributable to that source" for purposes of determining whether the source is in violation of a control requirement. We have also approved ARS 49-460 through 49-463, which authorize ADEQ to request compliance-related information from sources, to issue orders of abatement upon reasonable cause to believe a source has violated or is violating an air pollution control requirement, to establish injunctive relief, to establish civil penalties of up to $10,000 per day per violation, and to conduct criminal enforcement, as appropriate, through the Attorney General.[87]

As noted above, the EPA's 2014 SO_2 Guidance describes special features of SO_2 planning that influence the suitability of alternative means of addressing the requirement in CAA section 172(c)(9) for contingency measures for SO_2, such that in particular an appropriate means of satisfying this requirement is for the state to have a comprehensive enforcement program that identifies sources of violations of the SO_2 NAAQS and to undertake an aggressive follow-up for compliance and enforcement. Arizona's plan provides for satisfying the contingency measure requirement in this manner for the nonattainment area. Consequently, the EPA is proposing to find that Arizona's comprehensive enforcement program is an appropriate contingency measure for this area and meets the requirement of CAA section 172(c)(9) for the 1971 and 2010 SO_2 NAAQS.

VI. Additional Elements of Arizona's Submittal

ADEQ addressed conformity requirements for the SO_2 NAAQS, including both general conformity and transportation conformity, in section 7 of the 2023 Hayden SO_2 Plan.

Generally, as set forth in section 176(c) of the CAA, conformity requires that actions by Federal agencies do not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. General conformity applies to Federal actions, other

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[87] 77 FR 66398 (November 5, 2012).

than certain highway and transportation projects, if the action takes place in a nonattainment or maintenance area (i.e., an area that submitted a maintenance plan that meets the requirements of section 175A of the CAA and has been redesignated to attainment) for ozone, particulate matter, nitrogen dioxide, carbon monoxide, lead, or SO_2. The EPA's General Conformity Rule establishes the criteria and procedures for determining if a Federal action conforms to the SIP.[88] With respect to the 2010 SO_2 NAAQS, Federal agencies are expected to continue to estimate emissions for conformity analyses in the same manner as they estimated emissions for conformity analyses under the previous NAAQS for SO_2. The EPA's General Conformity Rule includes the basic requirement that a Federal agency's general conformity analysis be based on the latest and most accurate emission estimation techniques available.[89] When updated and improved emission estimation techniques become available, the EPA expects the Federal agency to use these techniques.

Transportation conformity determinations are not required in SO_2 nonattainment and maintenance areas. The EPA concluded in its 1993 transportation conformity rule that highway and transit vehicles are not significant sources of SO_2. Therefore, transportation plans, transportation improvement programs, and projects are presumed to conform to applicable implementation plans for SO_2.[90]

VII. Proposed Action

The EPA is proposing to approve the 2023 Hayden SO_2 Plan, which ADEQ submitted to the EPA on October 3, 2023, and the Hayden SO_2 Supplement, including amendments to Rule B1302 and Appendix 14, submitted for parallel processing on December 8, 2025. We find that these submittals provide for attainment of the 1971 and 2010 SO_2 NAAQS for the Hayden SO_2 nonattainment area and for meeting other nonattainment planning requirements. This SO_2

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[88] 40 CFR 93.150 through 93.165.
[89] 40 CFR 93.159(b).
[90] 58 FR 3768, 3776 (January 11, 1993).

attainment plan includes Arizona's attainment demonstration for the Hayden SO_2 nonattainment area. In addition to an attainment demonstration, the State's plan addresses the requirements for meeting RFP toward attainment of the NAAQS, RACM/RACT, base year and projection year emission inventories, nonattainment NSR, emission limitations necessary to provide for attainment, and contingency measures. In addition, the EPA is also proposing to approve amendments to Rules 715 and 715.01, which ADEQ submitted to the EPA on April 6, 2017. We find that these amendments, which would sunset the requirements in these rules, will not result in any relaxation of SIP requirements based on the revisions to Rule B1302.

The EPA is proposing to determine that Arizona's Hayden SO_2 Plan meets the applicable requirements of section 172 of the CAA for the 1971 and 2010 SO_2 NAAQS. The EPA proposes to determine that the Hayden SO_2 Plan meets the emissions inventory requirements under CAA section 172(c)(3) and (4) and to affirm that the State has met the NSR requirements for the Hayden SO_2 nonattainment area under CAA section 172(c)(5). We also propose to determine that the Hayden SO_2 Plan meets the attainment demonstration, RACM/RACT, enforceable emission limitations, RFP, and contingency measure requirements of the CAA for the 1971 and 2010 SO_2 NAAQS. The EPA's analysis is discussed in this proposed rulemaking. In addition, the TSDs for this proposal are available at *www.regulations.gov*, Docket No. EPA-R09-OAR-2025-3821. The EPA's TSDs for this action provide additional explanation of the EPA's analysis supporting this proposal.

If approval of the Hayden SO_2 Plan, including amendments to Rule B1302 and Appendix 14, is finalized as proposed, all sanctions triggered by our November 5, 2020 limited disapproval and November 10, 2020 partial disapproval actions would be permanently terminated.[91] Final approval would also satisfy the FIP obligation triggered by the March 18, 2016 finding of failure to submit and would terminate the associated FIP obligation for the Hayden SO_2 nonattainment

[91] 85 FR 70483 (November 5, 2020) and 85 FR 71547 (November 10, 2020).

area under the consent decree in *Center for Biological Diversity et al.* v. *Regan,* No. 4:24-cv-01900 (N.D. Cal.), doc. 28, paragraphs 1.b and 2. In addition, if the EPA takes final action to fully approve the Hayden SO_2 Plan, the 1971 SO_2 NAAQS would no longer apply to the Hayden SO_2 nonattainment area.[92]

The EPA is soliciting public comments for 30 days following the publication of this proposed action in the *Federal Register* and will take all relevant timely comments into consideration in our final action.

VIII. Incorporation by Reference

In this document, the EPA is proposing to include in a final EPA rule regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is proposing to incorporate by reference the ADEQ rules listed in Table 1 of this document. The EPA has made, and will continue to make, these materials available at *https://www.regulations.gov* and at the EPA Region IX Office (please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section of this preamble for more information).

IX. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this proposed action merely proposes to approve State law as meeting Federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this proposed action:

- Is not a significant regulatory action subject to review by the Office of Management and

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[92] See 40 CFR 50.4(e) ("for areas designated nonattainment for the [1971 SO_2 NAAQS] as of [August 23, 2010] . . . the [1971 SO_2 NAAQS] will apply until that area submits . . . and EPA approves, an implementation plan providing for attainment of the [2010 SO_2 NAAQS]."

Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);

- Is not subject to Executive Order 14192 (90 FR 9065, February 6, 2025) because SIP actions are exempt from review under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L.104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it proposes to approve a state program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian Tribe has demonstrated that a Tribe has jurisdiction. In those areas of Indian country, the rule does not have Tribal implications and will not impose substantial direct costs on Tribal governments or preempt Tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: February 23, 2026.

Michael Martucci,
Acting Regional Administrator, Region IX.
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