6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2018-0222; FRL-9980-21-Region 9]

Approval of Arizona Air Plan; Hayden Lead Nonattainment Area Plan for the 2008 Lead Standard

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a state implementation plan (SIP) revision submitted by the State of Arizona to meet Clean Air Act (CAA or "Act") requirements applicable to the Hayden lead (Pb) nonattainment area ("Hayden Lead NAA"). The EPA is proposing to approve the base year emissions inventory, the attainment demonstration, the control strategy, including reasonably available control technology and reasonably available control measures demonstrations, the reasonable further progress demonstration, the contingency measure, and the new source review (NSR) provisions of the submittal as meeting the requirements of the CAA and the EPA's implementing regulations for the 2008 lead national ambient air quality standard (NAAQS).

DATES: Any comments on this proposal must arrive by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Submit comments, identified by docket number EPA-R09-OAR-2018-0222, at http://www.regulations.gov, or via email to Vagenas.Ginger@epa.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. For either manner of submission,

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 EPA's full public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *http://www2.epa.gov/dockets/commenting-epa-dockets*.

FOR FURTHER INFORMATION CONTACT: Ginger Vagenas, EPA Region IX, 415-972-3964, vagenas.ginger@epa.gov.

SUPPLEMENTARY INFORMATION: Throughout this document, the terms "we," "us," and "our" mean the EPA.

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I. Background

A. The Lead NAAQS

Under the CAA, the EPA must establish NAAQS for six pollutants, including lead. Lead is generally emitted in the form of particles that are deposited in water, soil, and dust. People may be exposed to lead by inhaling it or by ingesting lead-contaminated food, water, soil, or dust. Once in the body, lead is quickly absorbed into the bloodstream and can result in a broad range of adverse health effects including damage to the central nervous system, cardiovascular function, kidneys, immune system, and red blood cells. Children are particularly vulnerable to lead exposure, in part because they are more likely to ingest lead and in part because their still-developing bodies are more sensitive to the effects of lead. The harmful effects to children's developing nervous systems (including their brains) arising from lead exposure may include IQ[1] loss, poor academic achievement, long-term learning disabilities, and an increased risk of delinquent behavior.

[1] IQ (intelligence quotient) is a score created by dividing a person's mental age score, obtained by administering an intelligence test, by the person's chronological age, both expressed in terms of years and months. "Glossary of Important Assessment and Measurement Terms," Philadelphia, PA: National Council on Measurement in Education. 2016.

The EPA first established a lead standard in 1978 at 1.5 micrograms per meter cubed ($\mu g/m^3$) as a quarterly average.[2] Based on new health and scientific data, the EPA revised the federal lead standard to 0.15 $\mu g/m^3$ and revised the averaging time for the standard on October 15, 2008.[3] A violation of the standard occurs when ambient lead concentrations exceed 0.15 $\mu g/m^3$ averaged over a 3-month rolling period.

B. Designation of the Hayden Lead NAA

The process for designating areas following promulgation of a new or revised NAAQS is set forth in section 107(d) of the CAA. The CAA requires the EPA to complete the initial area designations process within two years of promulgating a new or revised NAAQS. Section 107(d) of the CAA allows the EPA to extend the period for initial designations for up to a year in cases where the available information is insufficient to promulgate designations. The initial designations for the 2008 lead NAAQS were established in two rounds and were completed on November 22, 2010 and November 22, 2011.[4] The EPA initially designated the Hayden, Arizona area as unclassifiable due to insufficient monitoring data.[5]

The CAA grants the EPA the authority to change the designation of areas ("redesignate") in light of changes in circumstances. More specifically, the EPA has the authority under CAA section 107(d)(3) to redesignate areas based on air quality data, planning, and control considerations, or any other air quality-related considerations. In June 2013, we determined that quality assured, certified monitoring data collected in 2012 at the Arizona Department of Environmental Quality (ADEQ or "State") Globe Highway monitor showed that the area was

[2] *See* 43 FR 46246 (October 5, 1978).
[3] *See* 73 FR 66964 (November 12, 2008) ("lead NAAQS rule").
[4] *See* 75 FR 71033 and 76 FR 72097.
[5] Arizona Department of Environmental Quality's Globe Highway monitor registered four violations of the lead NAAQS in 2011; however, at the time of designation the data had not been quality assured and certified. Consequently, we did not rely on them as the basis for a nonattainment designation.

violating the lead NAAQS. Accordingly, on May 2, 2014, the EPA issued a proposal to redesignate the Hayden area to nonattainment for the 2008 lead NAAQS. That proposal was finalized on September 3, 2014, effective October 3, 2014.[6,7]

C. CAA Requirements for Lead Nonattainment Areas

Designation of an area as nonattainment starts the process for a state to develop and submit to the EPA a SIP under title 1, part D of the CAA. Under CAA sections 191(a) and 192(a), attainment demonstration SIPs for the lead NAAQS are due 18 months after the effective date of an area's nonattainment designation and must provide for attainment of the standard as expeditiously as practicable, but no later than five years after designation.[8] The CAA requires that the SIP include emissions inventories, a reasonable further progress (RFP) demonstration, a reasonably available control measures/reasonably available control technology (RACM/RACT) demonstration, an attainment demonstration, and contingency measures. In general, to demonstrate timely attainment, control measures need to be implemented as expeditiously as practicable.

D. Sources of Lead in the Hayden Lead NAA

Stationary sources of lead are generally large industrial sources, including metals processing, particularly primary and secondary lead smelters. Lead can also be emitted by iron and steel foundries, primary and secondary copper smelters, industrial, commercial and institutional boilers, waste incinerators, glass manufacturing, refineries, and cement manufacturing. ADEQ has determined that the cause of the nonattainment status in the Hayden area is the primary copper smelter owned and operated by ASARCO, LLC ("Asarco"). The State

[6] *See* 79 FR 52205.
[7] For an exact description of the Hayden Lead NAA, *see* 40 CFR 81.303.
[8] For the Hayden Lead NAA, the attainment date is October 3, 2019.

notes that this facility "accounts for over 99 percent of Pb emissions" and that the "[e]missions generally come from the hot-metal smelting process and lead-bearing fugitive dust."[9]

Because regional ambient air lead concentrations indicate low ambient lead levels relative to the 2008 lead NAAQS, and because the only ambient levels exceeding the NAAQS were at sites near the Asarco facility, ADEQ's lead attainment strategy is focused on reducing lead emissions generated by this source.

II. Arizona's SIP Submittal to Address for the Hayden Lead NAA

A. Arizona's SIP Submittal

ADEQ is the air quality agency that develops SIPs for the Hayden area. The SIP for the Hayden Lead NAA, entitled "SIP Revision: Hayden Lead Nonattainment Area" ("2017 Hayden Lead Plan" or "Plan") was due April 3, 2016. It was adopted by ADEQ on March 3, 2017, and submitted to the EPA on the same day.[10]

B. CAA Procedural and Administrative Requirements for SIP Submittals

CAA sections 110(a)(1) and (2) and 110(l) require a state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submittal of a SIP or SIP revision. To meet this requirement, every SIP submittal should include evidence that adequate public notice was given and a public hearing was held consistent with the EPA's implementing regulations in 40 CFR 51.102.

ADEQ has satisfied applicable statutory and regulatory requirements for reasonable public notice and hearing prior to adoption and submittal of the 2017 Hayden Lead Plan. The State provided a public comment period and held a public hearing prior to the adoption of the

[9] Plan, page 38.
[10] *See* letter dated March 3, 2017, from Timothy S. Franquist, Director, Air Quality Division, ADEQ, to Alexis Strauss, Acting Regional Administrator, EPA Region IX.

Plan on March 3, 2017. The SIP submittal includes notices of the State's public hearing as evidence that the hearing was properly noticed.[11] We therefore find that the submittal meets the procedural requirements of CAA sections 110(a) and 110(l).

CAA section 110(k)(1)(B) requires the EPA to determine whether a SIP submittal is complete within 60 days of receipt. This section also provides that any plan that the EPA has not affirmatively determined to be complete or incomplete will become complete six months after the date of submittal by operation of law. The EPA's SIP completeness criteria are found in 40 CFR part 51, appendix V. The 2017 Hayden Plan became complete by operation of law on September 3, 2017.

III. CAA and Regulatory Requirements for Lead Attainment SIPs

A. CAA and EPA Guidance

Requirements for the lead NAAQS are set forth in title 1, part D, subparts 1 and 5 of the CAA, which includes section 172, "Nonattainment plan provisions in general," and sections 191 and 192, "Plan submission deadlines" and "Attainment dates," respectively.

Section 192(a) establishes that the attainment date for lead nonattainment areas is "as expeditiously as practicable" but no later than five years from the date of the nonattainment designation for the area. The EPA designated the Hayden area as a nonattainment area effective October 3, 2014, and thus the applicable attainment date is no later October 3, 2019. Under section 172(a)(2)(D), the Administrator is precluded from granting an extension of this attainment date because the statute separately establishes a specific attainment date in section 192(a).

[11] *See* 2017 Hayden Lead Plan, Appendix F, Public Process Documentation.

Section 172(c) contains the general statutory planning requirements applicable to all nonattainment areas, including the requirements for emissions inventories, RACM/RACT, attainment demonstrations, RFP demonstrations, and contingency measures. When the EPA issued the lead NAAQS rule, we included some guidelines for implementing these planning requirements.[12] The EPA also issued several guidance documents related to planning requirements for the lead NAAQS. [13] These include:

- "2008 Lead (Pb) National Ambient Air Quality Standards (NAAQS) Implementation Questions and Answers," Memorandum from Scott L. Mathias, Interim Director, Air Quality Policy Division, EPA Office of Air Quality Planning and Standards, to Regional Air Division Directors, Regions I-X, July 8, 2011, ("Lead Q&A"); and
- "Addendum to the 2008 Lead NAAQS Implementation Questions and Answers Signed on July 11, 2011, by Scott Mathias," August 10, 2012. ("Lead Q&A Addendum"); and
- *Implementation of the 2008 Lead National Ambient Air Quality Standards – Guide to Developing Reasonably Available Control Measures (RACM) for Controlling Lead Emissions*, EPA Office of Air Quality Planning and Standards, EPA-457/R-12-001, March 2012 ("Lead RACM Guidance").

The lead NAAQS rule and its preamble and the guidance documents address the statutory planning requirements for emissions inventories, RACM/RACT, attainment demonstrations including air quality modeling requirements, RFP demonstrations, and contingency measures. The lead NAAQS rule also addresses other matters such as monitoring, designations, lead infrastructure SIPs, and exceptional events. We will discuss each of the CAA and regulatory

[12] *See* 73 FR 66964.
[13] These guidance documents can be found in the docket for today's action.

requirements for lead attainment plans in the next section, which details our review of the 2017 Hayden Lead Plan.

B. Infrastructure SIPs for Lead

Under section 110 of the CAA, all states (including those without nonattainment areas) are required to submit infrastructure SIPs within three years of the promulgation of a new or revised NAAQS. Because the lead NAAQS was signed and widely disseminated on October 15, 2008, the infrastructure SIPs were due by October 15, 2011. Section 110(a)(1) and (2) require states to address basic program elements, including requirements for emissions inventories, monitoring, and modeling, among other things. Subsections (A) through (M) of section 110(a)(2) set forth the elements that a state's program must contain in the SIP. Arizona's lead infrastructure SIP was approved by the EPA on August 10, 2015.[14]

IV. Review of the 2017 Hayden Lead Plan

A. Summary of the EPA's Proposed Actions

The EPA is proposing to approve the 2017 Hayden Lead Plan. We are proposing to approve the 2012 base year emissions inventory in this SIP revision as meeting the applicable requirements of the CAA and EPA guidance. We are also proposing to approve the attainment demonstration, RACM/RACT analysis, RFP demonstration, and the contingency measure as meeting the applicable requirements of the CAA and EPA guidance.

The EPA's analysis and findings are discussed below for each applicable requirement. The technical support document (TSD) for today's proposed action contains additional details on selected lead planning requirements.

B. Emissions Inventories

[14] 80 FR 47859.

1. Requirements for Emissions Inventories

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. These analyses also enable states to assess the expected improvement in air quality within the nonattainment area due to the adoption and implementation of control measures. CAA section 172(c)(3) requires that states submit a "comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant." Therefore, all sources of lead emissions in the nonattainment area must be included in the submitted inventory. A base year emissions inventory is required for the attainment demonstration and for meeting RFP requirements. In general, the base year emissions inventory should be derived from one of the years on which the nonattainment designation was based.[15]

In order to demonstrate attainment in accordance with CAA section 172, the state should also provide an attainment emissions inventory to identify the level of emissions in the area sufficient to attain the NAAQS. The attainment inventory should generally contain maximum allowable emissions for the attainment year for all sources within the modeling domain.[16]

In addition to inventory reporting requirements in CAA section 172(c)(3), 40 CFR 51.117(e)(1) requires that the inventory contain all point sources that emit 0.5 tons of lead emissions per year (tpy).[17] Based on annual emissions reporting for 2011, the only point source

[15] *See* Lead Q&A and Lead Q&A Addendum.
[16] *See* Lead Q&A Addendum p. 1.
[17] Additional emissions inventory reporting requirements are also found in EPA's Air Emissions Reporting Rule (AERR) (codified at 40 CFR part 51 subpart A) and 73 FR 76539. Although the AERR requirements are separate from the SIP-related requirements in CAA section 172(c)(3) and 40 CFR 51.117(e)(1), the AERR requirements are intended to be compatible with the SIP-related requirements.

in the Hayden Lead NAA with a potential to emit over 0.5 tpy of lead is the Asarco primary copper smelter, located in Hayden, AZ ("Hayden Facility" or "Facility").[18]

2. Base Year Emissions Inventory

The base year emissions inventory establishes a baseline that is used to evaluate emission reductions achieved by the control strategy and to establish RFP requirements. ADEQ's discussion of emissions inventory development can be found in the Plan on pages 28-36, as well as in Appendices A and D. ADEQ selected 2012 as the base year for emissions inventory preparation for several reasons. At time of preparation, 2012 was the most recent year with verified ambient air monitoring data from a SLAMS (State or Local Air Monitoring Station) monitor.[19] It is also a representative year of exceedances of the primary lead NAAQS. In addition, the Hayden lead nonattainment designation was based upon 2012 monitoring data.

Lead emissions are grouped into two general categories: stationary and mobile sources. Stationary sources can be further divided into ''point'' and ''area'' sources. Point sources are typically located at permitted facilities and have one or more identified and fixed pieces of equipment and emissions points. These facilities are required to report their emissions to ADEQ on an annual basis. Conversely, area sources consist of widespread and numerous smaller emission sources, such as small permitted facilities, households, and other land uses. The mobile sources category can be divided into two major subcategories: ''on-road'' and ''off-road'' mobile sources. On-road mobile sources include light-duty automobiles, light-, medium-, and heavy-duty trucks, and motorcycles. Off-road mobile sources include aircraft, locomotives,

[18] The Asarco primary copper smelter is a large complex that consists of smelter operations as well as concentrator operations. In sections of the Plan, ADEQ refers to these operations separately as the "smelter complex" and "concentrator complex." Since the smelter and concentrator operations are permitted as a single stationary source, we use the term "Hayden Facility" and "Facility" to refer to the entirety of the smelter and concentrator operations.
[19] SLAMS include the ambient air quality sites and monitors that are required by the EPA's regulations and are needed to meet specific monitoring objectives, including NAAQS comparisons. *See* 40 CFR 58.1.

construction equipment, mobile equipment, and recreational vehicles. A summary of ADEQ's 2012 base year inventory for each of these categories is included in Table 1 below.

Table 1. 2012 Base Year Lead Emission Inventory for the Hayden Lead NAA

Source Category	**Pb Emissions (tpy)**
Point	3.43
Area	<0.001
Mobile Source (non-road)	0.015
Mobile Source (on-road)	--
Total	**3.45**

Source: Plan, Tables 12 – 16.

As seen above, the substantial majority of lead emissions in the Hayden Lead NAA are from the point source category (i.e., the Hayden Facility). The Hayden Facility consists of multiple emission points that ADEQ further categorized into smelting point sources (stack emissions), smelting fugitives, road dust, and other process fugitives (from non-smelting process equipment). A more detailed summary of the Hayden Facility's lead emissions is included in Table 2 below.

Table 2. 2012 Base Year Lead Emissions Inventory for the Hayden Facility

Source Category	**Pb Emissions (tpy)**
Smelting point sources	1.09
Smelting fugitives	1.88
Road (paved and unpaved)	0.14
Non-smelting process fugitives	0.32
Total	**3.43**

Source: *Id.*

3. Projected Year Emissions Inventory

The Hayden area was designated nonattainment for lead in 2014. The CAA provides that nonattainment areas must attain the NAAQS as expeditiously as practicable, but no later than

five years after the effective date of designation. Therefore, the Hayden Lead NAA must attain the lead NAAQS by 2019. The projected emissions inventory for 2019 is part of the attainment demonstration required under CAA section 172 and informs the air quality modeling for 2019, which is discussed in detail below in section IV.D. ADEQ developed a projected 2019 lead emissions inventory for the Hayden Lead NAA as summarized in Table 3 below.

Table 3. Base Year and Projected Year Lead Emissions Inventory for the Hayden Lead NAA

Source Category	**2012 Base Year Pb Emissions (tpy) (actual emissions)**	**2019 Projected Year Pb Emissions (tpy) (allowable emissions)**
Point	3.43	4.60
Area	<0.001	<0.001
Mobile Source (non-road)	0.015	0.020
Mobile Source (on-road)	--	--
Total	**3.45**	**4.62**

Source: *Id.*

As with the base year inventory, the substantial majority of lead emissions for the projected year inventory are attributable to the point source category, which represents the Hayden Facility. A more detailed summary of the Hayden Facility's lead emissions is included in Table 4 below.

Table 4. Comparison of Base Year and Projected Year Lead Emissions Inventory for the Hayden Facility

Source Category	**2012 Base Year Pb Emissions (tpy) (actual emissions)**	**2019 Projected Year Pb Emissions (tpy) (allowable emissions)**
Smelting point sources	1.09	2.99
Smelting fugitives	1.88	1.44
Road (paved and unpaved)	0.137	0.043
Non-smelting fugitives	0.322	0.131
Total	**3.43**	**4.60**

Source: *Id.*

As seen in the tables above, the projected year emissions inventory, which is generally based on maximum allowable emissions (also referred to as potential to emit or PTE), is higher than the base year inventory, which is based on actual emissions. The use of actual emissions for the base year, as well as the use of maximum allowable emissions for the projection year and the attainment modeling, is consistent with CAA requirements[20] and EPA guidance.[21] Use of maximum allowable emissions for the modeling ensures the attainment demonstration takes into account possible increases in emissions that are allowed by the underlying rules and permit conditions; however, *actual* emissions at the Facility are expected to decline. As shown in Table 5, the 2019 projected actual emissions are lower than actual emissions in the 2012 base year inventory. Furthermore, even assuming that the Facility were to emit at the maximum allowable levels in 2019, the submitted modeling shows that the Hayden area would still attain the lead NAAQS, primarily due to the nature of emission changes and their predicted ambient impact. The increase from base year actual emissions to projected year maximum allowable emissions is primarily attributable to smelting point sources at the Hayden Facility. Other source categories at the Facility, such as the roads and non-smelting fugitives, decrease from the base year inventory to the projected year inventory, and, due to their dispersion characteristics, these sources have more influence on the maximum predicted ambient impacts in the nonattainment area than the smelter point sources. As a result, while the reductions in road and non-smelting fugitive lead emissions are small compared to the emissions from the smelting point sources, these reductions occur at sources that are primary contributors to maximum predicted ambient impact in the nonattainment area.

[20] *See*, *e.g.*, CAA section 172(c)(3) (requiring "a comprehensive, accurate, current inventory of *actual* emissions from all sources of the relevant pollutant or pollutants in such area." (emphasis added))
[21] *See*, *e.g.*, Lead Q&A Addendum p. 1.

Table 5. Base Year, Projected Actual, and Maximum Allowable Modeled Lead Emissions for the Hayden Facility

Modeled Source	Controls Applied	2012 Actual Pb Emissions (tpy)	2019 Projected Actual Pb Emissions (tpy)	Projected Reductions in Actual Pb Emissions	Maximum Allowable - Modeled Pb Emissions (PTE) (tpy)[a]
Main stack	Secondary hood baghouse, improved primary and secondary hooding, tertiary hooding	1.08	0.904	16%	2.99
Flash furnace fugitives	Matte tapping ventilation system	0.495	0.1025	79.3%	1.03
Converter aisle fugitives	Secondary hood baghouse, improved primary and secondary hooding, tertiary hooding	0.968	0.024	97.5%	0.37
Anode furnace fugitives	Improved ventilation system	0.417	0.04	89.7%	0.04
Anode baghouse stack	Sent to the main stack	0.0113	Included in main stack	N/A	Included in main stack
Slag dump	Restrictions on slag dumping location	0.05	0.05	--	0.05
Gas cleaning waste material	Thickener project	0.26	0.07	73%	0.07
Concentrate storage area	Wind fence, water sprays	0.001	0.000056	94%	0.00088
Bedding area	Wind fence, water sprays	0.00017	0.000015	91%	0.00016
Reverts operations	Wind fence, water sprays	0.0122	0.00042	97%	0.0041
Paved roads	Sweepers	0.091	0.015[b]	84%	0.015
Unpaved roads	Chemical dust suppressant (on a schedule achieving 90% control efficiency)	0.046	0.028[b]	39%	0.028

[a] PTE values for the concentrate storage area, bedding area, and reverts operations were derived using the same calculation methods that were applied to calculate 2019 projected actuals. However, for PTE values, Asarco supplied more conservative throughput. Also, the lead factors used for PTE calculations were based on mean lead assay values (source specific) plus two standard deviations.
[b] Projected actual values for paved and unpaved roads were based on PTE.
Source: ADEQ Modeling TSD, Table 8-1.

4. Proposed Action on the Base Year Emissions Inventory

We have reviewed the emissions inventory and calculation methodology used by ADEQ in the 2017 Hayden Lead Plan for consistency with CAA requirements, the lead NAAQS rule, and the EPA's guidance. We find that the 2012 base year inventory is a comprehensive, accurate,

and current inventory of actual emissions of lead in the Hayden Lead NAA. We therefore propose to approve the 2012 base year inventory as meeting the requirements of CAA section 172(c)(3). We are not proposing action on the projected attainment inventory, since it is not a required SIP element. However, we have evaluated it for consistency with EPA guidance and find that it supports the attainment and RFP demonstrations, as discussed in the TSD and below.

C. Reasonably Available Control Measure/Reasonably Available Control Technology Demonstration and Adopted Control Strategy

1. Requirements for RACM/RACT

CAA section 172(c)(1) requires that each attainment plan provide for implementation of RACM (including RACT for existing sources) as expeditiously as practicable and provide for attainment of the NAAQS. The EPA defines RACM as measures that are both reasonably available and contribute to attainment as expeditiously as practicable in the nonattainment area. Lead nonattainment plans must contain RACM (including RACT) that address sources of ambient lead concentrations. The EPA's historic definition of RACT is the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available, considering technological and economic feasibility.[22] The EPA recommends that, at a minimum, all stationary sources emitting 0.5 tpy or more of lead should undergo a RACT review.[23] Based on the 2011 national emissions inventory (2011 NEI v2) and the 2012 base year emissions inventory, the Asarco copper smelter is the only point source in the Hayden Lead NAA that emits over 0.5 tpy of lead.[24]

[22] *See,* for example, 44 FR 53761 (September 17, 1979) and footnote 3 of that notice.
[23] 73 FR 67038.
[24] 2017 Hayden Lead Plan, Chapter 3: *Emissions Inventories* and Appendix A: *Emission Inventory Technical Support Document for the 2008 Hayden Lead Nonattainment Area,* Chapter 5, *Base Year Emission Inventory for Lead in the Hayden Planning Area*.

2. RACM/RACT Demonstration in the 2017 Hayden Lead Plan

Because of lead's dispersion characteristics, the highest ambient concentrations of lead are expected to be near lead sources, such as the Hayden Facility. This RACM/RACT analysis focuses on evaluating controls at the Hayden Facility, and unlike in a typical RACM demonstration for other types of pollutants, we are not evaluating the broader set of source categories in the Hayden Lead NAA. This is an appropriate approach in this case because the Hayden Facility is the source of over 99 percent of lead emissions in the Hayden Lead NAA.[25]

ADEQ's control strategy relies on the implementation of two source-specific regulations in the Arizona Administrative Code: Rule R18-2-B1301 (Limits on Lead Emissions from the Hayden Smelter) and Rule R18-2-B1301.01 (Limits on Lead-Bearing Fugitive Dust from the Hayden Smelter), and two associated appendices. ADEQ submitted these rules to the EPA for SIP approval on April 6, 2017.[26] We approved Rule R18-2-B1301.01 and Appendix 15 into the Arizona SIP on February 22, 2018,[27] and proposed to approve Rule R18-2-B1301 and Appendix 14 on March 30, 2018. [28] The controls required under these rules are also required under a 2015 consent decree between Asarco and the United States.[29]

ADEQ's RACM/RACT analysis can be found on pages 60 through 121 of the 2017 Hayden Lead Plan. The EPA's Lead RACM Guidance did not provide specific guidance on what constituted RACM/RACT for primary copper smelters. Consistent with that guidance, ADEQ looked to other federal requirements for lead control at primary copper smelters, similar source categories for which the EPA had established lead control guidance, and other regulations that

[25] 2017 Hayden Lead Plan, page 38.
[26] *See* letter dated April 6, 2017, from Timothy S. Franquist, Director, Air Quality Division, ADEQ, to Alexis Strauss, Acting Regional Administrator, EPA Region IX.
[27] 83 FR 7614.
[28] 83 FR 13716.
[29] Consent Decree No. CV-15-02206-PHX-DLR (D. Ariz).

the EPA has approved as RACM/RACT for lead control. ADEQ used the following references for comparison of lead controls: the national emissions standard for hazardous air pollutants (NESHAP) requirements for primary copper smelters at 40 CFR 63, subpart QQQ and the NESHAP requirements for secondary lead smelters at 40 CFR 63, subpart X. For fugitive lead-bearing dust control, ADEQ also used the following references for comparison: Appendix 1 of the General Preamble for Implementation of Title I of the Clean Air Act,[30] which describes control measures for fugitive lead-bearing dust; South Coast Air Quality Management District (SCAQMD) Rule 1420.1 for lead battery recycling facilities ("Emissions Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities"); and particulate matter (PM) fugitive dust rules enacted by other states and local agencies.

The EPA's TSDs on Rules R18-2-B1301 and R18-2-B1301.01 and Appendices 14 and 15 contain our detailed analysis on the enforceability, stringency, and SIP revision implications for the measures contained in these rules.[31] We evaluate below whether these measures satisfy the statutory requirements for RACM/RACT for the Hayden Lead NAA.

a. Rule R18-2-B1301 and Appendix 14

Rule R18-2-B1301 establishes a lead emission limit for the Hayden Facility's main stack and operations and maintenance (O&M) requirements, including the development of an O&M plan for the capture and control system, monitoring provisions for parametric limits required to ensure sufficient capture of fugitive lead emissions from the smelter, performance testing

[30] 58 FR 67748 (December 22, 1993).

[31] *See* Technical Support Document for the EPA's Rulemaking for the Arizona State Implementation Plan: Arizona Department of Environmental Quality Rule R18-2-B1301.01, Limits on Lead-Bearing Fugitive Dust from the Hayden Smelter, and Appendix 15, Test Methods for Determining Opacity and Stabilization of Unpaved Roads (August 2017); Technical Support Document for the EPA's Rulemaking for the Arizona State Implementation Plan: Arizona Administrative Code Title 18, Chapter 2 Appendix 14 and Rule R18-2-715.02 (March 2018); and Technical Support Document for the EPA's Rulemaking for the Arizona State Implementation Plan: Arizona Administrative Code Title 18, Chapter 2, Article 13 Part B – Hayden, Arizona, Planning Area R18-2-B1301 – Limits on Lead Emissions from the Hayden Smelter (March 2018).

requirements, compliance determination requirements, recordkeeping requirements, and reporting requirements. Rule R18-2-B1301 also requires the completion of a fugitive emissions study to characterize lead emissions from the smelter structure that may contribute to nonattainment, but are not captured or controlled. Appendix 14 establishes specific requirements for the study, which is required to validate both the estimate of fugitive emissions used in the attainment demonstration and the operating conditions or ranges for the capture devices' O&M plan.

Rule R18-2-B1301 establishes a lead emission limit from the smelter's stack of 0.683 pounds of lead per hour. Fugitive lead emissions from the smelter structure are constrained through an improved fugitive gas capture system over the furnace taps and converter chambers. In lieu of a fugitive emissions limit, Asarco must operate its gas capture system within certain operating parameters as described in the facility's O&M plan. Rule R18-2-B1301 defines critical parameters and specifies operating limits on those parameters that the O&M plan must require, at a minimum, in order to sufficiently control fugitive emissions. The fugitive emissions rate will be validated through a year-long fugitive emission study as described in Appendix 14, and it must not exceed the modeled attainment emission rate. If actual fugitive emissions exceed the modeled emission rates shown in Table 5 above and Asarco is unable to demonstrate attainment of the NAAQS at the actual measured fugitive emissions levels, ADEQ will need to revise the O&M plan parametric limit minimums as required in R18-2-B1301 and, as necessary, require additional controls to further reduce fugitive emissions. ADEQ must submit these changes as revisions to the Arizona SIP. Other requirements include monitoring, recordkeeping, and reporting provisions to ensure compliance with the emission and parametric limits.

We compared these requirements with the primary copper smelter NESHAP and the secondary lead smelter NESHAP in the TSD we prepared in support of our rulemaking action on R18-2-B1301, and we found the rule requirements to be generally consistent with those in the NESHAP. For example, the primary copper smelter NESHAP requires a capture system and control device O&M plan and requires that the smelter operate consistently with good air pollution control practices, similar to R18-2-B1301. The requirements of R18-2-B1301 are also similar to the secondary lead smelter NESHAP requirements, except that the NESHAP includes emissions limits of 1.0 milligrams of lead per dry standard cubic meter for any process vent gas and 0.20 milligrams of lead per dry cubic meter on a rolling 12-month average basis. We propose to find that these limits are not required as RACM for the Hayden Facility because they are intended for a different type of facility and, as discussed below, ADEQ's air quality modeling indicates that the main stack emission limit in R18-2-B1301 (0.683 pound of lead per hour) is sufficient for the Hayden area to attain the lead NAAQS.

b. Rule R18-2-B1301.01 and Appendix 15

Rule R18-2-B1301.01 establishes work practice requirements and control measures on sources of lead-bearing fugitive dust surrounding the Hayden Facility. Appendix 15 applies to unpaved roads at the Hayden Facility and includes the following: 1) a test method for determining opacity for fugitive dust from these rules, 2) a test method for determining silt content of the trafficked parts of unpaved roads, and 3) a Qualification and Testing section containing certification requirements and procedures, specifications, and calibration procedures.

Rule R18-2-B1301.01 specifies a range of operational standards and work practices for processes that may cause emissions of lead-bearing fugitive dust. The requirements must be detailed in a fugitive dust plan that at minimum includes the performance and housekeeping

requirements. Subsection (D) includes the following minimum performance and housekeeping requirements, which must be met independent of the fugitive dust plan:

- Procedures for high wind events, including wetting of sources and cessation of operations if necessary;
- Physical inspection requirements of control equipment and dust-generating processes to ensure proper operation;
- Opacity limit of 20 percent and requirements to take corrective action if opacity exceeds 15 percent;
- Requirements for paved road cleaning at least daily, with vehicular track-out controls and 15 mile per hour speed limits;
- Requirements for the application frequency of chemical dust suppressant to unpaved roads, controls on silt loading on those roads (silt loading may not exceed 0.33 ounces per square feet or 6 percent), runoff collection requirements to prevent dust from becoming airborne, and 15 miles per hour speed limits;
- Materials storage, handling, and unloading requirements for copper concentrate and reverts, including requirements for storage on concrete pads, water sprayers, and wind fences;
- Bedding requirements (including loading and unloading operations requirements for wind fences and water spraying to maintain a nominal 10 percent surface moisture content), rumble grates to reduce trackout at exits, and a daily cleaning schedule inside and near the protected area; and

- Requirements for the acid plant scrubber blowdown drying system, which must be housed in an enclosed system that uses a venturi scrubber, thickener, filter press and electric dryer under negative pressure.

Subsection (E) of Rule R18-2-B1301.01 includes contingency requirements for increasing the frequency of road cleaning if the Hayden area does not attain the NAAQS by the attainment date or make RFP. The remainder of the rule includes monitoring, compliance demonstration, recordkeeping, and reporting requirements. Appendix 15 includes test methods and procedures for determining compliance with opacity limits on unpaved roads, silt content on trafficked parts of unpaved roads, and a qualification and testing section for certifying observers in measuring opacity and road stabilization. These requirements address the known sources of fugitive dust resulting from operations surrounding the Hayden Facility that may contribute to airborne lead emissions. We compared these requirements in our TSD reviewing Rule R18-2-B1301.01 with the primary copper smelter NESHAP and SCAQMD Rule 1420.1 for lead control. Rule R18-2-B1301.01 is more stringent than the primary copper smelter NESHAP. For example, Rule R18-2-B1301.01 includes specific fugitive dust requirements and a 20 percent opacity limit for lead-bearing fugitive dust, whereas the NESHAP contains more general requirements for a fugitive dust plan and no opacity limit for fugitive dust. We concluded that while the SCAQMD rule was more stringent in some respects (*i.e.*, requiring total enclosure of the facility, lower speed limits, more frequent sweeping schedules), it was also intended for a different type of facility (lead battery recycling) and therefore was not directly comparable to the Hayden Facility.

We also compared these requirements to those found in various RACM/RACT particulate matter (PM) rules, as the controls for lead-bearing fugitive dust in a context like the

Hayden Facility are like those for controlling PM. We found that Rule R18-2-B1301.01 was as stringent or more stringent than those PM rules. For example, in addition to a 20 percent opacity limit and requirements for chemical dust suppressant and soil stabilization, which are also included in the PM rules, Rule R18-2-B1301.01 has requirements for unpaved roads and corrective measures for visible emissions that are not found in the PM rules.

3. Proposed Actions on RACM/RACT Demonstration and Adopted Control Strategy

For the reasons described above, we find that the control measures required under Rules R18-2-B1301 and R18-2-B1301.01 and reflected in the 2017 Hayden Lead Plan are reasonably available for the Hayden Facility. In addition, as explained in the following section, ADEQ's air quality modeling indicates these measures are sufficient to provide for attainment in the Hayden Lead NAA. These measures are required to be implemented by July 1, 2018 (for Rule R18-2-B1301) and December 1, 2018 (for Rule R18-2-B1301.01). We believe these are the most expeditious dates practicable, given the history of planning for this source, the current time frame for implementation, and the complexity of these control measures. Accordingly, we propose to find that the RACM/RACT measures are both reasonably available and provide for attainment as expeditiously as practicable in the Hayden Lead NAA. Therefore, we propose to find that the 2017 Hayden Lead Plan provides for the implementation of RACM/RACT as required by CAA section 172(c)(1).

D. Attainment Demonstration

1. Requirements for Attainment Demonstration

CAA section 172 requires a state to submit a plan for each of its nonattainment areas that demonstrates attainment of the applicable ambient air quality standard as expeditiously as

practicable but no later than the specified attainment date. This demonstration should consist of four parts:

(1) Technical analyses that locate, identify, and quantify sources of emissions that are contributing to violations of the lead NAAQS;

(2) Analyses of future year emissions reductions and air quality improvement resulting from already-adopted national, state, and local programs and from potential new state and local measures required to meet the RACT, RACM, and RFP requirements in the area;

(3) Additional emissions reduction measures with schedules for implementation; and

(4) Contingency measures required under section 172(c)(9) of the CAA.

The requirements for the first three parts are described in the sections on emissions inventories and RACM/RACT above and in the sections on air quality modeling and the attainment demonstration that follow immediately below. The requirements for the fourth part are described below in section IV.F.

2. Air Quality Modeling in the 2017 Hayden Lead Plan

In the following discussion we evaluate various features of the modeling that ADEQ used in its attainment demonstration. The lead attainment demonstration must include air quality dispersion modeling developed in accordance with EPA's Guideline on Air Quality Models, 40 CFR part 51, appendix W ("Appendix W").[32] A more detailed description of the modeling used to support this action and our review can be found in the 2017 Hayden Lead Plan, Appendix B, *Modeling Technical Support Document: Hayden Pb State Implementation Plan Revision* ("ADEQ Modeling TSD") and our TSD for today's proposed action.

a. Model Selection

[32] The EPA published revisions to Appendix Wat 82 FR 5182 (January 17, 2017).

In 2005, the EPA promulgated AERMOD as the Agency's preferred near-field dispersion model for a wide range of regulatory applications addressing stationary sources (*e.g.,* for estimating lead concentrations) in all types of terrain, based on extensive developmental and performance evaluation. The State used AERMOD version 15181 to model all emission sources using regulatory default options.[33] After submitting the Plan, ADEQ discovered an error in the processing of the Camera Hill meteorological data. In May 2018, ADEQ submitted revised modeling using corrected Camera Hill meteorological data and AERMOD version 16216r,[34] which the EPA designated as the regulatory version of AERMOD in January 2017.[35] All other inputs remained the same. The remainder of this section refers to results of the revised modeling, which effectively supersedes the modeling originally submitted with the Plan.

The modeling domain was centered on the Hayden Facility and extended to the edges of the Hayden Lead NAA. A grid spacing of 25 meters was used to resolve AERMOD model concentrations along the ambient air boundary surrounding the Hayden Facility and was increased toward the edges of the NAA. Receptors were excluded within the ambient air boundary, which is generally defined by the facility's physical fence line, except in certain areas where the State inspected the terrain and concluded steep topography precludes public access.[36] We conclude that the model receptors placed by the State adequately characterize ambient air conditions.

b. Meteorological Data

[33] The EPA periodically releases updated versions of AERMOD. At the time the State conducted its modeling, version 15181, the then-current regulatory version, was released with several beta options. The regulatory default for version 15181 is the use of version 15181, as released by the EPA, without the use of any of the beta options. *See* https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models.
[34] *See* email from Farah Mohammadesmaeili, ADEQ to Rynda Kay, EPA, Region 9, dated May 22, 2018.
[35] *See* 82 FR 5182, 5189 (January 17, 2017).
[36] Ambient air is considered to be the air in those areas where the public generally has access. Non-ambient air generally includes property owned or controlled by the source to which access by the public is prohibited by a fence or other effective physical barrier.

ADEQ conducted its modeling using meteorological data collected between August 2013 and August 2014 at two on-site surface meteorological stations: the Camera Hill site located approximately 0.35 kilometer (km) south of the smelter building, and the Hayden Old Jail site located approximately 1.06 km west of the concentrator and smelter complexes at the Hayden Facility. Due to the complex topography of the area, wind speed and direction can vary significantly between the two stations. The State conducted a performance evaluation to test which meteorological dataset performs best when AERMOD-predicted concentrations are compared to monitored concentrations.[37] The State concluded emissions from the main stack and those emanating from the smelter building roofline are best represented by Camera Hill, while lower elevation sources were best represented by Hayden Old Jail, and used these respective data sets for those sources. Accordingly, ADEQ ran the model separately for each set of sources and summed the results appropriately. The State provided audit reports for each monitoring station to document the station's installation and data collection procedures.[38] The State used AERMET version 16216 to process meteorological data for use with AERMOD.

The State used AERSURFACE version 13016 using data from the Camera Hill and Hayden Old Jail sites to estimate the surface characteristics (*i.e.*, albedo, Bowen ratio, and surface roughness (z_o)). The State estimated z_o values for 12 spatial sectors out to 1 km at a seasonal temporal resolution for average conditions. We conclude that the State appropriately selected meteorological sites, properly processed meteorological data, and adequately estimated surface characteristics.

[37] *See* email from Farah Mohammadesmaeili, ADEQ, to Rynda Kay, EPA Region 9, dated May 25, 2018.
[38] *See* email from Farah Mohammadesmaeili, ADEQ, to Rynda Kay, EPA Region 9, dated May 22, 2018.

ADEQ used the Auer (1978)[39] 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 Facility is composed of 96.2 percent rural land types. Therefore, the State selected rural dispersion coefficients for modeling. We agree with the ADEQ's determination that the facility should be modeled as a rural source.

c. Emissions Data

ADEQ developed a modeling emissions inventory based on 2012 data for sources within the Hayden Lead NAA and for the 50-km buffer zone extending from the NAA boundary. In 2012, the Hayden Facility emitted 3.43 tpy lead, accounting for more than 99 percent of lead emissions in the Hayden Lead NAA. The Freeport McMoRan Incorporated copper smelter, located 46 km north of the Hayden Facility, emitted 4.87 tons of lead in 2012; however, the two smelters are separated by large mountains, making these two airsheds distinct. The State determined that aside from the Hayden facility, no other sources were drivers of nonattainment or have the potential to cause significant concentration gradients in the vicinity of the Hayden Lead NAA. We agree with the State's determination that only Hayden Facility emissions need to be included in the attainment modeling.

Asarco is undertaking substantial upgrades to the Facility that will reduce lead and other pollutant emissions (*see* section IV.C, above). The State modeled post-upgrade lead emissions based on an emission limit of 0.67 lb/hour for the main stack and emission estimates for fugitive emission sources based on control requirements in Rules R18-2-B1301 and R18-2-B1301.01. These rules address roofline vents over the anode furnace, converter aisle, and the flash furnace; outdoor slag pouring; materials storage and handling (bedding area, revert piles, concentrate

[39] *See* Auer, A.H., 1978. Correlation of Land Use and Cover with Meteorological Anomalies. *Journal of Applied Meteorology*, 17(5) :636-643.

storage), paved and unpaved roads, crushing and screening, and a gas cleaning plant. The State provided details and supporting information for the control efficiencies assumed in developing model emission rates. This information, which we reviewed and agree is reasonable, is contained in multiple appendices[40] and supporting spreadsheets[41] that were submitted with the Plan.

The State adequately characterized source parameters (as described in detail in our TSD) as well as the Facility's building layout and locations in its modeling. Where appropriate, the Building Profile Input Program for PRIME, which is a component of AERMOD, was used to assist in characterizing building downwash.

d. Background Concentrations

ADEQ selected background lead concentrations using ambient air measurements recorded in 2013 at Children's Park monitor in Tucson, Arizona (AQS ID: 04-019-1028), a regionally representative site. This monitor began measuring 24-hour mean concentrations of lead in total suspended particulate in February 2012 and operated through May 2016. The State used all available measurements during 2013 and calculated a mean concentration of 0.0028 $\mu g/m^3$. The State used this as the background concentration, and added it to the modeled design values.[42] The State determined that it was more appropriate to base a background concentration on data from this site as opposed to using monitoring data near the Hayden Facility during smelter shut-down periods. During shut-downs an increased amount of material handling occurs throughout the facility, elevating the observed concentrations. We agree that ADEQ appropriately and conservatively calculated background concentrations.

[40] *See* Plan Appendix B (ADEQ Modeling TSD), Section 5, and Appendix A (ADEQ Emission Inventory TSD), Section 7.
[41] Detailed information on 2019 projected emission estimates is contained in spreadsheet "2012 Actuals & 2019 projections.xlsx," while supporting information for the maximum allowable PTE estimates is contained in "Facility PTE.xlsm."
[42] Data from 2013 were used because two months of data were missing in the 2012 base year.

e. Summary of Results

The EPA has reviewed ADEQ's attainment demonstration for the Hayden Lead NAA and is proposing to determine that the supporting modeling is consistent with CAA requirements and Appendix W. The State's modeling indicates that if the Facility were to emit at maximum allowed levels, the maximum 3-month average ambient concentration would be 0.14165 μg/m^3, which is below the NAAQS level of 0.15 μg/m^3.[43,44] This modeled concentration includes the background lead concentration of 0.0028 μg/m^3. The modeling indicates that the controls required under Rules R18-2-B1301 and R18-2-B1301.01 are sufficient for the Hayden Lead NAA to attain the 2008 lead NAAQS.

E. Reasonable Further Progress Demonstration

1. Requirements for RFP

CAA section 172(c)(2) requires that attainment plans shall provide for RFP. RFP is defined in section 171(1) as such annual incremental reductions in emissions of the relevant air pollutant as are required by CAA title I, part D for nonattainment areas or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable NAAQS by the applicable date. Historically, RFP has been met through generally linear incremental progress toward attainment by the applicable attainment date. However, the EPA believes that RFP for lead nonattainment areas should be met by "adherence to an ambitious compliance schedule," which is expected to periodically yield significant emission reductions, and as appropriate, linear progress.[45]

[43] *See* "Hayden-Pb-Modeling Notes-05142018" (attached to email from Farah Mohammadesmaeili, ADEQ, to Rynda Kay, EPA Region 9, dated May 22, 2018), and Memo to Rulemaking Docket EPA-R09-OAR-2018-0222 titled "Revised Attainment Demonstration and Contingency Measure Modeling –LEADPOST Output Files," from Rynda Kay, EPA Region 9, dated June 12, 2018.
[44] As illustrated in Table 5 of today's action, actual emissions are expected to be well below allowable levels.
[45] 73 FR 66964 at 67038.

The EPA recommends that SIPs for lead nonattainment areas provide a detailed schedule for compliance with RACM (including RACT) in the affected areas and accurately indicate the corresponding annual emission reductions to be achieved,[46] and expects that a detailed schedule would provide for periodic yields in significant emissions reductions.[47] We believe that it is appropriate to expect early implementation of less technology-intensive control measures (*e.g.*, controlling fugitive dust emissions at the stationary source, as well as required controls on area sources) while phasing in the more technology-intensive control measures, such as those involving the purchase and installation of new hardware. The expeditious implementation of RACM/RACT at affected sources within the nonattainment area is an appropriate approach to assure attainment of the lead NAAQS in an expeditious manner.[48]

2. RFP Demonstration in the 2017 Hayden Lead Plan

The RFP demonstration for the Hayden area is located in Chapter 4 of the 2017 Hayden Lead Plan. The Plan includes a detailed schedule for the expeditious implementation of key controls required under Rules R18-2-B1301 and R18-2-B1301.01, along with the emissions reductions associated with these controls, as shown in Table 6.[49] Failure to implement any of these control measures by the associated deadline would constitute a failure to make RFP and thus trigger implementation of contingency measures, as described in section IV.F below.

Table 6 – Control Implementation Schedule and Emission Reductions

Control Measure	Date of Implementation	Pb Emissions Reduced Per

[46] *Id.*, at 67039; Lead Q&A, p. 2.
[47] *Id.*
[48] See 73 FR 66964 (November 12, 2008) at 67038-67039.
[49]The Plan bases certain implementation dates on the date of EPA's approval of Asarco's fugitive dust plan under Consent Decree No. CV-15-02206-PHX-DLR (D. Ariz). *See* Plan Table 23. The EPA approved the wind fence elements of the fugitive dust plan on June 26, 2017 and December 20, 2017. *See* Letters from Matt Salazar, EPA Region 9, to Joseph Wilhelm, Asarco, dated June 26, 2017 and December 20, 2017. The remaining elements were approved on March 15, 2018. *See* Letter from Matt Salazar, EPA Region 9, to Joseph Wilhelm, Asarco, dated March 15, 2018. The implementation dates in Table 6 are calculated accordingly.

		Year (tpy)
Implementation of chemical dust suppression for unpaved roads.	April 14, 2018	0.018
Implementation of wind fences for materials piles (uncrushed reverts, reverts crushing and crushed reverts, bedding materials, and concentrate).	October 24, 2017 and April 18, 2018	0.00488
Implementation of water sprays for materials piles (uncrushed reverts, reverts crushing and crushed reverts, bedding materials, and concentrate).	July 13, 2018	
Implementation of new acid plant scrubber blowdown drying system.	November 30, 2016	0.190
Implementation of new primary, secondary, and tertiary hooding systems for converter aisle.	July 1, 2018	1.318
Implementation of new ventilation system for matte tapping and slag skimming for flash furnace.	July 1, 2018	0.393

Source: Plan, Table 23.

For informational purposes, Figures 7 and 8 in the Plan also depict past and projected changes to ambient concentrations of lead. These figures demonstrate that implementation of the controls required under the Plan will bring the ambient concentration in the Hayden Lead NAA into compliance with the lead NAAQS. The ambient concentration projections also support the State's contingency measure analysis, as discussed below.

3. Proposed Action on the RFP Demonstration

Consistent with EPA guidance, the Hayden lead SIP provides a detailed schedule for implementing required controls and accurately indicates the corresponding annual emission reductions to be achieved.[50] These reductions will occur at sources, such as unpaved roads and various non-smelting fugitive sources that have a greater influence on the maximum predicted

[50] *See* Table 6.

ambient impacts than the smelter point sources and the schedule provides for periodic yields in significant emissions reductions sufficient to attain the NAAQS. We therefore propose to find that the 2017 Hayden Lead Plan meets the requirements of section 172(c)(2) for RFP.

F. Contingency Measures

1. Requirements for Contingency Measures

Under CAA section 172(c)(9), all lead attainment plans must include contingency measures to be implemented if an area fails to meet RFP or fails to attain the lead NAAQS by the applicable attainment date. These contingency measures must be fully adopted rules or control measures that are ready to be implemented quickly and without significant additional action by the state or the EPA if the area fails to meet RFP requirements or fails to meet its attainment date. They must also be measures not relied on to demonstrate RFP or attainment in the plan and should provide SIP-creditable emissions reductions generally equivalent to about one year's worth of RFP. The EPA has explained that, "where a single source is responsible for nonattainment, it may be possible to identify the amount of reductions required by reference to reductions in ambient air concentrations."[51] Finally, the SIP should contain a trigger mechanism for the contingency measures and specify a schedule for their implementation.[52]

The EPA recognizes that certain actions, such as the notification of sources, modification of permits, *etc.*, may be needed before a measure can be implemented. However, states must show that their contingency measures can be implemented with only minimal further action on their part and with no additional rulemaking actions such as public hearings or legislative review. The EPA generally expects all actions needed to affect full implementation of the contingency

[51] *See* Lead Q&A, p.3.
[52] *See* CAA section 172(c)(9).

measures to occur within 60 days after the EPA notifies the state of such failure.[53] The state should therefore ensure that the measures are fully implemented as expeditiously as practicable after the requirement takes effect.

2. Contingency Measure in the 2017 Hayden Lead Plan

Chapter 4 of the 2017 Hayden Lead Plan describes the contingency measure that will be implemented if the area fails to meet RFP or fails to attain by its attainment date. The contingency measure and the associated calculations are summarized below.

Because lead concentrations in the Hayden area are almost entirely attributable to the Asarco smelter, ADEQ chose to use ambient air concentrations to demonstrate equivalency to a year's worth of RFP. To determine the amount of emissions reductions needed for contingency measures (annual average RFP) ADEQ used the following equation:

(2012 highest monitored concentration – 2019 modeled concentration) / 7 years = Annual Average RFP

Using this equation, ADEQ initially calculated it would need a contingency measure that would achieve a reduction in ambient lead concentrations of at least 0.0114 $\mu g/m^3$.[54] Based on the revised modeling submitted by ADEQ in May 2018, the contingency measure would need to achieve a reduction of at least 0.0086 $\mu g/m^3$.[55]

ADEQ Rule R18-2-B1301.01 requires that Asarco increase the frequency of paved road cleaning from once per day to twice per day within 60 days of notification by the EPA that the area has failed to make RFP or to attain by the statutory attainment date.[56] To determine the

[53] 73 FR 66964 at 67039.
[54] 0.20 $\mu g/m^3$ – 0.12 $\mu g/m^3$ /7 years = 0.0114 $\mu g/m^3$.
[55] *See* Memo to Rulemaking Docket EPA-R09-OAR-2018-0222 titled "Revised Attainment Demonstration and Contingency Measure Modeling –LEADPOST Output Files," from Rynda Kay, EPA Region 9, dated June 12, 2018.
[56] The EPA approved this rule on February 22, 2018 (83 FR 7614).

benefit of the increased road cleaning frequency, ADEQ applied a 45 percent reduction to the paved road silt content percentage that Asarco reported in its 2015 emissions inventory (which reflected once-daily street sweeping).[57] The State determined that the implementation of this measure would reduce the modeled design value from 0.14165 µg/m^3 to 0.12935 µg/m^3.[58] This amounts to a reduction of 0.0123 µg/m^3, which exceeds the amount of reductions required from contingency measures (one year's RFP).

3. Proposed Action on the Contingency Measures

Rule R18-2-B1301.01, which includes a schedule for prompt implementation of the contingency measure, is fully adopted by the State and has been approved by the EPA. The reductions generated by the contingency measure exceed one year's RFP. We therefore propose to find that the State has demonstrated that the 2017 Hayden Lead Plan meets the requirements of section 172(c)(9) for contingency measures that would be triggered for failure to make RFP and/or for failure to attain.

G. New Source Review

1. Requirements for NSR

States containing areas designated as nonattainment for the lead NAAQS must submit SIPs that address the requirements of nonattainment NSR. Specifically, CAA section 172(c)(5) requires states that have areas designated as nonattainment for the lead NAAQS to submit

[57] To cross check the emissions inventory, ADEQ back-calculated the silt content percentage on paved roads to determine if it was consistent with emissions factors in AP-42. ADEQ assumed the 9.5 percent silt content was the result of a 45 percent reduction due to once daily street sweeping. The 45 percent figure is consistent with the Maricopa Association of Governments' Five Percent Plan for PM_{10}, which used a 55 percent reduction, but adds in a 10 percent safety margin. The EPA approved the Five Percent Plan on June 10, 2014 (79 FR 33107). Using this assumption, ADEQ calculated the silt content percentage on paved roads without once-daily street sweeping to be approximately 21 percent, which is in line with the range of values in AP-42 (15.4 - 21.7 percent).

[58] *See* "Hayden-Pb-Modeling Notes-05142018" (attached to email from Farah Mohammadesmaeili, ADEQ, to Rynda Kay, EPA Region 9, dated May 22, 2018), Section 4.7.3 and Appendix E of the Plan, and Memo to Rulemaking Docket EPA-R09-OAR-2018-0222 titled "Revised Attainment Demonstration and Contingency Measure Modeling –LEADPOST Output Files," from Rynda Kay, EPA Region 9, dated June 12, 2018.

provisions requiring permits for the construction and operation of new or modified stationary sources anywhere in the nonattainment area, in accordance with the permit requirements under CAA section 173.

2. NSR in the 2017 Hayden Lead Plan

The 2017 Hayden Lead Plan explains that in 2012 ADEQ submitted a SIP revision to update its NSR program and that the EPA subsequently issued a limited approval/limited disapproval of this SIP revision.[59] ADEQ also noted that it had revised its rules to correct the deficiencies identified in the limited approval/limited disapproval and intended to submit these changes as a SIP revision. ADEQ subsequently submitted this revision and, on May 4, 2018, the EPA approved it into the SIP.[60] These two recent SIP revisions ensure that ADEQ's rules provide for appropriate NSR for lead sources undergoing construction or major modification in the Hayden Lead NAA. Therefore, the EPA concludes that the NSR requirements have been met for this area.

3. Proposed Action on NSR

We propose to find that the State has demonstrated that the Arizona SIP meets the requirements of CAA section 172(c)(5) for the Hayden Lead NAA.

V. The EPA's Proposed Action and Request for Public Comments

A. The EPA's Proposed Approvals

This SIP submittal addresses CAA requirements and EPA regulations for expeditious attainment of the 2008 lead NAAQS for the Hayden Lead NAA. For the reasons discussed above, the EPA is proposing to approve under CAA section 110(k)(3) the following elements of the 2017 Hayden Lead Plan:

[59] 80 FR 67319 (November 2, 2015).
[60] 83 FR 19631 (May 4, 2018).

(1) the SIP's base year emissions inventory as meeting the requirements of CAA section 172(c)(3) and 40 CFR 51.117(e)(1);

(2) the attainment demonstration, including air quality modeling, as meeting the requirements of CAA section 172(c)(1);

(3) the RACM/RACT demonstration as meeting the requirements of CAA section 172(c)(1);

(4) the RFP demonstration as meeting the requirements of CAA section 172(c)(2); and

(5) the contingency measures as meeting the requirements of the CAA section 172(c)(9);

We are also proposing to find that the State has demonstrated that the Arizona SIP meets the requirements of CAA section 172(c)(5) for the Hayden Lead NAA.

B. Request for Public Comments

We are taking public comments for thirty days following the publication of this proposed rule in the **Federal Register**. We will take all comments into consideration in our final rule.

IV. 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 Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);

- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted 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 (Public Law 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- 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 Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

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). We have offered to consult with the San Carlos Apache Tribe, which has lands bordering on the Hayden Lead NAA.[61]

List of Subjects in 40 CFR Part 52

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

Authority: 42 U.S.C. 7401 *et seq.*

Dated: June 21, 2018.

Michael Stoker,
Regional Administrator,
Region IX.

[61] *See* letter from Matthew Lakin, EPA Region 9, to Terry Rambler, San Carlos Apache Tribe, dated December 18, 2017.

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